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PLANNING AND DEVELOPMENT COLLABORATIVE INTERNATIONAL, INC.

HG-005
Private Participation in Environmental Services

FEASIBILITY STUDY: CONTRACTING OUT OPERATION AND MAINTENANCE OF THE EL MENZAH LIQUID WASTE NETWORK

Final

Prepared for

United States Agency for International Development
Regional Housing and Urban Development Office
Near East and North Africa

Prepared by
PADCO, Inc.
Etude d'Ingénierie et Conseil en Organisation (EICO)

Contract No. PCE-1008-I-00-2065-00

15 March 1995

PROVIDES GOVERNMENTS AND PRIVATE CLIENTS WITH SERVICES IN PLANNING, HOUSING, MANAGEMENT, FINANCE, ECONOMICS, ENVIRONMENT, GEOGRAPHIC AND OTHER INFORMATION SERVICES, AND TRAINING.

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1 Executive Summary

Financed under the Government of Tunisia/USAID "Private Participation in Environmental Services" program, this study evaluates the feasibility of a pilot project in contracting out operation and maintenance of a liquid waste network to a private firm. The network was selected jointly by Ministry of the Environment and Land Use Planning, the National Sanitation Agency (ONAS), and USAID.

This study began with an assessment of the performance of the liquid waste network in question. Specialists have evaluated the current condition of the network, the performance of the ONAS team responsible for its operation, the frequency with which the network and its facilities are cleaned, the number of broken pipes, the number of unblockings, etc. The study team also identified the principal constraints to operation and maintenance (O&M) activities.

As part of the same study, the specialists assessed the management and administrative costs incurred by the main office, departments and districts of ONAS. The study team complied a list of all the tasks and responsibilities ONAS performs, including those for which district offices or ONAS headquarters are responsible. They also identified the number and duties of the employees of each ONAS center (the smallest administrative unit of the agency).

The specialists have made recommendations for how ONAS and the private firm can divide the tasks in order to meet the objectives of the pilot project. These objectives are implicit in the criteria developed in the August 1994 USAID-sponsored market study. The specialists verified that the proposed division of labor responds to these criteria and would therefore be acceptable to ONAS, the private firm and the users of the service.

The proposed transfer of responsibility for operating the El Menzah liquid waste treatment network from ONAS to a private firm is technically, organizationally and financially feasible. As analysis of the current and future operating accounts shows that ONAS can reduce its overall operating costs on that portion of the network by 6.3 percent while the private firm earns an acceptable profit.

Over the five-year period of the contract, the pilot zone will become sufficiently independent so that ONAS headquarters and the regional satellites can devote their energies to contract management.

The main source of gains generated by this project will come from rationalizing personnel and equipment use. and the costs generated by these two line items. A cost reduction of around 20 percent appears workable and would yield significant savings for ONAS.

2 Introduction

The Government of Tunisia (GOT) continues to move toward greater private sector participation in operating and managing environmental services. As one of the primary actors in the sector, the National Sanitation Office (ONAS) wants to involve the private sector in operations, management and financing of liquid waste facilities.

In August 1994, the market study prepared under the Private Participation in Environmental Services (PPES) program, a joint effort of the GOT and USAID, studied the potential role of the private sector in the liquid waste field. This study showed that contracting out liquid waste and treatment plant operations to private companies is one of the scenarios most likely to produce improvements in quality and service costs reductions in Tunisia for both the public sector, the private sector and the user.

The Tunisian Ministry of the Environment and ONAS, the public entity responsible for managing liquid waste services in Tunisia, acting on the information presented in the market study, decided to initiate two pilot projects which contract out to private firms 1) liquid waste network operation and maintenance; and 2) the operation and maintenance of one or more treatment plants. This feasibility study, also financed under the PPES program, evaluates the feasibility of the proposed pilot project.

3 Objectives and Terms of Reference

This study seeks to verify the technical, financial and organizational feasibility of the pilot project in contracting out O&M of a wastewater network from the standpoint of the public sector, the private sector and the users.

The feasibility study begins with an assessment of the operating performance of the network in question. The specialists evaluated the condition of the network, the performance of the ONAS team responsible for its operation, the frequency with which the network and its facilities are cleaned, the number of broken pipes, the number of unblockings, etc. The study team also identified the principal constraints to O&M activities.

The specialists also evaluated the operating costs for the entire pilot network by examining management and administrative costs incurred by the main office, departments and districts of ONAS.

The specialists complied a list of all the tasks and responsibilities ONAS performs and/or assumes including those for which district offices or ONAS headquarters are responsible. The team identified the number and duties of the employees who work for each center (ONAS' smallest administrative unit). They then made recommendations for how these tasks can be divided between ONAS and the private developer so as to best meet the objectives of the pilot project.

Provisional operating accounts were used to assess changes in service costs as well as return on investment.

The specialists also looked at the different ways ONAS employees currently operating the network can participate in the privatization process, and proposed methods which are most likely to benefit all the parties concerned.

4 Project Description

The liquid waste network ONAS selected for the pilot project will hereafter be known as the El Menzah pilot zone.

The El Menzah zone includes El Menzah 1, 2, 3, and 4, Mutuelleville, Notre Dame and Hilton North; all of these neighborhoods are located in the City of Tunis. The El Menzah pilot zone also includes the El Menzah housing developments 5, 6, 7, and 8, which are part of the City of Ariana.

The Ministry of Housing and Services laid out the original housing developments, the remainder being developed by the Residential Land Development Agency. A private developer laid out El Menzah 5.

El Menzah pilot zone straddles two ONAS centers. The different subzones are assigned to the following centers:

El Menzah-Khadra Center
El Menzah 1, 2, 3, and 4
Mutuelleville
Notre Dame and Hilton North

El Menazeh Center
El Manar 3
El Menzah 5, 6, 7, and 8

Throughout the pilot zone, the liquid waste network is well designed and constructed. Other than the principal collectors of 7 November and 1 September Avenues, which belong to the Menzah 1, 2, 3 and 4 network and carry wastewater from zones outside the pilot project, the networks of the pilot zone are independent. ONAS currently operates the networks of the pilot zone.

Thirty people work for the El Menazeh center. Of these employees, the number who specifically work in the pilot zone varies from 7 to 9 persons, depending on the time of year or the nature of current activities.

The manager of the El Menzah-Khadra Center estimates the number of employees currently assigned to operations activities in that part of the pilot zone to be around 30 to 35 persons, depending on the time of year or needs. In a center which employs 70 people, this figure represents 40 percent of the total staff.

In preparation for the transfer of network operations to a private firm in the pilot zone, ONAS personnel can be reassigned to other centers; the El Omrane-Ras, Tabia and Bardo-El Hraria centers have all indicated the need for additional personnel.

The El Menazeh zone was selected for pilot project for the following reasons:

a) Overall it is in good condition and the construction is relatively recent.
b) It is in a relatively independent district with little interference from outside zones.

The liquid waste network in the El Menzah pilot zone has separate systems for wastewater and stormwater; although some rainwater connections have been added to the network, the amount of rainwater in the system over the life of the contract is negligible.

The El Menzah network contains 148.459 kilometers of pipes, broken down as follows:

Table 1
Network Characteristics

Characteristic	Menzah Khadra center	Menazeh center	El Menzah pilot center
Wastewater network (kilometers)	65.058	97.147	67.789
Rainwater network	35.033	61.134	45.350
Combined network	58.922	0	35.320
Total network	169.944	161.754	148.459
Force mains	473	0	0
Connection boxes (number)	5,907	14,136	6,367
Manholes and inlet wells	7,798	5,970	6,507
Total population	55,000	108,470	48,900
Population served	55,000	107,270	48,900
% pipeline within pilot zone	40.6	51.6	—

There are no pumping stations since the entire system maintains positive drainage.

The operation and maintenance of the two large oueds (streams) found in the zone, the Roriche Oued and the Greb Oued, are not included in the project.

5 Assessment of the Liquid Waste Network

5.1 Technical Aspects

Since a recent evaluation of the condition of the entire network was not available from either ONAS headquarters or the centers, the specialists used a performance reports on the different parts of the network and information gathered in interviews with center managers to evaluate the network and identify its major problems.

The population of the pilot zone is estimated at around 48,900 inhabitants and the per capita flow at 150 liters per person per day. This estimate is based on potable water consumption in the ONAS centers involved in the project.

5.1.1 Current Condition and Performance of the Facilities

The pilot zone is composed of upper-income residential neighborhoods which have already reached build-out. Little construction will take place in the zone over the five year life of the pilot project. No network extensions are planned in this zone for the next few years. The area's high level of development reduces the amount blockages caused by infiltration of sand.

The pilot zone has no industry, and its gas stations and restaurants are equipped with grease filters in keeping with existing laws. Although businesses are required to maintain their own filters, grease occasionally accumulates in the pipes adjacent to the commercial districts.

Overall, the network is in good condition and does not present any major operating problems.

Table 2 describes the current (ONAS) operation of pilot network.

Table 2
Current Operations and Maintenance of the Pilot Zone

Operations	El Menzah-Khadra	El Menazeh
Cleaning (jet truck)	once a year[1]	6 per year[2]
Jet truck performance	average: 466 ml/day	min: 600 ml/day
Facilities cleaning	twice/year	twice/year
Cleaning performance	20 cleaning/day	50 cleaning/day
Aspirator	twice/year	twice/year
Unblocking	30/month	45-50/month
Connections	30/year	60/year
Replacement (rehabilitation)	30ml/year	negligible
Masonry work	Yes as rehab	negligible
Cleaning (oueds and gutters)	Yes	Yes
Closed circuit camera inspection	No	No
Cleaning campaign	4-5 weeks/year	4-5 weeks/year
Night operations	yes - rainy season	2 - 3 times/year - rainy season
Complaints	70/month	50/month
Cleaning on request	900/year	600/year
Reaction time to complaints	hours following	hours following
Maintenance vehicles	ONAS workshop	ONAS workshop
% of pilot zone	40.6%[3]	51.6%[3]

Notes:
[1] The jet truck is not necessary in Mutuelleville since the network slopes permit continuous self-cleaning. The jet truck is used for the center's lower sectors; cleaning is carried out more than once a year in the city's center sectors where it is most needed.

[2] The jet truck cannot cover the entire service area because of a lack of equipment available. A request from the center has already been made to the main office in order to fill this need.

[3] These figures compare the length of the center's network to the total length of the pilot zone network.

5.1.2 Constraints

The El Menzah pilot zone does not present any major operational problems. Its location in a wealthy area of the city where the principal land use is residential and its good condition serve to minimize operational problems.

Center managers have nevertheless identified the sectors or subzones which occasionally pose problems, particularly during storms. When the network overflows, emergency unblocking is required and the centers must be equipped to respond to user requests for service.

The critical points of the network have been identified as follows:

El Menzah-Khadra Center

1) Major overflows occur throughout the lower Mutuelleville zone whose network is of insufficient capacity. Built over 40 years ago, this combined network includes pipes with a diameter of less than 200 mm.

2) The part of Jugurtha street located beyond the Chedly Zouiten stadium is the problem area of the network; overflows are frequent if not systematic during the rainy season.

3) The network of the Mahrajene housing estates to the west of the sector's major intersection contains small pipes and often overflows during the rainy season.

4) The large apartment buildings in the zone require regular cleaning two to three times a year because grease accumulates in the pipes that are connected to the wastewater network.

Although overflowing occurs in these areas and the network is inadequate to absorb heavy rainfall, it only takes a few hours — from 3 to 5 — for things to return to normal after the rain stops. Unblockings are needed when a significant quantity of sediment accumulates.

El Menazeh Center

The part of the El Menazeh Center included in the El Menzah pilot zone experiences the following problems:

1) The Greb Oued that spans Ariana overflows during heavy rainfall and floods several lots.

2) The following sectors tend to overflow:
   - the MBM housing estate
   - Gafsa Street
   - Mousa Ibn Nouceir Street
   - Othman Ibn Affen Street (between Menzah 7 and 8 and in UV4)
   - 1 September Ave, between the intersection near the STEG transformer and the ONAS center office
   - Mouaoula Ibn Sofiane street
   - the Mongi Slim street cistern (in front of Ksar Tej)
   - Manar 3 rainwater canal

Administrative Difficulties

It is important that the Performance Monitoring Unit (PMU) be in place at the time of project inception so that private firm will have only to answer to one ONAS administrative unit. ONAS should set up the PMU in the pilot zone so that the two subzones can be removed from the jurisdiction of the El Menazeh and El Menzah centers and handed over to the PMU. If the El Menazeh center office is relocated to its future area, the PMU could take over the current center office.

The PMU will be equipped with the human and material resources it requires to perform as ONAS' representative in the pilot zone.

Since the boundaries of the pilot zone touch two municipalities and two different ONAS centers, the PMU will have to establish the autonomy of the pilot zone. One of the PMU's first duties will be to notify users of the new structure and the new waste service operating and administrative proviso: complaints, requests, notices, etc.

The PMU team will be made up of at least three persons including a unit chief, a foreman and a employee in charge of customer service and complaints. The Unit will be completely independent and ONAS management will provide logistical support. The Unit will be housed in the pilot zone area.

The PMU, as ONAS' primary representative, will be in charge of customer relations, and once it receives any complaints it will communicate them to the contractor who will take the required action. In this way the contractor will only have to answer to one office and can concentrate on ensuring the performance of the network.

5.1.3 Potential Technical Improvements

Given the good condition of the pilot zone's liquid waste network, no technical improvements will be introduced for the five years of the contract. If breakdowns do occur on the network and emergency repairs become necessary, the service contract between the private firm and ONAS contains clauses which permit the private firm to intervene on a limited basis at a fixed price or unit price set in advance for the life of the contract.

When ONAS deems it appropriate, the contractor can carry out, in a particular section of the network, repairs, short extensions, modifications or improvements.

The contractor, however, must maintain in good condition all the facilities for which he/she is responsible. In addition, he/she must return these facilities to ONAS at the end of the contract in the condition in which he found them. His budget includes provisions to deal with basic repairs which are considered part of regular maintenance of the network and its facilities.

5.2 Financial Aspects

The objective of the August 1994 market study on the liquid waste sector in Tunisia was to identify potential markets for private sector intervention. The study used a budget and operational analysis of several treatment plants and liquid waste networks, but the budget analysis of the operation costs of the diverse wastewater networks and treatment plants was limited to the budget data available for 1993.

This feasibility study assesses the El Menzah-Khadra and El Menazeh liquid waste networks and examines their operations budgets for 1992 and 1993, as well as their estimated budgets for 1994. The specialists used the documents from which ONAS prepared the operating budgets for the centers. Numerous meetings were held with the center personnel and other ONAS staff in order to verify the cost breakdown determined by the study team.

In the section on labor, for example, the number of employees needed to carry out the tasks to be handed over to the private sector was estimated and the results then confirmed by the manager of one of the centers involved in the pilot project. The same exercise was carried out for the equipment needed to run the pilot network.

With respect to personnel, the August 1994 study fixed productivity gains for the private sector at 15 percent. The study therefore concluded that private participation in the project's operations will reduce personnel costs by at least 15 percent. A more extensive analysis of the personnel needed to operate the pilot zone in comparison with the personnel actually used by the two centers involved in the project predicts a productivity gain of 25 percent from a reduction in the total number of employees. This percentage was used in the budget analysis of this study. (The details of this analysis can be found in Section 5.3.1.)

An identical exercise carried out to identify the equipment needed to operate the facilities also led the study team to conclude that a private firm can realize a gain of more than 10 percent when it comes to equipment costs.

The following assumptions were used in the development of the project budget:

- The budget contains no provisions for Division of Maintenance (DM) activities as this division is primarily associated with pumping stations and treatment plants. Provisions were made for the maintenance of the property which is to be transferred to the private firm.
- Depreciation for rolling stock was established on a linear basis and for a period of seven (7) years. Finance charges for equipment acquisition have not been taken into account in the comparison of public sector and private sector budgets since they are essentially equivalent. The savings the public sector realizes from lower interest rates will be annulled by the higher volume of equipment for which it has to borrow money.
- In the budget analysis of the centers' operating costs, and in particular, the El Menzah-Khadra center, salary costs for personnel assigned to pumping stations have been subtracted from the total payroll costs since the pilot zone does not have any pumping stations.

This budget has been drawn up using the following allocation keys:

- The following formula was used to set the operating expenses of rolling stock, insurance, fuel, etc.: the estimated cost of the rolling stock (RSP) divided by the cost of the El Menzah-Khadra center rolling stock (RSMK), multiplied by (.41) plus the cost of the Menazeh center rolling stock (RSM) multiplied by (.59). The allocation factor thereby equals (.88).

$$\text{Allocation factor} \quad RSP = \frac{.88}{(.41)\ RSMK + (.59)\ RSMZ}$$

The figures (.41) and (.59) represent the proportion of total length of wastewater pipeline in each center to the total length of pipeline in the pilot zone.

- Personnel clothing expenses have been broken down by comparing the public personnel to private personnel. The clothing costs for the pilot zone's private employees have been fixed using the following proportion:

$$\text{Allocation factor} = \frac{\text{Number of private employees}}{(.41)\ \text{Khadra staff} + (.59)\ \text{Menazah staff}}$$

- The private sector operating budget includes 10,000 Tunisian Dinars (TD) a year for rental expenses. This takes into account the space needed to house the company's administrative personnel, to store materials and to park the vehicles required for operation and maintenance.
- The private sector operating budget also includes a 20 percent profit margin and 20 percent revenue taxes.
- SONEDE billing costs have not been included in the analysis of operating costs for either the private or public sectors because this task is not going to be transferred to the private sector.

The budget for the El Menzah pilot project is included in Annex B.

5.3 Organizational Aspects

5.3.1 Personnel and Equipment

The study team analyzed the personnel and equipment in use in the participating ONAS centers and evaluated the personnel and equipment needed to cover the pilot zone. Table 3 shows the personnel and equipments presently available at the centers involved in the project and what is needed to operate the pilot zone.

It is obvious that the total number of employees and equipment from the two centers presently cover an area larger than that involved in the pilot project. A close examination of the personnel who perform operations activities in the participating centers, however, shows that too many employees are assigned to O&M tasks. Reorganization by the private firm of

personnel hiring and assignment to operation activities in the pilot zone will yield substantial savings. Since the private company does not have to abide by the same social contracts which constrain ONAS's relationship with its employees, it can reorganize work schedules and task assignments more easily. The private company relies on the involvement and versatility of its employees at all levels to carry out its mandate successfully.

Table 3
Personnel Currently Operating the El Menzah Pilot Zone

	Menzah/Khadra center			El Menazeh center			
Job description	**Number**	**Salaries**	**TD/yr**	**Number**	**Salaries**	**TD/yr**	**Total**
Center manager	1	11,000	11,000	1	11,000	11,000	22,000
Foreman	2	5,400	10,800	2	5,400	10,800	21,600
Administrative agent	1	4,320	4,320	1	4,320	4,320	8,640
Mechanic	0	4,680	0	0	4,680	0	0
Electrician	0	4,200	0	0	4,200	0	0
Mason	1	4,560	4,560	1	4,580	4,580	9,140
Assistant mason	2	3,960	7,920	0	3,960	0	7,920
Specialized worker	16	4,380	70,080	0	4,380	0	70,080
Ordinary laborer	8	3,840	30,720	16	3,840	61,440	92,160
Driver	10	4,200	42,000	6	4,200	25,200	67,200
Gardener	0	3,840	0	0	3,840	0	0
Caretaker	1	3,440	3,480	3	3,480	10,440	13,920
TOTAL	**42**		**184,880**	**30**		**127,760**	**312,640**
% Applicable to the pilot zone			**40.6**			**61.6**	
Public sector operating cost of the pilot zone			**75,061**			**65,924**	**140,985**

With respect to equipment, examination of the participating centers' operations reports revealed significant maintenance problems. A jet truck was out of service for more than 30 percent of the time; other equipment had even lower rates of service. A lack of spare parts was in most cases the cause. The following table details the equipment that ONAS currently uses to operate and maintain the pilot zone.

Table 4
Equipment Currently Used in the El Menzah Pilot Zone

Type of Equipment	Amortized Cost (TD)	Number (M/K)[1]	Number (Menazeh)[2]	Total Cost
Combined	200,000	1	1	400,000
Aspirator	120,000	1	1	120,000
Cleaning machine	80,000	1	1	160,000
Bucket cleaners	24,000	2		48,000
Hydraulic pump	32,000	1		32,000
Mini-cleaner	19,800	1	1	39,600
Mini-aspirator	90,000	1		90,000
Drum tractor	17,000	1	2	51,000
Van	35,000	1		35,000
2-door pick-up	17,000	1	1	34,000
4-door pick-up	20,000	1		20,000
Car	15,000	1		15,000
Radio system	5,000			
Gas detector	21,300			
Small materials	1,000	1		1,000
TOTAL				1,165,600
Depreciation[3]				186,496

Notes:

[1] List of materials or equipment specifically assigned to operations activities of the pilot zone whose territory is in the El Menzah-Khadra center.

[2] List of materials or equipment specifically assigned to operations activities of the pilot zone whose territory is in the El Menazeh center.

[3] The equipment depreciation period is seven years.

5.3.2 Tasks to Be Accomplished

ONAS performs the following tasks in the course of operating and maintaining the pilot project liquid waste network:

Liquid Waste Network O&M Tasks

Cleaning

- Systematic cleaning (wastewater and rain water)
- Cleaning on receipt of a complaint (unblocking network pipes or connection boxes, during the working day or on days of rest and at night)
- Cleaning or occasional intervention (hygiene campaign, cleaning for official occasions, emergency unblocking and cleaning in rainy weather, rainwater pumping)

Masonry Work

- Connections
- Repair
- Rehabilitation
- Small-scale extensions

Study, Analysis, and Closed-Circuit Camera Inspection

- Study for small extension
- Study for large extension
- Closed circuit camera network inspection for monitoring or study
- Analysis of industrial discharge

Equipment maintenance

- Upkeep and repair of rolling stock
- Upkeep and repair of special equipment for cleaning or pumping tools

Technical/Administrative Tasks

- Measurement for connections
- Quotation for connections
- Inspection and receipt of work done by third parties
- Survey of illicit connections
- Fee payment research
- ONAS-SONEDE liaison file

Administrative Tasks

- Relations and meetings with local, regional, or national authorities
- Receipt of complaints
- Customer relations
- Staff check-in
- Daily, monthly, and yearly reports
- Management of local premises and filekeeping
- Security
- Paying of wages
- Staff management
- Budget
- Advertising

6 Project Feasibility

6.1 Criteria

The August 1994 market study identified the following criteria for private sector intervention in the liquid waste sector:

Public Sector

- Reduction of service costs;
- Improved operational output;
- Improved service quality;
- Specialization of ONAS human resources;
- Mobilization of additional capital;
- Increase ONAS' financial independence.

Private Sector

- Profitability;
- Predictability;
- Durability.

Users

- Improvement of service quality;
- Speed of service delivery;
- Cost stability/reduction.

The mandate given to a private firm to provide network liquid waste operations should meet the above criteria or at least satisfy the large majority.

6.1.1 Public Sector

Reduction of Operations Costs

A cost analysis of the pilot zone's operating costs that takes into account ONAS' operating costs shows that ONAS can save 6 percent over the life of the five-year contract if it hands over network operations to a private company. This figure takes into account the costs associated with creating and administrating the PMU, contingencies, and the private company's profits.

The private company's reallocation of personnel and operating equipment, and a substantial reduction in management costs constitute the main sources of savings in the budget of the private sector firm.

An analysis of the real personnel costs needed to operate the pilot zone's network that takes into account new jobs descriptions for the privately employed personnel shows a significant reduction in the number of employees required to operate the pilot zone.

Whereas ONAS, constrained by civil service regulations and a chronic employee absenteeism, would have to hire 42 people to perform the various tasks needed to operate the pilot zone, the private firm could run the pilot zone with 19 employees, or a personnel reduction of around 55 percent. Through this kind of reorganization, the private company would be able to offer better salaries, on the average, to its employees, and as a result improve its operating performance. Salary increases ranging from 18–30 percent, depending on the job responsibilities, would yield personnel costs 25 percent less than those of ONAS.

The same exercise was carried out for the acquisition of the mobile equipment needed to operate the network adequately. The private sector could realize a reduction of around 20 percent.

The sensitivity analysis shows that the level of savings is more dependent on reduction of personnel costs than reduction of equipment costs. With a personnel cost reduction of 20 rather than 25 percent, the total savings to ONAS drops to 4.1 percent. With a personnel cost reduction of 15 percent, total savings slip further to 2 percent. This indicates that the financial feasibility of the project is depends largely on the savings that the private firm can realize on personnel costs.

The project is less sensitive to changes in rolling stock costs. When these costs rise 5 percent, total savings only drops one percentage point to 5.4 percent. An increase of 10 percent yields an overall savings level of 4.4 percent.

Improvement of Service Quality

It is important to point out that despite the financial difficulties ONAS has been faced with, it has been able to serve its customers satisfactorily. It may be difficult for the private company to do better in most cases. However, with respect to rapidity of service, ONAS can choose to write into its contract with a private firm response times which are better than its own.

Other Public Sector Criteria

First, if the O&M of a number of facilities is contracted out, the savings could be used for the construction of new facilities in previously unserved or underserved neighborhoods and cities. ONAS could also increase its financial independence from the Government and count on its own resources to implement its own liquid waste program.

Furthermore, ONAS would be able to reduce the size of its rapidly growing staff which is beginning to weigh heavily in the balance of operating costs associated with network and treatment plant management. ONAS could even envision reorganizing its employees' work assignments if O&M of several other facilities is contracted out to private companies.

6.1.2 Private Sector

Profitability

The financial analysis indicates that the pilot project will yield a 20 percent return on investment for the private firm over the five year life of the contract. The total contract amount is approximately 2.4 million dinars and the private company should realize a pre-tax profit of more than 400,000 TD.

Although the private contractor will not be able in this first contract to amortize all of the rolling stock necessary for contract execution, he/she will be in a position to acquire more contracts later and therefore spread the amortization out over a longer period. It would be in the interest of both parties to make provisions in the contract for the possibility of extending the contract beyond the date of termination.

6.2 Contractual Framework

The agreement between ONAS and the private firm will take the form of a service contract for the operation and maintenance of the works in question. The contract will be a modified version of the model contract of this type which has already been prepared under the PPES program.

6.3 Breakdown of Duties: Private Sector - ONAS

This project implies not a privatization of services, but rather a transfer of responsibility for completing some of the tasks associated with wastewater network O&M from ONAS to a private firm. The division of labor between the two parties is presented in the following table.

Table 5
Breakdown of O&M Tasks: Private Firm - ONAS

Task	Responsible party	
	ONAS	Private firm
Cleaning		
Systematic cleaning (liquid waste and rain water)		•
Cleaning on receipt of a complaint (unblocking network pipes and connection boxes during work days or on days of rest and at night)		•
Cleaning or occasional intervention (cleaning campaigns, cleaning for official events, emergency unblocking and cleaning in rainy weather, rainwater pumping)		•
Masonry Work		
Connections		•
Repair		•
Rehabilitation		•
Small-scale extensions		•
Study, Analysis, and Closed-Circuit Camera Inspection		
Study for small extension	•	
Study for large extension	•	
Closed-circuit camera network inspection for monitoring or study	•	
Analysis of industrial effluent	•	
Equipment maintenance		
Maintenance of rolling stock		•
Upkeep and repair of special cleaning equipment or pumping tools		•
Technical/Administrative Tasks		
Measurement for connections	•	
Quotation for connections	•	
Inspection and receipt of work done by third parties	•	•
Updating plans for modifications to be made during the period of the contract	•	•
Survey of illicit connections	•	
Fee payment research	•	
Research to grant a construction permit	•	
ONAS-SONEDE liaison file	•	
Administrative Tasks		
Relations and meeting with local, regional, or national authorities	•	
Relations with PMU	•	•
Receipt of complaints	•	
Customer relations	•	
Staff check-in	•	•
Daily, monthly, and yearly reports	•	•
Management of local premises and filekeeping	•	•
Security	•	•
Paying of wages	•	•
Staff management	•	•
Budget	•	•
Advertising	•	•

The following table compares the performances of the ONAS team with that of the future private firm:

Table 6
Current and Future O&M Performance

Operations	El Menzah-Khadra	El Menazeh	El Menzah pilot zone
Cleaning (combined)	once a year[1]	6 per year[2]	twice a year
Combined efficiency	average: 466 ml/day	min: 600 ml/day	
Facilities cleaning	twice/year	twice/year	twice/year
Cleaning productivity	20 cleaning/day	50 cleaning/day	100 cleaning/day
Aspirator	twice/year	twice/year	twice/year
Unblocking	30/month	45-50/month	80/month
Connections	30/year	60/year	90/year
Replacement (rehabilitation)	30ml/year	negligible	30ml+/year
Masonry work	yes as rehab	negligible	when ONAS needs it
Cleaning (wadis and gutters)	yes	yes	yes
Closed circuit camera inspection	no	no	no
Cleaning campaign	4-5 weeks/year	4-5 weeks/year	4-5 weeks/year
Night operations	yes - rainy season	2 - 3 times/year - rainy season	yes on request
Complaints (number)	70/month	50/month	120/month
Cleaning on request	900/year	600/year	
Reaction time to complaints	hours following	hours following	hours following
Maintenance vehicles	ONAS workshop	ONAS workshop	private
% of pilot zone/center	40.6% (*3)	51.6% (*3)	100%

Notes:

[1] Combined cleaning is not necessary in Mutuelle Ville since the network slopes permit continuous self-cleaning. The combined is used for the Center's lower sectors; a cleaning out is carried out more than once a year in the city's center sectors where it is most needed.

[2] The combined cannot cover the entire service area because of a lack of equipment available. A request from the center has already been made to the main office in order to fill this need.

[3] These figures represent a comparison of measuring that part of the pilot zone situated in the ONAS center with the total of the same center. Those percentages that indicate the occupancy rate in the pilot zone are higher however than those mentioned by the participating center managers. These percentages will be used when we breakdown the pilot zone's operating costs.

6.4 Financial Analysis

6.4.1 Cost Reduction and Return on Investment

Personnel

Reduction in the number of operations workers and, in particular, the subsequent reduction in the total number of employees will produce a significant cost reductions when responsibility for operating the network is transferred from the public to private.

The results of a study of the number of employees needed to operate the pilot zone's network in the case of ONAS are indicated in Table 7.

Table 7
Current and Anticipated Personnel in the El Menzah Pilot Zone

	ONAS	Private Firm		
Job Description	**Total (TD)**	**Number**	**Annual Salary**	**Total (TD)**
Center manager	10,142	1	13,000	13,000
Foreman	9,957	1	7,000	7,000
Administrative agent	3,983	1	5,500	5,500
Mechanic	0	0	0	0
Electrician	0	0	0	0
Mason	4,215	1	5,500	5,500
Assistant mason	3,216	2	4,500	9,000
Specialized worker	28,452	9	5,000	45,000
Ordinary laborer	44,175	0	0	0
Driver	30,055	3	5,000	15,000
Gardener	0	0	0	0
Caretaker	6,790	1	4,000	4,000
Total	140,985	19	49,500	104,000

Job redistribution however, along with restructuring the work team and equipment management would therefore allow the private sector to reduce personnel costs by 25 percent, from 140,985 to 104,000 TD.

A similar exercise was carried out for the equipment used in operating the pilot zone. The equipment ONAS currently uses was compared to the equipment fleet the private firm is likely to use to perform the same tasks, but according to a different program. The results of

this analysis are indicated in the Table 8. We also included in this analysis an estimate of the annual equipment depreciation costs using similar accounting rules for the public and private sector.

Table 8
Current and Future O&M Equipment

Type of Equipment	Amortized Cost (TD)	Public Sector			Private Sector	
		Number (M/K)[1]	Number (Menazeh)[2]	Total Cost	Number	Total Cost
Combined	200,000	1	1	400,000	1	200,000
Aspirator	120,000	1	1	120,000	1	120,000
Cleaning machine	80,000	1	1	160,000	1	80,000
Bucket cleaners	24,000	2		48,000		
Hydraulic pump	32,000	1		32,000		
Mini-cleaner	19,800	1	1	39,600		
Mini-aspirator	90,000	1		90,000		
Drum tractor	17,000	1	2	51,000		
Van	35,000	1		35,000		
2-door pick-up	17,000	1	1	34,000		
4-door pick-up	20,000	1		20,000	1	20,000
Car	15,000	1		15,000	1	15,000
Radio system	5,000				1	5,000
Motopump group						
Gas detector	21,300				1	21,300
Small materials	1,000	1		1,000		
TOTAL				1,165,600		461,300
Depreciation[3]				186,496		73,808

Notes:

[1] List of materials or equipment specifically assigned to operations activities of the pilot zone whose territory is in the El Menzah-Khadra center.

[2] List of materials or equipment specifically assigned to operations activities of the pilot zone whose territory is in the El Menazeh center.

[3] The equipment depreciation period is seven years.

The private firm will therefore realize an 11.7 percent cost reduction on equipment. The cost reduction included in the financial analysis was 10 percent. Equipment cost reductions will produce addition savings in related line items such as fuel, road taxes and lubricant costs.

Work Done and Services Performed

The experiences of foreign private companies have shown that it is possible to reduce public sector costs for pumping stations O&M and office management by up to 30 percent. The specialists estimated the cost reductions in electricity and water at 10 percent, which appears

conservative in this context. Since water is primarily use to maintain the rolling stock, a reduction in the number of vehicles needing maintenance also reduces the water bill.

Goods Consumed - Raw Materials

Stricter management of the raw materials the center uses should lead to considerable gain in the line item "consumable goods." Since ONAS frequently makes purchases for future work, it is difficult to identify the real use of the materials purchased or why ONAS needs to maintain such large inventories. Discussions with managers of the participating centers revealed that considerable savings (around 25 percent) can be realized in this area. In the interest of generating conservative estimates, the authors included only a 10 percent reduction in the pilot project budget.

Goods Consumed - Consumable Materials

Here a stricter management of materials will also yield considerable gains. The clothing line item represents a reduction of around 40 percent from ONAS costs. For other services, cost reductions have estimated at 10 percent.

Overall, the estimated productivity gains for this network operations pilot project have been fixed at percentages inferior to those set in the August 1994 market study. There are several reasons for being more conservative at this point. First of all, it is difficult to identity and obtain operation-related savings given the choice of a network that is relatively problem-free and is in good functioning condition. The gains the private sector can hope to realize arise more from good personnel management and restructuring of their choice and use of equipment. In general, other savings arise when there is a good return on these two items.

6.4.2 Preparation of a Five-Year Operating Budget

Using the detailed 1992 and 1993 operating cost analysis and the 1994 and 1995 budget provisions, the analysts identified the activities which will be handed over to the private company.

The major principle here is that once those responsibilities previously performed by ONAS are transferred, the private company should be able to run the network independently.

Consideration of current growth factors including the national inflation rate and the increase in operating costs ONAS has experienced over the last few years have led to a more realistic budget figure likely to produce optimal operating conditions:

Salaries	3% a year
Work done/services performed	4% a year
Goods consumed	4% a year

In the budget, these overall rates vary with the year in which they are applied in order to reflect actual cost cycles experienced by ONAS. For example, diverse production expenses

can be fixed for two consecutive years, then increase substantially the third year, stabilize the fourth year, and then increase again the fifth year.

Finally, having calculated all the direct costs, the team of analysts examined indirect costs and tax rates. The following factors were adopted following a discussion of the guidelines and a meeting with private sector representatives:

Contingency	10%
Administrative costs—main office	3%
Administrative costs—field office	12%
Gross profit margin	20%
Taxes on profit margin	20%

These percentages correspond to values encountered in privatization contracts in other countries.

6.5 Participation of ONAS Personnel

ONAS personnel can participate in the liquid waste network privatization in two ways. First, ONAS can request that the private company offer employment to a certain percentage of current ONAS O&M personnel. This approach works better when the pilot zone corresponds to the boundaries of the ONAS center.

ONAS can initiate incentives aimed at assisting its personnel in the transition from public to private management. An ONAS employee who has been offered employment by a private company could accept on the condition that ONAS promises to offer to rehire him or her at the end of a given period. The employee could even accept a substantial monetary compensation in exchange for freeing ONAS from its obligation to rehire.

In the particular case of the El Menzah pilot zone, the privatized zone straddles a part of the territory of two ONAS centers; it is clear that all the personnel who currently work in the sector cannot be hired by the private company. ONAS could envision reassigning part of its personnel to other centers which are currently understaffed.

A second way ONAS can participate in the privatization process would be to encourage the creation of small and medium-sized companies managed by the former public employees whose experience would prove an asset in the operations of wastewater networks. This approach has the advantage of meeting ONAS' desire to reduce its labor force in the long run.

Similarly, ONAS could make its rolling stock available on a rental or rental-purchase basis. Such an initiative would reduce the initial expenses associated with starting up a new private company of the SME type in this specialized area.

As the number of O&M service contracts increases, it would be beneficial for ONAS to make its employees aware of the fiscal, financial and/or other incentives it is offering.

7 Commentary and Conclusion

The proposed project to transfer responsibility for operating the El Menzah liquid waste network from ONAS to a private firm is financially, technically and organizationally feasible.

A financial analysis of the project's operating budget shows that ONAS can reduce its overall operating costs on that part of the network by 6 percent while the private firm makes an acceptable profit.

Over the five-year life of the contract, the pilot zone should be able to attain sufficient independence to permit the ONAS main office and its regional satellites to concentrate on contract management.

The choice of the El Menzah pilot zone is, without a doubt, a conservative one. The facilities and works which serve this territory are relatively problem-free, and the middle- to upper-income customers who make up the majority of the users are some of the most disciplined in the entire liquid waste network of the City of Tunis.

On the other hand, the choice of the El Menzah pilot zone also makes it more difficult for ONAS to profit financially from the privatization process since their performance is already excellent in this part of their territory. However, the private firm will in all likelihood reduce costs and realize an acceptable profit through close management of its employees and a smaller fleet of equipment that it will run in a more rational fashion, with less dead time due to breakdowns or delays in repairs.

The specialists who analyzed the project were conservative in their estimate of the cost reductions that the private firm can realize through the implementation of this contract. Experiences in countries which have delegated service to a private firm often show savings of around 30 percent on operating and energy costs.

ANNEXES

ANNEX A

Sector Plan

BEST AVAILABLE COPY

ANNEX B

Pilot Project Budget

BUDGET DU PROJET PILOTE RESEAU (DT)

CHARGES D'EXPLOITATION	1992	1993	1994	1995	Affect. Budget.	Clef des économies	Budget secteur prive AN # 1	AN # 2	AN # 3	AN # 4	AN # 5	TOTAL
1.0 FRAIS DE PERSONNEL												
1.1 Personnel Centre	130,349 DT	135,563 DT	140,985 DT	146,625 DT	CENTRE	0.75	105739	115256	124476	134434	145189	156804
1.2 Personnel departement	0 DT	0 DT	0 DT	0 DT	DEPT	0.75	0	0	0	0	0	0
1.3 Personnel Siège	29,613 DT	29,613 DT	29,613 DT	29,613 DT	SIEGE	0.75	0	0	0	0	0	0
2.0 TRANSPORT & DEPLACEMENT												
2.1 Siège	331 DT	331 DT	331 DT	331 DT	SIEGE							
2.2 DME	0 DT	0 DT	0 DT	0 DT	DME							
2.3 DEXT	4 DT	26 DT	56 DT	62 DT	DEXT							
2.4 Centre					CENTRE		1200	1200	1250	1250	1300	6200
3.0 FRAIS DIVERS DE PRODUCTION												
3.1 Téléphone							1066	1108	1153	1199	1247	5773
3.1.1 Téléphone Centre	456 DT	994 DT	533 DT	559 DT	CENTRE	2.00						
3.1.2 Téléphone DEPT	313 DT	458 DT	490 DT	525 DT	DEPT	0.00						
3.1.3 Téléphone siège	2,094 DT	2,094 DT	2,094 DT	2,094 DT	SIEGE	0.00						
3.1.4 Téléphone district	511 DT	578 DT	634 DT	679 DT	DIST	0.00						
3.1.4 Téléphone DME	0 DT	0 DT	0 DT	0 DT	DME	0.00						
3.2 Télégramme												
DEPT	1 DT	1 DT	1 DT	1 DT	DEPT							
Centre	0 DT	0 DT	0 DT	0 DT	CENTRE	0.00	0	0	0	0	0	0
3.3 Télex et Fax	0 DT	0 DT	0 DT	0 DT	CENTRE		300	300	315	315	331	1561
3.4 Actes de contentieux												
3.4.1 Actes de contentieux Centre	0 DT	0 DT	0 DT	0 DT	CENTRE		1200	1200	1260	1260	1323	6243
3.4.2 Actes de contentieux DEXT	78 DT	15 DT	45 DT	45 DT	DEXT							
3.4.3 Actes de contentieux Siège	138 DT	138 DT	138 DT	138 DT	SIEGE							
3.5 Documentation												
3.5.1 Documentation Siège	551 DT	551 DT	551 DT	551 DT	SIEGE							
3.5.1 Documentation DEXT	18 DT	52 DT	65 DT	104 DT	DEXT							
3.6 Affranchissement												
3.6.1 Affranchissement Centre	0 DT	0 DT	0 DT	0 DT	CENTRE		70	70	74	74	77	364
3.6.2 Affranchissement DEXT	0 DT	1 DT	2 DT	2 DT	DEXT							
3.6.3 Affranchissement Siège	69 DT	69 DT	69 DT	69 DT	SIEGE							
3.7 Affichage et annonce												
3.7.1 Affichage et annonce Centre	0 DT	0 DT	0 DT	0 DT	CENTRE							
3.7.2 Affichage et annonce DEXT	13 DT	32 DT	32 DT	32 DT	DEXT	0.00	0					
3.7.3 Affichage et annonce Siège	826 DT	826 DT	826 DT	826 DT	SIEGE	0.60	496	496	521	521	547	2580
3.8 Mission et réception												
3.8.1 Mission et réception Centre	0 DT	0 DT	0 DT	0 DT	CENTRE							
3.8.2 Mission et réception DEXT	0 DT	65 DT	129 DT	194 DT	DEXT	0.00	0					
3.8.3 Mission et réception Siège	730 DT	730 DT	730 DT	730 DT	SIEGE	0.75	547	547	575	575	604	2848
3.9 Fourniture de bureau	0 DT	0 DT	0 DT	0 DT	CENTRE		1200	1200	1260	1260	1323	6243
3.10 Autres frais divers												
3.10.1 Siège	1,157 DT	1,157 DT	1,157 DT	1,157 DT	SIEGE		551	551	579	579	607	2867
4.0 TRAVAUX-FOURN.-SERVICES EXTERIEURS												
4.1 Loyers												
4.1.1 Location de matériel DEPT	0 DT	55 DT	55 DT	55 DT	DEPT	0.00	0					
4.1.2 Loyer de bâtiments DEPT	1,287 DT	2,574 DT	2,640 DT	2,750 DT	DEPT							
4.1.3 Loyer Siège	578 DT	578 DT	578 DT	578 DT	SIEGE							
4.1.4 Location de matériel District	81 DT	81 DT	81 DT	81 DT	DIST	0.00	0					
4.1.5 Loyer de locaux district	1,217 DT	1,499 DT	896 DT	1,206 DT	DIST							
4.1.6 Location de matériel centre	619 DT	619 DT	619 DT	2,890 DT	CENTRE	0.90	557	585	614	645	677	3079
4.1.7 Loyer de Centre	0 DT	0 DT	0 DT	0 DT	CENTRE		10000	10000	10000	10000	10000	50000
4.2 Entretien-réparations												
4.2.1 Sous-traitance réseau GVT	0 DT	6,170 DT	6,170 DT	6,170 DT	GVT	0.00	0					
4.2.2 S.T. Station pompage DTP	3,631 DT	0 DT	0 DT	12,391 DT	DIST							
4.2.3 S.T. Stat. pompage DEXT	9,679 DT	17,271 DT	19,932 DT	22,003 DT	DEXT							
4.2.4 Matériel roulant DMMR	7,747 DT	9,077 DT	12,531 DT	10,000 DT	DMMR	0.70	8772	9210	9671	10154	10662	48469
4.2.5 Bâtiments DME	0 DT	825 DT	275 DT	275 DT	DME							
4.2.6 Réparations Siège	1,791 DT	1,791 DT	1,791 DT	1,791 DT	SIEGE							

BUDGET DU PROJET PILOTE RESEAU (DT)

CHARGES D'EXPLOITATION	1992	1993	1994	1995	Affect. Budget.	Clef des économies	Budget secteur prive AN # 1	AN # 2	AN # 3	AN # 4	AN # 5	TOTAL
4.2.7 Réparations CENTRE	38,700 DT	42,570 DT	46,440 DT	51,000 DT	CENTRE		300	315	331	347	365	1658
4.3 Travaux et façons												
4.3.1 Travaux Siège	1,928 DT	1,928 DT	1,928 DT	1,928 DT	SIEGE							
4.3.2 Travaux Centre	1,829 DT	2,812 DT	3,155 DT	3,358 DT	CENTRE	0.90	2840	2981	3131	3287	3451	15690
4.4 Fourniture d'eau												
Stat. pomp. Mohamed V	0 DT	0 DT	0 DT	0 DT	BV							
S.P. Tunis-Marine	0 DT	0 DT	0 DT	0 DT	BV							
S.P. Khadra	0 DT	0 DT	0 DT	0 DT	BV							
S.P. Isken	0 DT	0 DT	0 DT	0 DT	BV							
S.P. Monplaisir	0 DT	0 DT	0 DT	0 DT	BV							
DEPT Tunis	19 DT	34 DT	36 DT	39 DT	DEPT							
SIEGE	152 DT	152 DT	152 DT	152 DT	SIEGE							
District	6 DT	3 DT	3 DT	4 DT	DIST							
Centre	587 DT	1,715 DT	1,548 DT	1,703 DT	CENTRE	0.90	1393	1463	1536	1613	1693	7698
4.5 Fourniture d'électricité												
Stat. pomp. Mohamed V	0 DT	0 DT	0 DT	0 DT	BV							
S.P. Tunis-Marine	0 DT	0 DT	0 DT	0 DT	BV							
S.P. Khadra	0 DT	0 DT	0 DT	0 DT	BV							
S.P. Isken	0 DT	0 DT	0 DT	0 DT	BV							
S.P. Monplaisir	0 DT	0 DT	0 DT	0 DT	BV							
DEPT Tunis	79 DT	222 DT	248 DT	280 DT	DEPT							
Siège	2,066 DT	2,066 DT	2,066 DT	2,066 DT	SIEGE							
District	155 DT	120 DT	121 DT	129 DT	DIST							
Centre	127 DT	488 DT	516 DT	568 DT	CENTRE		600	630	662	695	729	3315
4.6 Prestation SONEDE												
CENTRE	0 DT	0 DT	0 DT	0 DT	CENTRE	0.00	0					
4.7 Assurances												
4.7.1 Assurances matériel roulant												
CENTRE	0 DT	0 DT	0 DT	0 DT	CENTRE		0					
DTP	2,053 DT	2,275 DT	2,542 DT	2,843 DT	DTP	0.90	2288	2402	2522	2648	2781	12641
DME	0 DT	0 DT	0 DT	0 DT	DME	0.90	0					
DMMRT	30 DT	32 DT	33 DT	34 DT	DMMRT	0.90	30	31	33	34	36	164
DEXT	67 DT	71 DT	78 DT	84 DT	DEXT	0.90	70	73	77	81	85	386
DEPT	141 DT	160 DT	171 DT	182 DT	DEPT	0.90	153	161	169	178	187	848
SIEGE	8,181 DT	8,181 DT	8,181 DT	8,181 DT	SIEGE							
4.8 Honoraires et gardiennage												
4.8.1 Honor. et gardien. Siège	1,584 DT	1,584 DT	1,584 DT	1,584 DT	SIEGE							
4.9 Petits outillages et autres												
DEXT	61 DT	65 DT	78 DT	84 DT	DEXT	0.90	70	73	77	81	85	386
SIEGE	2,755 DT	2,755 DT	2,755 DT	2,755 DT	SIEGE	0.00						
5.0 BIENS CONSOMMES												
5.1 MATIERES PREMIERES												
5.1.1 Matériaux de construction												
CENTRE	1,200 DT	1,363 DT	1,605 DT	1,834 DT	CENTRE	0.90	1445	1517	1593	1672	1756	7982
DTP	1,736 DT	4,297 DT	5,286 DT	6,080 DT	DTP	0.90	4757	4995	5245	5507	5782	26287
DME	0 DT	0 DT	0 DT	0 DT	DME	0.90	0					
SIEGE	138 DT	138 DT	138 DT	138 DT	SIEGE							
5.1.2 Autres matières premières												
DTP	10 DT	5,941 DT	6,203 DT	6,591 DT	DTP	0.90	5583	5862	6155	6463	6786	30850
DME	0 DT	0 DT	0 DT	0 DT	DME	0.90	0	0	0	0	0	0
CENTRE	1,041 DT	1,169 DT	1,342 DT	1,515 DT	CENTRE	0.90	1208	1268	1331	1398	1458	6673
DEXT	146 DT	194 DT	259 DT	324 DT	DEXT	0.90	233	245	257	270	283	1287
5.1.3 Tuyaux consommés												
5.1.3.1 Tuyaux siège	551 DT	551 DT	551 DT	551 DT	SIEGE							
5.1.3.2 Tuyaux centre	798 DT	1,553 DT	2,396 DT	2,849 DT	CENTRE	0.90	2157	2265	2378	2497	2622	11917
5.1.3.2 Tuyaux district	3,444 DT	9,106 DT	10,182 DT	11,492 DT	DTP							
5.1.4 Tuyaux pour la vente	0 DT	0 DT	0 DT	0 DT	CENTRE							
5.1.5 Pièces en fonte consommées												

BUDGET DU PROJET PILOTE RESEAU (DT)

CHARGES D'EXPLOITATION	1992	1993	1994	1995	Affect. Budget.	Clef des économies	Budget secteur prive AN # 1	AN # 2	AN # 3	AN # 4	AN # 5	TOTAL
5.1.5.1 Pièces en fonte -	3,650 DT	3,650 DT	3,650 DT	3,650 DT	SIEGE							
5.1.5.2 Pièces en fonte -	3,428 DT	4,522 DT	5,305 DT	5,828 DT	CENTRE	0.90	4775	5013	5264	5527	5804	26383
5.1.5.3 Pièces en fonte -	4,416 DT	5,378 DT	6,601 DT	7,777 DT	DTP							
5.1.6 Pièces en fonte pour la ve	0 DT	0 DT	0 DT	0 DT								
5.1.7 Autres	937 DT	1,056 DT	1,218 DT	1,421 DT	CENTRE	2.00	2436	2558	2686	2820	2961	13460
5.2 MATIERES CONSOMMABLES												
5.2.1 Habillement-Tenue de protection												
DTP	2,685 DT	5,707 DT	6,290 DT	6,992 DT	DTP							
DMMRT	124 DT	120 DT	138 DT	154 DT	DMMRT							
DME	0 DT	0 DT	0 DT	0 DT	DME							
DEXT	39 DT	42 DT	52 DT	58 DT	DEXT							
DEPT	195 DT	324 DT	330 DT	358 DT	DEPT							
SIEGE	1,253 DT	1,253 DT	1,253 DT	1,253 DT	SIEGE							
CENTRE	2,182 DT	2,659 DT	3,220 DT	3,578 DT	CENTRE	0.60	1932	2029	2130	2237	2349	10676
5.2.2 Produits d'entretien												
DTP	20 DT	1,248 DT	1,394 DT	1,773 DT	DTP							
DMMRT	210 DT	104 DT	165 DT	220 DT	DMMRT							
DME	0 DT	0 DT	0 DT	0 DT	DME							
DEXT	15 DT	9 DT	13 DT	16 DT	DEXT							
DEPT	55 DT	53 DT	72 DT	88 DT	DEPT							
SIEGE	152 DT	152 DT	152 DT	152 DT	SIEGE							
CENTRE	352 DT	764 DT	1,399 DT	1,627 DT	CENTRE	0.90	1259	1322	1388	1457	1530	6955
5.2.3 Fournitures d'atelier-Laboratoire												
DME	0 DT	0 DT	0 DT	0 DT	DME	0.90	0	0	0	0	0	0
DTP	75 DT	108 DT	108 DT	108 DT	DTP	0.90	97	102	107	112	118	536
DMMRT	165 DT	165 DT	165 DT	165 DT	DMMRT	0.90	149	156	164	172	181	621
SIEGE	1,515 DT	1,515 DT	1,515 DT	1,515 DT	SIEGE							
DEXT	29 DT	65 DT	349 DT	485 DT	DEXT	0.90	315	330	347	364	382	1738
5.2.4 Fournitures de bureau												
DEPT	1,018 DT	1,309 DT	1,375 DT	1,430 DT	DEPT	0.90	1238	1300	1365	1433	1504	6839
SIEGE	1,915 DT	1,915 DT	1,915 DT	1,915 DT	SIEGE							
5.2.5 Combustible et lubrifiant												
5.2.5.1 Stat. pompage												
DTP	39 DT	64 DT	96 DT	140 DT	DTP							
5.2.5.2 Matériel roulant												
DTP	9,422 DT	10,533 DT	12,600 DT	13,892 DT	DTP	0.90	11340	11907	12503	13128	13784	62663
DME	0 DT	0 DT	0 DT	0 DT	DME	0.00						
DMMRT	211 DT	231 DT	248 DT	275 DT	DMMRT	0.90	223	234	246	258	271	1231
DEXT	591 DT	712 DT	777 DT	841 DT	DEXT	0.90	699	734	771	809	850	3862
DEPT	1,331 DT	1,430 DT	1,540 DT	1,650 DT	DEPT	0.90	1386	1456	1528	1605	1685	7660
SIEGE	1,791 DT	1,791 DT	1,791 DT	1,791 DT	SIEGE	0.00						
5.2.5.3 Matériels et outillages												
DTP	413 DT	759 DT	852 DT	931 DT	DTP	0.90	767	805	846	888	932	4238
5.2.6 Pièces de rechange												
5.2.6.1 Stat. épur. + pomp.												
DTP	13,115 DT	14,423 DT	15,801 DT	16,714 DT	DTP							
DEPT	0 DT	0 DT	0 DT	0 DT	DEPT							
DME	0 DT	0 DT	0 DT	0 DT	DME							
5.2.6.2 Matériel roulant												
DTP	26,411 DT	29,894 DT	34,424 DT	37,040 DT	DTP	0.90	30982	32531	34157	35865	37659	171194
SIEGE	4,132 DT	4,132 DT	4,132 DT	4,132 DT	SIEGE							
5.2.6.3 Bâtiments												
DTP	421 DT	463 DT	509 DT	528 DT	DTP							
DEPT	64 DT	70 DT	77 DT	83 DT	DEPT							
5.2.7 Autres matières consommables												
DTP	1,042 DT	767 DT	827 DT	905 DT	DTP	0.90	744	782	821	862	905	4114
DEXT	79 DT	91 DT	97 DT	104 DT	DEXT	0.90	87	92	96	101	106	483
DME	0 DT	0 DT	0 DT	0 DT	DME	0.90	0	0	0	0	0	0

BUDGET DU PROJET PILOTE RESEAU (DT)

CHARGES D'EXPLOITATION	1992	1993	1994	1995	Affect. Budget.	Clef des économies	Budget secteur prive AN # 1	AN # 2	AN # 3	AN # 4	AN # 5	TOTAL
DEPT	96 DT	110 DT	121 DT	132 DT	DEPT	0.90	109	114	120	126	132	602
DMMRT	448 DT	55 DT	61 DT	66 DT	DMMRT	0.90	54	57	60	63	66	301
SIEGE	2,892 DT	2,892 DT	2,892 DT	2,892 DT	SIEGE							
5.3 FRAIS SUR ACHAT												
SIEGE	3,650 DT	3,650 DT	3,650 DT	3,650 DT	SIEGE							
6.0 IMPOTS ET TAXES	0 DT	0 DT	0 DT	0 DT								
6.1 TFP												
SIEGE	592 DT	592 DT	592 DT	592 DT	SIEGE							
6.2 Taxes de circulation												
DTP	4,260 DT	4,748 DT	5,588 DT	6,118 DT	DTP	0.90	5029	5230	5440	5657	5883	27239
DME	0 DT	0 DT	0 DT	0 DT	DME	0.90	0	0	0	0	0	0
DMMRT	76 DT	84 DT	88 DT	94 DT	DMMRT	0.90	79	82	86	89	93	429
DEXT	156 DT	162 DT	168 DT	175 DT	DEXT	0.90	151	157	164	170	177	820
DEPT	307 DT	330 DT	358 DT	385 DT	DEPT	0.90	322	335	348	362	376	1743
SIEGE	868 DT	868 DT	868 DT	868 DT	SIEGE							
6.3 TCCL	0 DT	0 DT	0 DT	0 DT								
6.4 Droit d'enrégistrement												
SIEGE	1,653 DT	1,653 DT	1,653 DT	1,653 DT	SIEGE							
7.0 FRAIS FINANCIERS DE FONCTIONNEMENT												
SIEGE	1,377 DT	1,377 DT	1,377 DT	1,377 DT	SIEGE							
8.0 FRAIS DIVERS D'EXPLOITATION												
SIEGE	344 DT	344 DT	344 DT	344 DT	SIEGE							
9.0 CHARGES DE FINANCEMENT												
SIEGE	2,479 DT	2,479 DT	2,479 DT	2,479 DT	SIEGE							
10.0 AMORTISSEMENT												
SIEGE	4,132 DT	4,132 DT	4,132 DT	4,132 DT	SIEGE							
Matériel roulant	52,470 DT	52,470 DT	52,470 DT	52,470 DT	CENTRE		73808	73808	73808	73808	73808	369040
Intérêts												
TOTAL DES CHARGES	422,787 DT	478,835 DT	510,965 DT	559,039 DT								
TOTAL DES CHARGES	422,755 DT	478,803 DT	510,933 DT	549,887 DT	CENTRE		292805	307139	321685	336949	353552	1612130
IMPREVU						0.10	29280	30714	32168	33695	35355	161213
FRAIS D'ADMINISTRATION SIEGE PRIVE						0.03	8784	9214	9651	10108	10607	48364
FRAIS D'ADMINISTRATION LOCAUX						0.12	35137	36857	38602	40434	42426	193456
TOTAL AVANT BENEFICE							366006	383924	402106	421186	441940	2015162
MARGE BENEFICIAIRE AVANT IMPOT						0.20	73201	76785	80421	84237	88388	403032
IMPOT SUR MARGE BENEFICIAIRE						0.20	14640	15357	16084	16847	17678	80606
TOTAL DU CONTRAT PRIVE							439207	460709	482527	505424	530328	2418195
COUT DE UDC							63000	63000	63000	63000	63000	315000
TOTAL DU COUT D'EXPLOITATION PREVU							502207	523709	545527	568424	593328	2733195
COUT DE L'ONAS							510933	549887	582881	617853	654925	2915479
ECONOMIE REALISEE PAR L'ONAS							8726	26178	37354	49430	61597	133284
% ECONOMIE							1.71%	4.76%	6.41%	8.00%	9.41%	6.28%

ANNEX C

Sensitivity Analysis

BUDGET DU PROJET PILOTE RESEAU (DT)

Analyse de sensibilite #1 : clef economies personnel = .80

CHARGES D'EXPLOITATION	1992	1993	1994	1995	Affect. Budget.	Clef des économies	Budget secteur prive AN # 1	AN # 2	AN # 3	AN # 4	AN # 5	TOTAL
1.0 FRAIS DE PERSONNEL												
1.1 Personnel Centre	130,349 DT	135,563 DT	140,985 DT	146,625 DT	CENTRE	0.80	112788	122939	132774	143396	154868	167257
1.2 Personnel departement	0 DT	0 DT	0 DT	0 DT	DEPT	0.80	0	0	0	0	0	0
1.3 Personnel Siège	29,613 DT	29,613 DT	29,613 DT	29,613 DT	SIEGE	0.80	0	0	0	0	0	0
2.0 TRANSPORT & DEPLACEMENT												
2.1 Siège	331 DT	331 DT	331 DT	331 DT	SIEGE							
2.2 DME	0 DT	0 DT	0 DT	0 DT	DME							
2.3 DEXT	4 DT	26 DT	56 DT	62 DT	DEXT							
2.4 Centre					CENTRE		1200	1200	1250	1250	1300	6200
3.0 FRAIS DIVERS DE PRODUCTION												
3.1 Téléphone							1066	1108	1153	1199	1247	5773
3.1.1 Téléphone Centre	456 DT	994 DT	533 DT	559 DT	CENTRE	2.00						
3.1.2 Téléphone DEPT	313 DT	458 DT	490 DT	525 DT	DEPT	0.00						
3.1.3 Téléphone siège	2,094 DT	2,094 DT	2,094 DT	2,094 DT	SIEGE	0.00						
3.1.4 Téléphone district	511 DT	578 DT	634 DT	679 DT	DIST	0.00						
3.1.4 Téléphone DME	0 DT	0 DT	0 DT	0 DT	DME	0.00						
3.2 Télégramme												
DEPT	1 DT	1 DT	1 DT	1 DT	DEPT							
Centre	0 DT	0 DT	0 DT	0 DT	CENTRE	0.00	0	0	0	0	0	0
3.3 Télex et Fax	0 DT	0 DT	0 DT	0 DT	CENTRE		300	300	315	315	331	1561
3.4 Actes de contentieux												
3.4.1 Actes de contentieux Centre	0 DT	0 DT	0 DT	0 DT	CENTRE		1200	1200	1260	1260	1323	6243
3.4.2 Actes de contentieux DEXT	78 DT	15 DT	45 DT	45 DT	DEXT							
3.4.3 Actes de contentieux Siège	138 DT	138 DT	138 DT	138 DT	SIEGE							
3.5 Documentation												
3.5.1 Documentation Siège	551 DT	551 DT	551 DT	551 DT	SIEGE							
3.5.1 Documentation DEXT	18 DT	52 DT	65 DT	104 DT	DEXT							
3 6 Affranchissement												
3.6.1 Affranchissement Centre	0 DT	0 DT	0 DT	0 DT	CENTRE		70	70	74	74	77	364
3.6.2 Affranchissement DEXT	0 DT	1 DT	2 DT	2 DT	DEXT							
3.6.3 Affranchissement Siège	69 DT	69 DT	69 DT	69 DT	SIEGE							
3.7 Affichage et annonce												
3.7.1 Affichage et annonce Centre	0 DT	0 DT	0 DT	0 DT	CENTRE							
3.7.2 Affichage et annonce DEXT	13 DT	32 DT	32 DT	32 DT	DEXT	0.00	0					
3.7.3 Affichage et annonce Siège	826 DT	826 DT	826 DT	826 DT	SIEGE	0.60	496	496	521	521	547	2580
3.8 Mission et réception												
3.8.1 Mission et réception Centre	0 DT	0 DT	0 DT	0 DT	CENTRE							
3.8.2 Mission et réception DEXT	0 DT	65 DT	129 DT	194 DT	DEXT	0.00	0					
3.8.3 Mission et réception Siège	730 DT	730 DT	730 DT	730 DT	SIEGE	0.75	547	547	575	575	604	2848
3.9 Fourniture de bureau	0 DT	0 DT	0 DT	0 DT	CENTRE		1200	1200	1260	1260	1323	6243
3.10 Autres frais divers												
3.10.1 Siège	1,157 DT	1,157 DT	1,157 DT	1,157 DT	SIEGE		551	551	579	579	607	2867
4.0 TRAVAUX-FOURN.-SERVICES EXTERIEURS												
4.1 Loyers												
4 1.1 Location de matériel DEPT	0 DT	55 DT	55 DT	55 DT	DEPT	0.00	0					
4.1.2 Loyer de bâtiments DEPT	1,287 DT	2,574 DT	2,640 DT	2,750 DT	DEPT							
4.1.3 Loyer Siège	578 DT	578 DT	578 DT	578 DT	SIEGE							
4.1.4 Location de matériel District	81 DT	81 DT	81 DT	81 DT	DIST	0.00	0					
4.1.5 Loyer de locaux district	1,217 DT	1,499 DT	896 DT	1,206 DT	DIST							
4.1.6 Location de matériel centre	619 DT	619 DT	619 DT	2,890 DT	CENTRE	0.90	557	585	614	645	677	3079
4.1.7 Loyer de Centre	0 DT	0 DT	0 DT	0 DT	CENTRE		10000	10000	10000	10000	10000	50000
4.2 Entretien-réparations												
4.2.1 Sous-traitance réseau GVT	0 DT	6,170 DT	6,170 DT	6,170 DT	GVT	0.00	0					
4.2.2 S.T. Station pompage DTP	3,631 DT	0 DT	0 DT	12,391 DT	DIST							
4.2.3 S.T. Stat. pompage DEXT	9,679 DT	17,271 DT	19,932 DT	22,003 DT	DEXT							
4.2.4 Matériel roulant DMMR	7,747 DT	9,077 DT	12,531 DT	10,000 DT	DMMR	0.70	8772	9210	9671	10154	10662	48469
4.2.5 Bâtiments DME	0 DT	825 DT	275 DT	275 DT	DME							
4.2.6 Réparations Siège	1,791 DT	1,791 DT	1,791 DT	1,791 DT	SIEGE							

BUDGET DU PROJET PILOTE RESEAU (DT)

Analyse de sensibilite #1 : clef economies personnel = .80

CHARGES D'EXPLOITATION	1992	1993	1994	1995	Affect. Budget.	Clef des économies	Budget secteur prive AN # 1	AN # 2	AN # 3	AN # 4	AN # 5	TOTAL
4.2.7 réparations CENTRE	38,700 DT	42,570 DT	46,440 DT	51,000 DT	CENTRE		300	315	331	347	365	1658
4.3 Travaux et façons												
4.3.1 Travaux Siège	1,928 DT	1,928 DT	1,928 DT	1,928 DT	SIEGE							
4.3.2 Travaux Centre	1,829 DT	2,812 DT	3,155 DT	3,358 DT	CENTRE	0.90	2840	2981	3131	3287	3451	15690
4.4 Fourniture d'eau												
Stat. pomp. Mohamed V	0 DT	0 DT	0 DT	0 DT	BV							
S.P. Tunis-Marine	0 DT	0 DT	0 DT	0 DT	BV							
S.P. Khadra	0 DT	0 DT	0 DT	0 DT	BV							
S.P. Isken	0 DT	0 DT	0 DT	0 DT	BV							
S.P. Monplaisir	0 DT	0 DT	0 DT	0 DT	BV							
DEPT Tunis	19 DT	34 DT	36 DT	39 DT	DEPT							
SIEGE	152 DT	152 DT	152 DT	152 DT	SIEGE							
District	6 DT	3 DT	3 DT	4 DT	DIST							
Centre	587 DT	1,715 DT	1,548 DT	1,703 DT	CENTRE	0.90	1393	1463	1536	1613	1693	7698
4.5 Fourniture d'électricité												
Stat. pomp. Mohamed V	0 DT	0 DT	0 DT	0 DT	BV							
S.P. Tunis-Marine	0 DT	0 DT	0 DT	0 DT	BV							
S.P. Khadra	0 DT	0 DT	0 DT	0 DT	BV							
S.P. Isken	0 DT	0 DT	0 DT	0 DT	BV							
S.P. Monplaisir	0 DT	0 DT	0 DT	0 DT	BV							
DEPT Tunis	79 DT	222 DT	248 DT	280 DT	DEPT							
Siège	2,066 DT	2,066 DT	2,066 DT	2,066 DT	SIEGE							
District	155 DT	120 DT	121 DT	129 DT	DIST							
Centre	127 DT	488 DT	516 DT	568 DT	CENTRE		600	630	662	695	729	3315
4.6 Prestation SONEDE												
CENTRE	0 DT	0 DT	0 DT	0 DT	CENTRE	0.00	0					
4.7 Assurances												
4.7.1 Assurances matériel roulant												
CENTRE	0 DT	0 DT	0 DT	0 DT	CENTRE		0					
DTP	2,053 DT	2,275 DT	2,542 DT	2,843 DT	DTP	0.90	2288	2402	2522	2648	2781	12641
DME	0 DT	0 DT	0 DT	0 DT	DME	0.90	0					
DMMRT	30 DT	32 DT	33 DT	34 DT	DMMRT	0.90	30	31	33	34	36	164
DEXT	67 DT	71 DT	78 DT	84 DT	DEXT	0.90	70	73	77	81	85	386
DEPT	141 DT	160 DT	171 DT	182 DT	DEPT	0.90	153	161	169	178	187	848
SIEGE	8,181 DT	8,181 DT	8,181 DT	8,181 DT	SIEGE							
4.8 Honoraires et gardiennage												
4.8.1 Honor. et gardien. Siège	1,584 DT	1,584 DT	1,584 DT	1,584 DT	SIEGE							
4.9 Petits outillages et autres												
DEXT	61 DT	65 DT	78 DT	84 DT	DEXT	0.90	70	73	77	81	85	386
SIEGE	2,755 DT	2,755 DT	2,755 DT	2,755 DT	SIEGE	0.00						
5.0 BIENS CONSOMMES												
5.1 MATIERES PREMIERES												
5.1.1 Matériaux de construction												
CENTRE	1,200 DT	1,363 DT	1,605 DT	1,834 DT	CENTRE	0.90	1445	1517	1593	1672	1756	7982
DTP	1,736 DT	4,297 DT	5,286 DT	6,080 DT	DTP	0.90	4757	4995	5245	5507	5782	26287
DME	0 DT	0 DT	0 DT	0 DT	DME	0.90	0					
SIEGE	138 DT	138 DT	138 DT	138 DT	SIEGE							
5.1.2 Autres matières premières												
DTP	10 DT	5,941 DT	6,203 DT	6,591 DT	DTP	0.90	5583	5862	6155	6463	6786	30850
DME	0 DT	0 DT	0 DT	0 DT	DME	0.90	0	0	0	0	0	0
CENTRE	1,041 DT	1,169 DT	1,342 DT	1,515 DT	CENTRE	0.90	1208	1268	1331	1398	1468	6673
DEXT	145 DT	194 DT	259 DT	324 DT	DEXT	0.90	233	245	257	270	283	1287
5.1.3 Tuyaux consommés												
5.1.3.1 Tuyaux siège	551 DT	551 DT	551 DT	551 DT	SIEGE							
5.1.3.2 Tuyaux centre	798 DT	1,553 DT	2,396 DT	2,849 DT	CENTRE	0.90	2157	2265	2378	2497	2622	11917
5.1.3.2 Tuyaux district	3,444 DT	9,106 DT	10,182 DT	11,492 DT	DTP							
5.1.4 Tuyaux pour la vente	0 DT	0 DT	0 DT	0 DT	CENTRE							
5.1.5 Pièces en fonte consommées												

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BUDGET DU PROJET PILOTE RESEAU (DT)

Analyse de sensibilite #1 : clef economies personnel = .80

CHARGES D'EXPLOITATION	1992	1993	1994	1995	Affect. Budget.	Clef des économies	Budget secteur prive AN # 1	AN # 2	AN # 3	AN # 4	AN # 5	TOTAL
5.1.5.1 Pièces en fonte -	3,650 DT	3,650 DT	3,650 DT	3,650 DT	SIEGE							
5.1.5.2 Pièces en fonte -	3,428 DT	4,522 DT	5,305 DT	5,828 DT	CENTRE	0.90	4775	5013	5264	5527	5804	26383
5.1.5.3 Pièces en fonte -	4,416 DT	5,378 DT	6,601 DT	7,777 DT	DTP							
5.1.6 Pièces en fonte pour la ve	0 DT	0 DT	0 DT	0 DT								
5.1.7 Autres	937 DT	1,056 DT	1,218 DT	1,421 DT	CENTRE	2.00	2436	2558	2686	2820	2961	13460
5.2 MATIERES CONSOMMABLES												
5.2.1 Habillement-Tenue de protection												
DTP	2,685 DT	5,707 DT	6,290 DT	6,992 DT	DTP							
DMMRT	124 DT	120 DT	138 DT	154 DT	DMMRT							
DME	0 DT	0 DT	0 DT	0 DT	DME							
DEXT	39 DT	42 DT	52 DT	58 DT	DEXT							
DEPT	195 DT	324 DT	330 DT	358 DT	DEPT							
SIEGE	1,253 DT	1,253 DT	1,253 DT	1,253 DT	SIEGE							
CENTRE	2,182 DT	2,659 DT	3,220 DT	3,578 DT	CENTRE	0.60	1932	2029	2130	2237	2349	10676
5.2.2 Produits d'entretien												
DTP	20 DT	1,248 DT	1,394 DT	1,773 DT	DTP							
DMMRT	210 DT	104 DT	165 DT	220 DT	DMMRT							
DME	0 DT	0 DT	0 DT	0 DT	DME							
DEXT	15 DT	9 DT	13 DT	16 DT	DEXT							
DEPT	55 DT	53 DT	72 DT	88 DT	DEPT							
SIEGE	152 DT	152 DT	152 DT	152 DT	SIEGE							
CENTRE	352 DT	764 DT	1,399 DT	1,627 DT	CENTRE	0.90	1259	1322	1388	1457	1530	6955
5.2.3 Fournitures d'atelier-Laboratoire												
DME	0 DT	0 DT	0 DT	0 DT	DME	0.90	0	0	0	0	0	0
DTP	75 DT	108 DT	108 DT	108 DT	DTP	0.90	97	102	107	112	118	536
DMMRT	165 DT	165 DT	165 DT	165 DT	DMMRT	0.90	149	156	164	172	181	821
SIEGE	1,515 DT	1,515 DT	1,515 DT	1,515 DT	SIEGE							
DEXT	29 DT	65 DT	349 DT	485 DT	DEXT	0.90	315	330	347	364	382	1738
5.2.4 Fournitures de bureau												
DEPT	1,018 DT	1,309 DT	1,375 DT	1,430 DT	DEPT	0.90	1238	1300	1365	1433	1504	6839
SIEGE	1,915 DT	1,915 DT	1,915 DT	1,915 DT	SIEGE							
5.2.5 Combustible et lubrifiant												
5.2.5.1 Stat. pompage												
DTP	39 DT	64 DT	96 DT	140 DT	DTP							
5.2.5.2 Matériel roulant												
DTP	9,422 DT	10,533 DT	12,600 DT	13,892 DT	DTP	0.90	11340	11907	12503	13128	13784	62663
DME	0 DT	0 DT	0 DT	0 DT	DME	0.90						
DMMRT	211 DT	231 DT	248 DT	275 DT	DMMRT	0.90	223	234	246	258	271	1231
DEXT	591 DT	712 DT	777 DT	841 DT	DEXT	0.90	699	734	771	809	850	3862
DEPT	1,331 DT	1,430 DT	1,540 DT	1,650 DT	DEPT	0.90	1366	1456	1528	1605	1685	7660
SIEGE	1,791 DT	1,791 DT	1,791 DT	1,791 DT	SIEGE	0.90						
5.2.5.3 Matériels et outillages												
DTP	413 DT	759 DT	852 DT	931 DT	DTP	0.90	767	805	846	888	932	4238
5.2.6 Pièces de rechange												
5.2.6.1 Stat. épur. + pomp.												
DTP	13,115 DT	14,423 DT	15,801 DT	16,714 DT	DTP							
DEPT	0 DT	0 DT	0 DT	0 DT	DEPT							
DME	0 DT	0 DT	0 DT	0 DT	DME							
5.2.6.2 Matériel roulant												
DTP	26,411 DT	29,894 DT	34,424 DT	37,040 DT	DTP	0.90	30982	32531	34157	35865	37659	171194
SIEGE	4,132 DT	4,132 DT	4,132 DT	4,132 DT	SIEGE							
5.2.6.3 Bâtiments												
DTP	421 DT	463 DT	509 DT	526 DT	DTP							
DEPT	64 DT	70 DT	77 DT	83 DT	DEPT							
5.2.7 Autres matières consommables												
DTP	1,042 DT	767 DT	827 DT	905 DT	DTP	0.90	744	782	821	862	905	4114
DEXT	79 DT	91 DT	97 DT	104 DT	DEXT	0.90	87	92	96	101	106	483
DME	0 DT	0 DT	0 DT	0 DT	DME	0.90	0	0	0	0	0	0

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BUDGET DU PROJET PILOTE RESEAU (DT)

Analyse de sensibilite #1 : clef economies personnel = .80

CHARGES D'EXPLOITATION	1992	1993	1994	1995	Affect. Budget.	Clef des économies	Budget secteur prive AN # 1	AN # 2	AN # 3	AN # 4	AN # 5	TOTAL
DEPT	96 DT	110 DT	121 DT	132 DT	DEPT	0.90	109	114	120	126	132	602
DMMRT	448 DT	55 DT	61 DT	66 DT	DMMRT	0.90	54	57	60	63	66	301
SIEGE	2,892 DT	2,892 DT	2,892 DT	2,892 DT	SIEGE							
5.3 FRAIS SUR ACHAT												
SIEGE	3,650 DT	3,650 DT	3,650 DT	3,650 DT	SIEGE							
6.0 IMPOTS ET TAXES	0 DT	0 DT	0 DT	0 DT								
6.1 TFP												
SIEGE	592 DT	592 DT	592 DT	592 DT	SIEGE							
6.2 Taxes de circulation												
DTP	4,260 DT	4,748 DT	5,588 DT	6,118 DT	DTP	0.90	5029	5230	5440	5657	5883	27239
DME	0 DT	0 DT	0 DT	0 DT	DME	0.90	0	0	0	0	0	0
DMMRT	76 DT	84 DT	88 DT	94 DT	DMMRT	0.90	79	82	86	89	93	429
DEXT	156 DT	162 DT	168 DT	175 DT	DEXT	0.90	151	157	164	170	177	820
DEPT	307 DT	330 DT	358 DT	385 DT	DEPT	0.90	322	335	348	362	376	1743
SIEGE	868 DT	868 DT	868 DT	868 DT	SIEGE							
6.3 TCCL	0 DT	0 DT	0 DT	0 DT								
6.4 Droit d'enrégistrement												
SIEGE	1,653 DT	1,653 DT	1,653 DT	1,653 DT	SIEGE							
7.0 FRAIS FINANCIERS DE FONCTIONNEMENT												
SIEGE	1,377 DT	1,377 DT	1,377 DT	1,377 DT	SIEGE							
8.0 FRAIS DIVERS D'EXPLOITATION												
SIEGE	344 DT	344 DT	344 DT	344 DT	SIEGE							
9.0 CHARGES DE FINANCEMENT												
SIEGE	2,479 DT	2,479 DT	2,479 DT	2,479 DT	SIEGE							
10.0 AMORTISSEMENT												
SIEGE	4,132 DT	4,132 DT	4,132 DT	4,132 DT	SIEGE							
Matériel roulant	52,470 DT	52,470 DT	52,470 DT	52,470 DT	CENTRE		73808	73808	73808	73808	73808	369040
Intérêts												
TOTAL DES CHARGES	422,755 DT	478,803 DT	510,933 DT	549,887 DT	CENTRE		299854	314823	329983	345911	363231	1653803
IMPREVU						0.10	29985	31482	32998	34591	36323	165380
FRAIS D'ADMINISTRATION SIEGE PRIVE						0.03	8996	9445	9899	10377	10897	49614
FRAIS D'ADMINISTRATION LOCAUX						0.12	35982	37779	39598	41509	43588	198456
TOTAL AVANT BENEFICE							374817	393529	412479	432389	454039	2067253
MARGE BENEFICIAIRE AVANT IMPOT						0.20	74963	78706	82496	86478	90808	413451
IMPOT SUR MARGE BENEFICIAIRE						0.20	14993	15741	16499	17296	18162	82690
TOTAL DU CONTRAT PRIVE							449781	472235	494974	518867	544847	2480704
COUT DE UDC							63000	63000	63000	63000	63000	315000
TOTAL DU COUT D'EXPLOITATION PREVU							512781	535235	557974	581867	607847	2795704
COUT DE L'ONAS							510933	549887	582881	617853	654925	2916479
ECONOMIE REALISEE PAR L'ONAS							-1848	14653	24906	35986	47078	120775
% ECONOMIE							-0.36%	2.66%	4.27%	5.82%	7.19%	4.14%

BUDGET DU PROJET PILOTE RESEAU (DT)

Analyse de sensibilite #2 : clef economies personnel = .85

CHARGES D'EXPLOITATION	1992	1993	1994	1995	Affect. Budget.	Clef des économies	Budget secteur prive AN # 1	AN # 2	AN # 3	AN # 4	AN # 5	TOTAL
1.0 FRAIS DE PERSONNEL												
1.1 Personnel Centre	130,349 DT	135,563 DT	140,985 DT	146,625 DT	CENTRE	0.85	119838	130623	141073	152359	164547	177711
1.2 Personnel departement	0 DT	0 DT	0 DT	0 DT	DEPT	0.85	0	0	0	0	0	0
1.3 Personnel Siège	29,613 DT	29,613 DT	29,613 DT	29,613 DT	SIEGE	0.85	0	0	0	0	0	0
2.0 TRANSPORT & DEPLACEMENT												
2.1 Siège	331 DT	331 DT	331 DT	331 DT	SIEGE							
2.2 DME	0 DT	0 DT	0 DT	0 DT	DME							
2.3 DEXT	4 DT	26 DT	56 DT	62 DT	DEXT							
2.4 Centre					CENTRE		1200	1200	1250	1250	1300	6200
3.0 FRAIS DIVERS DE PRODUCTION												
3.1 Téléphone							1066	1108	1153	1199	1247	5773
3.1.1 Téléphone Centre	456 DT	994 DT	533 DT	559 DT	CENTRE	2.00						
3.1.2 Téléphone DEPT	313 DT	458 DT	490 DT	525 DT	DEPT	0.00						
3.1.3 Téléphone siège	2,094 DT	2,094 DT	2,094 DT	2,094 DT	SIEGE	0.00						
3.1.4 Téléphone district	511 DT	578 DT	634 DT	679 DT	DIST	0.00						
3.1.4 Téléphone DME	0 DT	0 DT	0 DT	0 DT	DME	0.00						
3.2 Télégramme												
DEPT	1 DT	1 DT	1 DT	1 DT	DEPT							
Centre	0 DT	0 DT	0 DT	0 DT	CENTRE	0.00	0	0	0	0	0	0
3.3 Télex et Fax	0 DT	0 DT	0 DT	0 DT	CENTRE		300	300	315	315	331	1561
3.4 Actes de contentieux												
3.4.1 Actes de contentieux Centre	0 DT	0 DT	0 DT	0 DT	CENTRE		1200	1200	1260	1260	1323	6243
3.4.2 Actes de contentieux DEXT	78 DT	15 DT	45 DT	45 DT	DEXT							
3.4.3 Actes de contentieux Siège	138 DT	138 DT	138 DT	138 DT	SIEGE							
3.5 Documentation												
3.5.1 Documentation Siège	551 DT	551 DT	551 DT	551 DT	SIEGE							
3.5.1 Documentation DEXT	18 DT	52 DT	65 DT	104 DT	DEXT							
3.6 Affranchissement												
3.6.1 Affranchissement Centre	0 DT	0 DT	0 DT	0 DT	CENTRE		70	70	74	74	77	364
3.6.2 Affranchissement DEXT	0 DT	1 DT	2 DT	2 DT	DEXT							
3.6.3 Affranchissement Siège	69 DT	69 DT	69 DT	69 DT	SIEGE							
3.7 Affichage et annonce												
3.7.1 Affichage et annonce Centre	0 DT	0 DT	0 DT	0 DT	CENTRE							
3.7.2 Affichage et annonce DEXT	13 DT	32 DT	32 DT	32 DT	DEXT	0.00	0					
3.7.3 Affichage et annonce Siège	826 DT	826 DT	826 DT	826 DT	SIEGE	0.60	496	496	521	521	547	2580
3.8 Mission et réception												
3.8.1 Mission et réception Centre	0 DT	0 DT	0 DT	0 DT	CENTRE							
3.8.2 Mission et réception DEXT	0 DT	65 DT	129 DT	194 DT	DEXT	0.00	0					
3.8.3 Mission et réception Siège	730 DT	730 DT	730 DT	730 DT	SIEGE	0.75	547	547	575	575	604	2848
3.9 Fourniture de bureau	0 DT	0 DT	0 DT	0 DT	CENTRE		1200	1200	1260	1260	1323	6243
3.10 Autres frais divers												
3.10.1 Siège	1,157 DT	1,157 DT	1,157 DT	1,157 DT	SIEGE		551	551	579	579	607	2867
4.0 TRAVAUX-FOURN.-SERVICES EXTERIEURS												
4.1 Loyers												
4.1.1 Location de matériel DEPT	0 DT	55 DT	55 DT	55 DT	DEPT	0.00	0					
4.1.2 Loyer de bâtiments DEPT	1,287 DT	2,574 DT	2,640 DT	2,750 DT	DEPT							
4.1.3 Loyer Siège	578 DT	578 DT	578 DT	578 DT	SIEGE							
4.1.4 Location de matériel District	81 DT	81 DT	81 DT	81 DT	DIST	0.00	0					
4.1.5 Loyer de locaux district	1,217 DT	1,499 DT	996 DT	1,206 DT	DIST							
4.1.6 Location de matériel centre	619 DT	619 DT	619 DT	2,890 DT	CENTRE	0.90	557	585	614	645	677	3079
4.1.7 Loyer de Centre	0 DT	0 DT	0 DT	0 DT	CENTRE		10000	10000	10000	10000	10000	50000
4.2 Entretien-réparations												
4.2.1 Sous-traitance réseau GVT	0 DT	6,170 DT	6,170 DT	6,170 DT	GVT	0.00	0					
4.2.2 S.T. Station pompage DTP	3,631 DT	0 DT	0 DT	12,391 DT	DIST							
4.2.3 S.T. Stat. pompage DEXT	9,679 DT	17,271 DT	19,932 DT	22,003 DT	DEXT							
4.2.4 Matériel roulant DMMR	7,747 DT	9,077 DT	12,531 DT	10,000 DT	DMMR	0.70	8772	9210	9671	10154	10662	48469
4.2.5 Bâtiments DME	0 DT	825 DT	275 DT	275 DT	DME							
4.2.6 Réparations Siège	1,791 DT	1,791 DT	1,791 DT	1,791 DT	SIEGE							

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BUDGET DU PROJET PILOTE RESEAU (DT)

Analyse de sensibilite #2 : clef economies personnel = .85

CHARGES D'EXPLOITATION	1992	1993	1994	1995	Affect. Budget.	Clef des économies	Budget secteur prive AN # 1	AN # 2	AN # 3	AN # 4	AN # 5	TOTAL
4.2.7 Réparations CENTRE	38,700 DT	42,570 DT	46.440 DT	51,000 DT	CENTRE		300	315	331	347	365	1658
4.3 Travaux et façons												
4.3.1 Travaux Siège	1,928 DT	1,928 DT	1,923 DT	1,928 DT	SIEGE							
4.3.2 Travaux Centre	1,829 DT	2,812 DT	3,155 DT	3,356 DT	CENTRE	0.90	2840	2981	3131	3287	3451	15690
4.4 Fourniture d'eau												
Stat. pomp. Mohamed V	0 DT	0 DT	0 DT	0 DT	BV							
S.P. Tunis-Marine	0 DT	0 DT	0 DT	0 DT	BV							
S.P. Khadra	0 DT	0 DT	0 DT	0 DT	BV							
S.P. Isken	0 DT	0 DT	0 DT	0 DT	BV							
S.P. Monplaisir	0 DT	0 DT	0 DT	0 DT	BV							
DEPT Tunis	19 DT	34 DT	36 DT	39 DT	DEPT							
SIEGE	152 DT	152 DT	152 DT	152 DT	SIEGE							
District	6 DT	3 DT	3 DT	4 DT	DIST							
Centre	587 DT	1,715 DT	1,548 DT	1,703 DT	CENTRE	0.90	1393	1463	1536	1613	1693	7698
4.5 Fourniture d'électricité												
Stat. pomp. Mohamed V	0 DT	0 DT	0 DT	0 DT	BV							
S.P. Tunis-Marine	0 DT	0 DT	0 DT	0 DT	BV							
S.P. Khadra	0 DT	0 DT	0 DT	0 DT	BV							
S.P. Isken	0 DT	0 DT	0 DT	0 DT	BV							
S.P. Monplaisir	0 DT	0 DT	0 DT	0 DT	BV							
DEPT Tunis	79 DT	222 DT	248 DT	280 DT	DEPT							
Siège	2,066 DT	2,066 DT	2,066 DT	2,066 DT	SIEGE							
District	155 DT	120 DT	121 DT	129 DT	DIST							
Centre	127 DT	488 DT	516 DT	568 DT	CENTRE		600	630	662	695	729	3315
4.6 Prestation SONEDE												
CENTRE	0 DT	0 DT	0 DT	0 DT	CENTRE	0.00	0					
4.7 Assurances												
4.7.1 Assurances matériel roulant												
CENTRE	0 DT	0 DT	0 DT	0 DT	CENTRE		0					
DTP	2,053 DT	2,275 DT	2,542 DT	2,843 DT	DTP	0.90	2288	2402	2522	2648	2781	12641
DME	0 DT	0 DT	0 DT	0 DT	DME	0.90	0					
DMMRT	30 DT	32 DT	33 DT	34 DT	DMMRT	0.90	30	31	33	34	36	164
DEXT	67 DT	71 DT	78 DT	84 DT	DEXT	0.90	70	73	77	81	85	386
DEPT	141 DT	160 DT	171 DT	182 DT	DEPT	0.90	153	161	169	178	187	848
SIEGE	8,181 DT	8,181 DT	8,181 DT	8,181 DT	SIEGE							
4.8 Honoraires et gardiennage												
4.8.1 Honor. et gardien. Siège	1,584 DT	1,584 DT	1,584 DT	1,584 DT	SIEGE							
4.9 Petits outillages et autres												
DEXT	61 DT	65 DT	78 DT	84 DT	DEXT	0.90	70	73	77	81	85	386
SIEGE	2,755 DT	2,755 DT	2,755 DT	2,755 DT	SIEGE	0.00						
5.0 BIENS CONSOMMES												
5.1 MATIERES PREMIERES												
5.1.1 Matériaux de construction												
CENTRE	1,200 DT	1,363 DT	1,605 DT	1,834 DT	CENTRE	0.90	1445	1517	1593	1672	1756	7982
DTP	1,736 DT	4,297 DT	5,286 DT	6,080 DT	DTP	0.90	4757	4995	5245	5507	5782	26287
DME	0 DT	0 DT	0 DT	0 DT	DME	0.90	0					
SIEGE	138 DT	138 DT	138 DT	138 DT	SIEGE							
5.1.2 Autres matières premières												
DTP	10 DT	5,941 DT	6,203 DT	6,591 DT	DTP	0.90	5583	5862	6155	6463	6786	30850
DME	0 DT	0 DT	0 DT	0 DT	DME	0.90	0	0	0	0	0	0
CENTRE	1,041 DT	1,169 DT	1,342 DT	1,515 DT	CENTRE	0.90	1208	1268	1331	1398	1468	6673
DEXT	146 DT	194 DT	259 DT	324 DT	DEXT	0.90	233	245	257	270	283	1287
5.1.3 Tuyaux consommés												
5.1.3.1 Tuyaux siège	551 DT	551 DT	551 DT	551 DT	SIEGE							
5.1.3.2 Tuyaux centre	798 DT	1,553 DT	2,396 DT	2,849 DT	CENTRE	0.90	2157	2265	2378	2497	2622	11917
5.1.3.2 Tuyaux district	3,444 DT	9,106 DT	10,182 DT	11,492 DT	DTP							
5.1.4 Tuyaux pour la vente	0 DT	0 DT	0 DT	0 DT	CENTRE							
5.1.5 Pièces en fonte consommées												

BUDGET DU PROJET PILOTE RESEAU (DT)

Analyse de sensibilite #2 : clef economies personnel = .85

CHARGES D'EXPLOITATION	1992	1993	1994	1995	Affect. Budget.	Clef des économies	Budget secteur prive AN # 1	AN # 2	AN # 3	AN # 4	AN # 5	TOTAL
5.1.5.1 Pièces en fonte -	3,650 DT	3,650 DT	3,650 DT	3,650 DT	SIEGE							
5.1.5.2 Pièces en fonte -	3,428 DT	4,522 DT	5,305 DT	5,828 DT	CENTRE	0.90	4775	5013	5264	5527	5804	26383
5.1.5.3 Pièces en fonte -	4,416 DT	5,378 DT	6,601 DT	7,777 DT	DTP							
5.1.6 Pièces en fonte pour la ve	0 DT	0 DT	0 DT	0 DT								
5.1.7 Autres	937 DT	1,056 DT	1,218 DT	1,421 DT	CENTRE	2.00	2436	2558	2686	2820	2961	13460
5.2 MATIERES CONSOMMABLES												
5.2.1 Habillement-Tenue de protection												
DTP	2,685 DT	5,707 DT	6,290 DT	6,992 DT	DTP							
DMMRT	124 DT	120 DT	138 DT	154 DT	DMMRT							
DME	0 DT	0 DT	0 DT	0 DT	DME							
DEXT	39 DT	42 DT	52 DT	58 DT	DEXT							
DEPT	195 DT	324 DT	330 DT	358 DT	DEPT							
SIEGE	1,253 DT	1,253 DT	1,253 DT	1,253 DT	SIEGE							
CENTRE	2,182 DT	2,659 DT	3,220 DT	3,578 DT	CENTRE	0.60	1932	2029	2130	2237	2349	10676
5.2.2 Produits d'entretien												
DTP	20 DT	1,248 DT	1,394 DT	1,773 DT	DTP							
DMMRT	210 DT	104 DT	165 DT	220 DT	DMMRT							
DME	0 DT	0 DT	0 DT	0 DT	DME							
DEXT	15 DT	9 DT	13 DT	16 DT	DEXT							
DEPT	55 DT	53 DT	72 DT	88 DT	DEPT							
SIEGE	152 DT	152 DT	152 DT	152 DT	SIEGE							
CENTRE	352 DT	764 DT	1,399 DT	1,627 DT	CENTRE	0.90	1259	1322	1388	1457	1530	6955
5.2.3 Fournitures d'atelier-Laboratoire												
DME	0 DT	0 DT	0 DT	0 DT	DME	0.90	0	0	0	0	0	0
DTP	75 DT	108 DT	108 DT	108 DT	DTP	0.90	97	102	107	112	118	536
DMMRT	165 DT	165 DT	165 DT	165 DT	DMMRT	0.90	149	156	164	172	181	821
SIEGE	1,515 DT	1,515 DT	1,515 DT	1,515 DT	SIEGE							
DEXT	29 DT	65 DT	349 DT	485 DT	DEXT	0.90	315	330	347	364	382	1738
5.2.4 Fournitures de bureau												
DEPT	1,018 DT	1,309 DT	1,375 DT	1,430 DT	DEPT	0.90	1238	1300	1365	1433	1504	6839
SIEGE	1,915 DT	1,915 DT	1,915 DT	1,915 DT	SIEGE							
5.2.5 Combustible et lubrifiant												
5.2.5.1 Stat. pompage												
DTP	39 DT	64 DT	96 DT	140 DT	DTP							
5.2.5.2 Matériel roulant												
DTP	9,422 DT	10,533 DT	12,500 DT	13,892 DT	DTP	0.90	11340	11907	12503	13128	13784	62663
DME	0 DT	0 DT	0 DT	0 DT	DME	0.90						
DMMRT	211 DT	231 DT	248 DT	275 DT	DMMRT	0.90	223	234	246	258	271	1231
DEXT	591 DT	712 DT	777 DT	841 DT	DEXT	0.90	699	734	771	809	850	3862
DEPT	1,331 DT	1,430 DT	1,540 DT	1,650 DT	DEPT	0.90	1386	1456	1528	1605	1685	7660
SIEGE	1,791 DT	1,791 DT	1,791 DT	1,791 DT	SIEGE	0.90						
5.2.5.3 Matériels et outillages												
DTP	413 DT	759 DT	852 DT	931 DT	DTP	0.90	767	805	846	888	932	4238
5.2.6 Pièces de rechange												
5.2.6.1 Stat. épur. + pomp.												
DTP	13,115 DT	14,423 DT	15,801 DT	16,714 DT	DTP							
DEPT	0 DT	0 DT	0 DT	0 DT	DEPT							
DME	0 DT	0 DT	0 DT	0 DT	DME							
5.2.6.2 Matériel roulant												
DTP	26,411 DT	29,894 DT	34,424 DT	37,040 DT	DTP	0.90	30982	32531	34157	35865	37659	171194
SIEGE	4,132 DT	4,132 DT	4,132 DT	4,132 DT	SIEGE							
5.2.6.3 Bâtiments												
DTP	421 DT	463 DT	509 DT	528 DT	DTP							
DEPT	64 DT	70 DT	77 DT	83 DT	DEPT							
5.2.7 Autres matières consommables												
DTP	1,042 DT	767 DT	827 DT	905 DT	DTP	0.90	744	782	821	862	905	4114
DEXT	79 DT	91 DT	97 DT	104 DT	DEXT	0.90	87	92	96	101	106	483
DME	0 DT	0 DT	0 DT	0 DT	DME	0.90	0	0	0	0	0	0

BUDGET DU PROJET PILOTE RESEAU (DT)

Analyse de sensibilite #2 : clef economies personnel = .85

CHARGES D'EXPLOITATION	1992	1993	1994	1995	Affect. Budget.	Clef des économies	Budget secteur prive AN # 1	AN # 2	AN # 3	AN # 4	AN # 5	TOTAL
DEPT	96 DT	110 DT	121 DT	132 DT	DEPT	0.90	109	114	120	126	132	602
DMMRT	448 DT	55 DT	61 DT	66 DT	DMMRT	0.90	54	57	60	63	66	301
SIEGE	2,892 DT	2,892 DT	2,892 DT	2,892 DT	SIEGE							
5.3 FRAIS SUR ACHAT												
SIEGE	3,650 DT	3,650 DT	3,650 DT	3,650 DT	SIEGE							
6.0 IMPOTS ET TAXES	0 DT	0 DT	0 DT	0 DT								
6.1 TFP												
SIEGE	592 DT	592 DT	592 DT	592 DT	SIEGE							
6.2 Taxes de circulation												
DTP	4,260 DT	4,748 DT	5,588 DT	6,118 DT	DTP	0.90	5029	5230	5440	5657	5883	27239
DME	0 DT	0 DT	0 DT	0 DT	DME	0.90	0	0	0	0	0	0
DMMRT	76 DT	84 DT	88 DT	94 DT	DMMRT	0.90	79	82	86	89	93	429
DEXT	156 DT	162 DT	168 DT	175 DT	DEXT	0.90	151	157	164	170	177	820
DEPT	307 DT	330 DT	358 DT	385 DT	DEPT	0.90	322	335	348	362	376	1743
SIEGE	868 DT	868 DT	868 DT	868 DT	SIEGE							
6.3 TCCL	0 DT	0 DT	0 DT	0 DT								
6.4 Droit d'enrégistrement												
SIEGE	1,653 DT	1,653 DT	1,653 DT	1,653 DT	SIEGE							
7.0 FRAIS FINANCIERS DE FONCTIONNEMENT												
SIEGE	1,377 DT	1,377 DT	1,377 DT	1,377 DT	SIEGE							
8.0 FRAIS DIVERS D'EXPLOITATION												
SIEGE	344 DT	344 DT	344 DT	344 DT	SIEGE							
9.0 CHARGES DE FINANCEMENT												
SIEGE	2,479 DT	2,479 DT	2,479 DT	2,479 DT	SIEGE							
10.0 AMORTISSEMENT												
SIEGE	4,132 DT	4,132 DT	4,132 DT	4,132 DT	SIEGE							
Matériel roulant	52,470 DT	52,470 DT	52,470 DT	52,470 DT	CENTRE		73808	73808	73808	73808	73808	369040
Intérêts												
TOTAL DES CHARGES	422,755 DT	478,803 DT	510,933 DT	549,887 DT	CENTRE		306903	322507	338281	354874	372910	1695476
IMPREVU						0.10	30690	32251	33828	35487	37291	169548
FRAIS D'ADMINISTRATION SIEGE PRIVE						0.03	9207	9675	10148	10646	11187	50864
FRAIS D'ADMINISTRATION LOCAUX						0.12	36828	38701	40594	42585	44749	203457
TOTAL AVANT BENEFICE							383629	403134	422852	443592	466138	2119344
MARGE BENEFICIAIRE AVANT IMPOT						0.20	76726	80627	84570	88718	93228	423869
IMPOT SUR MARGE BENEFICIAIRE						0.20	15345	16125	16914	17744	18646	84774
TOTAL DU CONTRAT PRIVE							460355	483760	507422	532310	559366	2543213
COUT DE UDC							63000	63000	63000	63000	63000	315000
TOTAL DU COUT D'EXPLOITATION PREVU							523355	546760	570422	595310	622366	2858213
COUT DE L'ONAS							510933	549887	582881	617853	654925	2916479
ECONOMIE REALISEE PAR L'ONAS							-12422	3127	12459	22543	32559	58266
% ECONOMIE							-2.43%	0.57%	2.14%	3.65%	4.97%	2.00%

BUDGET DU PROJET PILOTE RESEAU (DT)

Analyse de sensibilite #3 : 5% cugmentation couts material roulant

CHARGES D'EXPLOITATION	1992	1993	1994	1995	Affect. Budget.	Clef des économies	Budget secteur prive AN # 1	AN # 2	AN # 3	AN # 4	AN # 5	TOTAL
1.0 FRAIS DE PERSONNEL												
1.1 Personnel Centre	130,349 DT	135,563 DT	140,985 DT	146,625 DT	CENTRE	0.75	105739	115256	124476	134434	145189	156804
1.2 Personnel departement	0 DT	0 DT	0 DT	0 DT	DEPT	0.75	0	0	0	0	0	0
1.3 Personnel Siège	29,613 DT	29,613 DT	29,613 DT	29,613 DT	SIEGE	0.75	0	0	0	0	0	0
2.0 TRANSPORT & DEPLACEMENT												
2.1 Siège	331 DT	331 DT	331 DT	331 DT	SIEGE							
2.2 DME	0 DT	0 DT	0 DT	0 DT	DME							
2.3 DEXT	4 DT	26 DT	56 DT	62 DT	DEXT							
2.4 Centre					CENTRE		1200	1200	1250	1250	1300	6200
3.0 FRAIS DIVERS DE PRODUCTION												
3.1 Téléphone							1066	1108	1153	1199	1247	5773
3.1.1 Téléphone Centre	456 DT	994 DT	533 DT	559 DT	CENTRE	2.00						
3.1.2 Téléphone DEPT	313 DT	458 DT	490 DT	525 DT	DEPT	0.00						
3.1.3 Téléphone siège	2,094 DT	2,094 DT	2,094 DT	2,094 DT	SIEGE	0.00						
3.1.4 Téléphone district	511 DT	578 DT	634 DT	679 DT	DIST	0.00						
3.1.4 Téléphone DME	0 DT	0 DT	0 DT	0 DT	DME	0.00						
3.2 Télégramme												
DEPT	1 DT	1 DT	1 DT	1 DT	DEPT							
Centre	0 DT	0 DT	0 DT	0 DT	CENTRE	0.00	0	0	0	0	0	0
3.3 Télex et Fax	0 DT	0 DT	0 DT	0 DT	CENTRE		300	300	315	315	331	1561
3.4 Actes de contentieux												
3.4.1 Actes de contentieux Centre	0 DT	0 DT	0 DT	0 DT	CENTRE		1200	1200	1260	1260	1323	6243
3.4.2 Actes de contentieux DEXT	78 DT	15 DT	45 DT	45 DT	DEXT							
3.4.3 Actes de contentieux Siège	138 DT	138 DT	138 DT	138 DT	SIEGE							
3.5 Documentation												
3.5.1 Documentation Siège	551 DT	551 DT	551 DT	551 DT	SIEGE							
3.5.1 Documentation DEXT	18 DT	52 DT	65 DT	104 DT	DEXT							
3.6 Affranchissement												
3.6.1 Affranchissement Centre	0 DT	0 DT	0 DT	0 DT	CENTRE		70	70	74	74	77	364
3.6.2 Affranchissement DEXT	0 DT	1 DT	2 DT	2 DT	DEXT							
3.6.3 Affranchissement Siège	69 DT	69 DT	69 DT	69 DT	SIEGE							
3.7 Affichage et annonce												
3.7.1 Affichage et annonce Centre	0 DT	0 DT	0 DT	0 DT	CENTRE							
3.7.2 Affichage et annonce DEXT	13 DT	32 DT	32 DT	32 DT	DEXT	0.00	0					
3.7.3 Affichage et annonce Siège	826 DT	826 DT	826 DT	826 DT	SIEGE	0.60	496	496	521	521	547	2580
3.8 Mission et réception												
3.8.1 Mission et réception Centre	0 DT	0 DT	0 DT	0 DT	CENTRE							
3.8.2 Mission et réception DEXT	0 DT	65 DT	129 DT	194 DT	DEXT	0.00	0					
3.8.3 Mission et réception Siège	730 DT	730 DT	730 DT	730 DT	SIEGE	0.75	547	547	575	575	604	2848
3.9 Fourniture de bureau	0 DT	0 DT	0 DT	0 DT	CENTRE		1200	1200	1260	1260	1323	6243
3.10 Autres frais divers												
3.10.1 Siège	1,157 DT	1,157 DT	1,157 DT	1,157 DT	SIEGE		551	551	579	579	607	2867
4.0 TRAVAUX-FOURN.-SERVICES EXTERIEURS												
4.1 Loyers												
4.1.1 Location de matériel DEPT	0 DT	55 DT	55 DT	55 DT	DEPT	0.00	0					
4.1.2 Loyer de bâtiments DEPT	1,287 DT	2,574 DT	2,640 DT	2,750 DT	DEPT							
4.1.3 Loyer Siège	578 DT	578 DT	578 DT	578 DT	SIEGE							
4.1.4 Location de matériel District	81 DT	81 DT	81 DT	81 DT	DIST	0.00	0					
4.1.5 Loyer de locaux district	1,217 DT	1,499 DT	896 DT	1,206 DT	DIST							
4.1.6 Location de matériel centre	619 DT	619 DT	619 DT	2,890 DT	CENTRE	0.90	557	585	614	645	677	3079
4.1.7 Loyer de Centre	0 DT	0 DT	0 DT	0 DT	CENTRE		10000	10000	10000	10000	10000	50000
4.2 Entretien-réparations												
4.2.1 Sous-traitance réseau GVT	0 DT	6,170 DT	6,170 DT	6,170 DT	GVT	0.00	0					
4.2.2 S.T. Station pompage DTP	3,631 DT	0 DT	0 DT	12,391 DT	DIST							
4.2.3 S.T. Stat. pompage DEXT	9,679 DT	17,271 DT	19,932 DT	22,003 DT	DEXT							
4.2.4 Matériel roulant DMMR	7,747 DT	9,077 DT	12,531 DT	10,000 DT	DMMR	0.70	8772	9210	9671	10154	10662	48469
4.2.5 Bâtiments DME	0 DT	825 DT	275 DT	275 DT	DME							
4.2.6 Réparations Siège	1,791 DT	1,791 DT	1,791 DT	1,791 DT	SIEGE							

BUDGET DU PROJET PILOTE RESEAU (DT)

Analyse de sensibilite #3 : 5% augmentation couts material roulant

CHARGES D'EXPLOITATION	1992	1993	1994	1995	Affect. Budget.	Clef des économies	Budget secteur prive AN # 1	AN # 2	AN # 3	AN # 4	AN # 5	TOTAL
4.2.7 Réparations CENTRE	38,700 DT	42,570 DT	46,440 DT	51,000 DT	CENTRE		300	315	331	347	365	1658
4.3 Travaux et façons												
4.3.1 Travaux Siège	1,928 DT	1,928 DT	1,928 DT	1,928 DT	SIEGE							
4.3.2 Travaux Centre	1,829 DT	2,812 DT	3,155 DT	3,358 DT	CENTRE	0.90	2840	2981	3131	3287	3451	15690
4.4 Fourniture d'eau												
Stat. pomp. Mohamed V	0 DT	0 DT	0 DT	0 DT	BV							
S.P. Tunis-Marine	0 DT	0 DT	0 DT	0 DT	BV							
S.P. Khadra	0 DT	0 DT	0 DT	0 DT	BV							
S.P. Isken	0 DT	0 DT	0 DT	0 DT	BV							
S.P. Monplaisir	0 DT	0 DT	0 DT	0 DT	BV							
DEPT Tunis	19 DT	34 DT	36 DT	39 DT	DEPT							
SIEGE	152 DT	152 DT	152 DT	152 DT	SIEGE							
District	6 DT	3 DT	3 DT	4 DT	DIST							
Centre	587 DT	1,715 DT	1,548 DT	1,703 DT	CENTRE	0.90	1393	1463	1536	1613	1693	7698
4.5 Fourniture d'électricité												
Stat. pomp. Mohamed V	0 DT	0 DT	0 DT	0 DT	BV							
S.P. Tunis-Marine	0 DT	0 DT	0 DT	0 DT	BV							
S.P. Khadra	0 DT	0 DT	0 DT	0 DT	BV							
S.P. Isken	0 DT	0 DT	0 DT	0 DT	BV							
S.P Monplaisir	0 DT	0 DT	0 DT	0 DT	BV							
DEPT Tunis	79 DT	222 DT	248 DT	280 DT	DEPT							
Siège	2,066 DT	2,066 DT	2,066 DT	2,066 DT	SIEGE							
District	155 DT	120 DT	121 DT	129 DT	DIST							
Centre	127 DT	488 DT	516 DT	568 DT	CENTRE		600	630	662	695	729	3315
4.6 Prestation SONEDE												
CENTRE	0 DT	0 DT	0 DT	0 DT	CENTRE	0.00	0					
4.7 Assurances												
4.7.1 Assurances matériel roulant												
CENTRE	0 DT	0 DT	0 DT	0 DT	CENTRE		0					
DTP	2,053 DT	2,275 DT	2,542 DT	2,843 DT	DTP	0.90	2288	2402	2522	2648	2781	12641
DME	0 DT	0 DT	0 DT	0 DT	DME	0.90	0					
DMMRT	30 DT	32 DT	33 DT	34 DT	DMMRT	0.90	30	31	33	34	36	164
DEXT	67 DT	71 DT	78 DT	84 DT	DEXT	0.90	70	73	77	81	85	386
DEPT	141 DT	160 DT	171 DT	182 DT	DEPT	0.90	153	161	169	178	187	848
SIEGE	8,181 DT	8,181 DT	8,181 DT	8,181 DT	SIEGE							
4.8 Honoraires et gardiennage												
4.8.1 Honor. et gardien. Siège	1,584 DT	1,584 DT	1,584 DT	1,584 DT	SIEGE							
4.9 Petits outillages et autres												
DEXT	61 DT	65 DT	78 DT	84 DT	DEXT	0.90	70	73	77	81	85	386
SIEGE	2,755 DT	2,755 DT	2,755 DT	2,755 DT	SIEGE	0.00						
5.0 BIENS CONSOMMES												
5.1 MATIERES PREMIERES												
5.1.1 Matériaux de construction												
CENTRE	1,200 DT	1,363 DT	1,605 DT	1,834 DT	CENTRE	0.90	1445	1517	1593	1672	1756	7982
DTP	1,736 DT	4,297 DT	5,286 DT	6,080 DT	DTP	0.90	4757	4995	5245	5507	5782	26287
DME	0 DT	0 DT	0 DT	0 DT	DME	0.90	0					
SIEGE	138 DT	138 DT	138 DT	138 DT	SIEGE							
5.1.2 Autres matières premières												
DTP	10 DT	5,941 DT	6,203 DT	6,591 DT	DTP	0.90	5583	5862	6155	6463	6786	30850
DME	0 DT	0 DT	0 DT	0 DT	DME	0.90	0	0	0	0	0	0
CENTRE	1,041 DT	1,169 DT	1,342 DT	1,515 DT	CENTRE	0.90	1208	1268	1331	1398	1468	6673
DEXT	146 DT	194 DT	259 DT	324 DT	DEXT	0.90	233	245	257	270	283	1287
5.1.3 Tuyaux consommés												
5.1.3.1 Tuyaux siège	551 DT	551 DT	551 DT	551 DT	SIEGE							
5.1.3.2 Tuyaux centre	798 DT	1,553 DT	2,396 DT	2,849 DT	CENTRE	0.90	2157	2265	2378	2497	2622	11917
5.1.3.2 Tuyaux district	3,444 DT	9,106 DT	10,182 DT	11,492 DT	DTP							
5.1.4 Tuyaux pour la vente	0 DT	0 DT	0 DT	0 DT	CENTRE							
5.1.5 Pièces en fonte consommées												

BUDGET DU PROJET PILOTE RESEAU (DT)

Analyse de sensibilite #3 : 5% augmentation couts material roulant

CHARGES D'EXPLOITATION	1992	1993	1994	1995	Affect. Budget.	Clef des économies	Budget secteur prive AN # 1	AN # 2	AN # 3	AN # 4	AN # 5	TOTAL
5.1.5.1 Pièces en fonte -	3,650 DT	3,650 DT	3,650 DT	3,650 DT	SIEGE							
5.1.5.2 Pièces en fonte -	3,428 DT	4,522 DT	5,305 DT	5,828 DT	CENTRE	0.90	4775	5013	5264	5527	5804	26383
5.1.5.3 Pièces en fonte -	4,416 DT	5,378 DT	6,601 DT	7,777 DT	DTP							
5.1.6 Pièces en fonte pour la ve	0 DT	0 DT	0 DT	0 DT								
5.1.7 Autres	937 DT	1,056 DT	1,218 DT	1,421 DT	CENTRE	2.00	2436	2558	2686	2820	2961	13460
5.2 MATIERES CONSOMMABLES												
5.2.1 Habillement-Tenue de protection												
DTP	2,685 DT	5,707 DT	6,290 DT	6,992 DT	DTP							
DMMRT	124 DT	120 DT	138 DT	154 DT	DMMRT							
DME	0 DT	0 DT	0 DT	0 DT	DME							
DEXT	39 DT	42 DT	52 DT	58 DT	DEXT							
DEPT	195 DT	324 DT	330 DT	358 DT	DEPT							
SIEGE	1,253 DT	1,253 DT	1,253 DT	1,253 DT	SIEGE							
CENTRE	2,182 DT	2,659 DT	3,220 DT	3,578 DT	CENTRE	0.60	1932	2029	2130	2237	2349	10676
5.2.2 Produits d'entretien												
DTP	20 DT	1,248 DT	1,394 DT	1,773 DT	DTP							
DMMRT	210 DT	104 DT	165 DT	220 DT	DMMRT							
DME	0 DT	0 DT	0 DT	0 DT	DME							
DEXT	15 DT	9 DT	13 DT	16 DT	DEXT							
DEPT	55 DT	53 DT	72 DT	88 DT	DEPT							
SIEGE	152 DT	152 DT	152 DT	152 DT	SIEGE							
CENTRE	352 DT	764 DT	1,399 DT	1,627 DT	CENTRE	0.90	1259	1322	1388	1457	1530	6955
5.2.3 Fournitures d'atelier-Laboratoire												
DME	0 DT	0 DT	0 DT	0 DT	DME	0.90	0	0	0	0	0	0
DTP	75 DT	108 DT	108 DT	108 DT	DTP	0.90	97	102	107	112	118	536
DMMRT	165 DT	165 DT	165 DT	165 DT	DMMRT	0.90	149	156	164	172	181	821
SIEGE	1,515 DT	1,515 DT	1,515 DT	1,515 DT	SIEGE							
DEXT	29 DT	65 DT	349 DT	485 DT	DEXT	0.90	315	330	347	364	382	1738
5.2.4 Fournitures de bureau												
DEPT	1,018 DT	1,309 DT	1,375 DT	1,430 DT	DEPT	0.90	1238	1300	1365	1433	1504	6839
SIEGE	1,915 DT	1,915 DT	1,915 DT	1,915 DT	SIEGE							
5.2.5 Combustible et lubrifiant												
5.2.5.1 Stat. pompage												
DTP	39 DT	64 DT	96 DT	140 DT	DTP							
5.2.5.2 Matériel roulant												
DTP	9,422 DT	10,533 DT	12,600 DT	13,892 DT	DTP	0.90	11340	11907	12503	13128	13784	62663
DME	0 DT	0 DT	0 DT	0 DT	DME	0.90						
DMMRT	211 DT	231 DT	248 DT	275 DT	DMMRT	0.90	223	234	246	258	271	1231
DEXT	591 DT	712 DT	777 DT	841 DT	DEXT	0.90	699	734	771	809	850	3862
DEPT	1,331 DT	1,430 DT	1,540 DT	1,650 DT	DEPT	0.90	1386	1456	1528	1605	1685	7660
SIEGE	1,791 DT	1,791 DT	1,791 DT	1,791 DT	SIEGE	0.90						
5.2.5.3 Matériels et outillages												
DTP	413 DT	759 DT	852 DT	931 DT	DTP	0.90	767	805	846	888	932	4238
5.2.6 Pièces de rechange												
5.2.6.1 Stat. épur. + pomp.												
DTP	13,115 DT	14,423 DT	15,801 DT	16,714 DT	DTP							
DEPT	0 DT	0 DT	0 DT	0 DT	DEPT							
DME	0 DT	0 DT	0 DT	0 DT	DME							
5.2 6.2 Matériel roulant												
DTP	26,411 DT	29,894 DT	34,424 DT	37,040 DT	DTP	0.90	30982	32531	34157	35865	37659	171194
SIEGE	4,132 DT	4,132 DT	4,132 DT	4,132 DT	SIEGE							
5.2.6.3 Bâtiments												
DTP	421 DT	463 DT	509 DT	528 DT	DTP							
DEPT	64 DT	70 DT	77 DT	83 DT	DEPT							
5.2.7 Autres matières consommables												
DTP	1,042 DT	767 DT	827 DT	905 DT	DTP	0.90	744	782	821	862	905	4114
DEXT	79 DT	91 DT	97 DT	104 DT	DEXT	0.90	87	92	96	101	106	483
DME	0 DT	0 DT	0 DT	0 DT	DME	0.90	0	0	0	0	0	0

BUDGET DU PROJET PILOTE RESEAU (DT)

Analyse de sensibilite #3 : 5% augmentation couts material roulant

CHARGES D'EXPLOITATION	1992	1993	1994	1995	Affect. Budget.	Clef des économies	Budget secteur prive AN # 1	AN # 2	AN # 3	AN # 4	AN # 5	TOTAL
DEPT	96 DT	110 DT	121 DT	132 DT	DEPT	0.90	109	114	120	126	132	602
DMMRT	448 DT	55 DT	61 DT	66 DT	DMMRT	0.90	54	57	60	63	66	301
SIEGE	2,892 DT	2,892 DT	2,892 DT	2,892 DT	SIEGE							
5.3 FRAIS SUR ACHAT												
SIEGE	3,650 DT	3,650 DT	3,650 DT	3,650 DT	SIEGE							
6.0 IMPOTS ET TAXES	0 DT	0 DT	0 DT	0 DT								
6.1 TFP												
SIEGE	592 DT	592 DT	592 DT	592 DT	SIEGE							
6.2 Taxes de circulation												
DTP	4,260 DT	4,748 DT	5,588 DT	6,118 DT	DTP	0.90	5029	5230	5440	5657	5883	27239
DME	0 DT	0 DT	0 DT	0 DT	DME	0.90	0	0	0	0	0	0
DMMRT	76 DT	84 DT	88 DT	94 DT	DMMRT	0.90	79	82	86	89	93	429
DEXT	156 DT	162 DT	168 DT	175 DT	DEXT	0.90	151	157	164	170	177	820
DEPT	307 DT	330 DT	358 DT	385 DT	DEPT	0.90	322	335	348	362	376	1743
SIEGE	868 DT	868 DT	868 DT	868 DT	SIEGE							
6.3 TCCL	0 DT	0 DT	0 DT	0 DT								
6.4 Droit d'enrégistrement												
SIEGE	1,653 DT	1,653 DT	1,653 DT	1,653 DT	SIEGE							
7.0 FRAIS FINANCIERS DE FONCTIONNEMENT												
SIEGE	1,377 DT	1,377 DT	1,377 DT	1,377 DT	SIEGE							
8.0 FRAIS DIVERS D'EXPLOITATION												
SIEGE	344 DT	344 DT	344 DT	344 DT	SIEGE							
9.0 CHARGES DE FINANCEMENT												
SIEGE	2,479 DT	2,479 DT	2,479 DT	2,479 DT	SIEGE							
10.0 AMORTISSEMENT												
SIEGE	4,132 DT	4,132 DT	4,132 DT	4,132 DT	SIEGE							
Matériel roulant	52,470 DT	52,470 DT	52,470 DT	52,470 DT	CENTRE		77498	77498	77498	77498	77498	387492
Intérêts												
TOTAL DES CHARGES	422,755 DT	478,803 DT	510,933 DT	549,887 DT	CENTRE		296495	310830	325375	340640	357242	1630582
IMPREVU						0.10	29650	31083	32537	34064	35724	163058
FRAIS D'ADMINISTRATION SIEGE PRIVE						0.03	8895	9325	9761	10219	10717	48917
FRAIS D'ADMINISTRATION LOCAUX						0.12	35579	37300	39045	40877	42869	195670
TOTAL AVANT BENEFICE							370619	388537	406719	425799	446553	2038227
MARGE BENEFICIAIRE AVANT IMPOT						0.20	74124	77707	81344	85160	89311	407645
IMPOT SUR MARGE BENEFICIAIRE						0.20	14825	15541	16269	17032	17862	81529
TOTAL DU CONTRAT PRIVE							444743	466245	488062	510959	535863	2445873
COUT DE UDC							63000	63000	63000	63000	63000	315000
TOTAL DU COUT D'EXPLOITATION PREVU							507743	529245	551062	573959	598863	2760873
COUT DE L'ONAS							510933	549887	582881	617853	654925	2916479
ECONOMIE REALISEE PAR L'ONAS							3190	20643	31818	43894	56061	155606
% ECONOMIE							0.62%	3.75%	5.46%	7.10%	8.56%	5.34%

BUDGET DU PROJET PILOTE RESEAU (DT)

Analyse de sensibilite #4 : 10% augmentation couts material roulant

CHARGES D'EXPLOITATION	1992	1993	1994	1995	Affect. Budget.	Clef des économies	Budget secteur prive AN # 1	AN # 2	AN # 3	AN # 4	AN # 5	TOTAL
1.0 FRAIS DE PERSONNEL												
1.1 Personnel Centre	130,349 DT	135,563 DT	140,985 DT	146,625 DT	CENTRE	0.75	105739	115256	124476	134434	145189	156804
1.2 Personnel departement	0 DT	0 DT	0 DT	0 DT	DEPT	0.75	0	0	0	0	0	0
1.3 Personnel Siège	29,613 DT	29,613 DT	29,613 DT	29,613 DT	SIEGE	0.75	0	0	0	0	0	0
2.0 TRANSPORT & DEPLACEMENT												
2.1 Siège	331 DT	331 DT	331 DT	331 DT	SIEGE							
2.2 DME	0 DT	0 DT	0 DT	0 DT	DME							
2.3 DEXT	4 DT	26 DT	56 DT	62 DT	DEXT							
2.4 Centre					CENTRE		1200	1200	1250	1250	1300	6200
3.0 FRAIS DIVERS DE PRODUCTION												
3.1 Téléphone							1066	1108	1153	1199	1247	5773
3.1.1 Téléphone Centre	456 DT	994 DT	533 DT	559 DT	CENTRE	2.00						
3.1.2 Téléphone DEPT	313 DT	458 DT	490 DT	525 DT	DEPT	0.00						
3.1.3 Téléphone siège	2,094 DT	2,094 DT	2,094 DT	2,094 DT	SIEGE	0.00						
3.1.4 Téléphone district	511 DT	578 DT	634 DT	679 DT	DIST	0.00						
3.1.4 Téléphone DME	0 DT	0 DT	0 DT	0 DT	DME	0.00						
3.2 Télégramme												
DEPT	1 DT	1 DT	1 DT	1 DT	DEPT							
Centre	0 DT	0 DT	0 DT	0 DT	CENTRE	0.00	0	0	0	0	0	0
3.3 Télex et Fax	0 DT	0 DT	0 DT	0 DT	CENTRE		300	300	315	315	331	1561
3.4 Actes de contentieux												
3.4.1 Actes de contentieux Centre	0 DT	0 DT	0 DT	0 DT	CENTRE		1200	1200	1260	1260	1323	6243
3.4.2 Actes de contentieux DEXT	78 DT	15 DT	45 DT	45 DT	DEXT							
3.4.3 Actes de contentieux Siège	138 DT	138 DT	138 DT	138 DT	SIEGE							
3.5 Documentation												
3.5.1 Documentation Siège	551 DT	551 DT	551 DT	551 DT	SIEGE							
3.5.1 Documentation DEXT	18 DT	52 DT	65 DT	104 DT	DEXT							
3.6 Affranchissement												
3.6.1 Affranchissement Centre	0 DT	0 DT	0 DT	0 DT	CENTRE		70	70	74	74	77	364
3.6.2 Affranchissement DEXT	0 DT	1 DT	2 DT	2 DT	DEXT							
3.6.3 Affranchissement Siège	69 DT	69 DT	69 DT	69 DT	SIEGE							
3.7 Affichage et annonce												
3.7.1 Affichage et annonce Centre	0 DT	0 DT	0 DT	0 DT	CENTRE							
3.7.2 Affichage et annonce DEXT	13 DT	32 DT	32 DT	32 DT	DEXT	0.00	0					
3.7.3 Affichage et annonce Siège	826 DT	826 DT	826 DT	826 DT	SIEGE	0.60	496	496	521	521	547	2580
3.8 Mission et réception												
3.8.1 Mission et réception Centre	0 DT	0 DT	0 DT	0 DT	CENTRE							
3.8.2 Mission et réception DEXT	0 DT	65 DT	129 DT	194 DT	DEXT	0.00	0					
3.8.3 Mission et réception Siège	730 DT	730 DT	730 DT	730 DT	SIEGE	0.75	547	547	575	575	604	2848
3.9 Fourniture de bureau	0 DT	0 DT	0 DT	0 DT	CENTRE		1200	1200	1260	1260	1323	6243
3.10 Autres frais divers												
3.10.1 Siège	1,157 DT	1,157 DT	1,157 DT	1,157 DT	SIEGE		551	551	579	579	607	2867
4.0 TRAVAUX-FOURN.-SERVICES EXTERIEURS												
4.1 Loyers												
4.1.1 Location de matériel DEPT	0 DT	55 DT	55 DT	55 DT	DEPT	0.00	0					
4.1.2 Loyer de bâtiments DEPT	1,287 DT	2,574 DT	2,640 DT	2,750 DT	DEPT							
4.1.3 Loyer Siège	578 DT	578 DT	578 DT	578 DT	SIEGE							
4.1.4 Location de matériel District	81 DT	81 DT	81 DT	81 DT	DIST	0.00	0					
4.1.5 Loyer de locaux district	1,217 DT	1,459 DT	896 DT	1,206 DT	DIST							
4.1.6 Location de matériel centre	619 DT	619 DT	619 DT	2,890 DT	CENTRE	0.90	557	585	614	645	677	3079
4.1.7 Loyer de Centre	0 DT	0 DT	0 DT	0 DT	CENTRE		10000	10000	10000	10000	10000	50000
4.2 Entretien-réparations												
4.2.1 Sous-traitance réseau GVT	0 DT	6,170 DT	6,170 DT	6,170 DT	GVT	0.00	0					
4.2.2 S.T. Station pompage DTP	3,631 DT	0 DT	0 DT	12,391 DT	DIST							
4.2.3 S.T. Stat. pompage DEXT	9,679 DT	17,271 DT	19,932 DT	22,003 DT	DEXT							
4.2.4 Matériel roulant DMMR	7,747 DT	9,077 DT	12,531 DT	10,000 DT	DMMR	0.70	8772	9210	9671	10154	10662	48469
4.2.5 Bâtiments DME	0 DT	825 DT	275 DT	275 DT	DME							
4.2.6 Réparations Siège	1,791 DT	1,791 DT	1,791 DT	1,791 DT	SIEGE							

BUDGET DU PROJET PILOTE RESEAU (DT)

Analyse de sensibilite #4 : 10% augmentation couts material roulant

CHARGES D'EXPLOITATION	1992	1993	1994	1995	Affect. Budget.	Clef des économies	Budget secteur prive AN # 1	AN # 2	AN # 3	AN # 4	AN # 5	TOTAL
4.2.7 Réparations CENTRE	38,700 DT	42,570 DT	46,440 DT	51,000 DT	CENTRE		300	315	331	347	365	1658
4.3 Travaux et façons												
4.3.1 Travaux Siège	1,928 DT	1,928 DT	1,928 DT	1,928 DT	SIEGE							
4.3.2 Travaux Centre	1,829 DT	2,812 DT	3,155 DT	3,358 DT	CENTRE	0.90	2840	2981	3131	3287	3451	15690
4.4 Fourniture d'eau												
Stat. pomp. Mohamed V	0 DT	0 DT	0 DT	0 DT	BV							
S.P. Tunis-Marine	0 DT	0 DT	0 DT	0 DT	BV							
S.P. Khadra	0 DT	0 DT	0 DT	0 DT	BV							
S.P. Isken	0 DT	0 DT	0 DT	0 DT	BV							
S.P. Monplaisir	0 DT	0 DT	0 DT	0 DT	BV							
DEPT Tunis	19 DT	34 DT	36 DT	39 DT	DEPT							
SIEGE	152 DT	152 DT	152 DT	152 DT	SIEGE							
District	6 DT	3 DT	3 DT	4 DT	DIST							
Centre	587 DT	1,715 DT	1,548 DT	1,703 DT	CENTRE	0.90	1393	1463	1536	1613	1693	7698
4.5 Fourniture d'électricité												
Stat. pomp. Mohamed V	0 DT	0 DT	0 DT	0 DT	BV							
S.P. Tunis-Marine	0 DT	0 DT	0 DT	0 DT	BV							
S.P. Khadra	0 DT	0 DT	0 DT	0 DT	BV							
S.P. Isken	0 DT	0 DT	0 DT	0 DT	BV							
S.P. Monplaisir	0 DT	0 DT	0 DT	0 DT	BV							
DEPT Tunis	79 DT	222 DT	248 DT	280 DT	DEPT							
Siège	2,066 DT	2,066 DT	2,066 DT	2,066 DT	SIEGE							
District	155 DT	120 DT	121 DT	129 DT	DIST							
Centre	127 DT	488 DT	516 DT	568 DT	CENTRE		600	630	662	695	729	3315
4.6 Prestation SONEDE												
CENTRE	0 DT	0 DT	0 DT	0 DT	CENTRE	0.00	0					
4.7 Assurances												
4.7.1 Assurances matériel roulant												
CENTRE	0 DT	0 DT	0 DT	0 DT	CENTRE		0					
DTP	2,053 DT	2,275 DT	2,542 DT	2,843 DT	DTP	0.90	2288	2402	2522	2648	2781	12641
DME	0 DT	0 DT	0 DT	0 DT	DME	0.90	0					
DMMRT	30 DT	32 DT	33 DT	34 DT	DMMRT	0.90	30	31	33	34	36	164
DEXT	67 DT	71 DT	78 DT	84 DT	DEXT	0.90	70	73	77	81	85	386
DEPT	141 DT	160 DT	171 DT	182 DT	DEPT	0.90	153	161	169	178	187	848
SIEGE	8,181 DT	8,181 DT	8,181 DT	8,181 DT	SIEGE							
4.8 Honoraires et gardiennage												
4.8.1 Honor. et gardien. Siège	1,584 DT	1,584 DT	1,584 DT	1,584 DT	SIEGE							
4.9 Petits outillages et autres												
DEXT	61 DT	65 DT	78 DT	84 DT	DEXT	0.90	70	73	77	81	85	386
SIEGE	2,755 DT	2,755 DT	2,755 DT	2,755 DT	SIEGE	0.00						
5.0 BIENS CONSOMMES												
5.1 MATIERES PREMIERES												
5.1.1 Matériaux de construction												
CENTRE	1,200 DT	1,363 DT	1,605 DT	1,834 DT	CENTRE	0.90	1445	1517	1593	1672	1756	7982
DTP	1,736 DT	4,297 DT	5,286 DT	6,080 DT	DTP	0.90	4757	4995	5245	5507	5782	26287
DME	0 DT	0 DT	0 DT	0 DT	DME	0.90	0					
SIEGE	138 DT	138 DT	138 DT	138 DT	SIEGE							
5.1.2 Autres matières premières												
DTP	10 DT	5,941 DT	6,203 DT	6,591 DT	DTP	0.90	5583	5862	6155	6463	6786	30850
DME	0 DT	0 DT	0 DT	0 DT	DME	0.90	0	0	0	0	0	0
CENTRE	1,041 DT	1,169 DT	1,342 DT	1,515 DT	CENTRE	0.90	1208	1268	1331	1398	1468	6673
DEXT	146 DT	194 DT	259 DT	324 DT	DEXT	0.90	233	245	257	270	283	1287
5.1.3 Tuyaux consommés												
5.1.3.1 Tuyaux siège	551 DT	551 DT	551 DT	551 DT	SIEGE							
5.1.3.2 Tuyaux centre	798 DT	1,553 DT	2,396 DT	2,849 DT	CENTRE	0.90	2157	2265	2378	2497	2622	11917
5.1.3.2 Tuyaux district	3,444 DT	9,106 DT	10,182 DT	11,492 DT	DTP							
5.1.4 Tuyaux pour la vente	0 DT	0 DT	0 DT	0 DT	CENTRE							
5.1.5 Pièces en fonte consommées												

BUDGET DU PROJET PILOTE RESEAU (DT)

Analyse de sensibilite #4 : 10% augmentation couts material roulant

CHARGES D'EXPLOITATION	1992	1993	1994	1995	Affect. Budget.	Clef des économies	Budget secteur prive AN # 1	AN # 2	AN # 3	AN # 4	AN # 5	TOTAL
5.1.5.1 Pièces en fonte -	3,650 DT	3,650 DT	3,650 DT	3,650 DT	SIEGE							
5.1.5.2 Pièces en fonte -	3,428 DT	4,522 DT	5,305 DT	5,828 DT	CENTRE	0.90	4775	5013	5264	5527	5804	26383
5.1.5.3 Pièces en fonte -	4,416 DT	5,378 DT	6,601 DT	7,777 DT	DTP							
5.1.6 Pièces en fonte pour la ve	0 DT	0 DT	0 DT	0 DT								
5.1.7 Autres	937 DT	1,056 DT	1,218 DT	1,421 DT	CENTRE	2.00	2436	2558	2686	2820	2961	13460
5.2 MATIERES CONSOMMABLES												
5.2.1 Habillement-Tenue de protection												
DTP	2,685 DT	5,707 DT	6,290 DT	6,992 DT	DTP							
DMMRT	124 DT	120 DT	138 DT	154 DT	DMMRT							
DME	0 DT	0 DT	0 DT	0 DT	DME							
DEXT	39 DT	42 DT	52 DT	58 DT	DEXT							
DEPT	195 DT	324 DT	330 DT	358 DT	DEPT							
SIEGE	1,253 DT	1,253 DT	1,253 DT	1,253 DT	SIEGE							
CENTRE	2,182 DT	2,659 DT	3,220 DT	3,578 DT	CENTRE	0.60	1932	2029	2130	2237	2349	10676
5.2.2 Produits d'entretien												
DTP	20 DT	1,248 DT	1,394 DT	1,773 DT	DTP							
DMMRT	210 DT	104 DT	165 DT	220 DT	DMMRT							
DME	0 DT	0 DT	0 DT	0 DT	DME							
DEXT	15 DT	9 DT	13 DT	16 DT	DEXT							
DEPT	55 DT	53 DT	72 DT	88 DT	DEPT							
SIEGE	152 DT	152 DT	152 DT	152 DT	SIEGE							
CENTRE	352 DT	764 DT	1,399 DT	1,627 DT	CENTRE	0.90	1259	1322	1388	1457	1530	6955
5.2.3 Fournitures d'atelier-Laboratoire												
DME	0 DT	0 DT	0 DT	0 DT	DME	0.90	0	0	0	0	0	0
DTP	75 DT	108 DT	108 DT	108 DT	DTP	0.90	97	102	107	112	118	536
DMMRT	165 DT	165 DT	165 DT	165 DT	DMMRT	0.90	149	156	164	172	181	821
SIEGE	1,515 DT	1,515 DT	1,515 DT	1,515 DT	SIEGE							
DEXT	29 DT	65 DT	349 DT	485 DT	DEXT	0.90	315	330	347	364	382	1738
5.2.4 Fournitures de bureau												
DEPT	1,018 DT	1,309 DT	1,375 DT	1,430 DT	DEPT	0.90	1238	1300	1365	1433	1504	6839
SIEGE	1,915 DT	1,915 DT	1,915 DT	1,915 DT	SIEGE							
5.2.5 Combustible et lubrifiant												
5.2.5.1 Stat. pompage												
DTP	39 DT	64 DT	96 DT	140 DT	DTP							
5.2.5.2 Matériel roulant												
DTP	9,422 DT	10,533 DT	12,600 DT	13,892 DT	DTP	0.90	11340	11907	12503	13128	13784	62663
DME	0 DT	0 DT	0 DT	0 DT	DME	0.90						
DMMRT	211 DT	231 DT	248 DT	275 DT	DMMRT	0.90	223	234	246	258	271	1231
DEXT	591 DT	712 DT	777 DT	841 DT	DEXT	0.90	699	734	771	809	850	3862
DEPT	1,331 DT	1,430 DT	1,540 DT	1,650 DT	DEPT	0.90	1386	1456	1528	1605	1685	7660
SIEGE	1,791 DT	1,791 DT	1,791 DT	1,791 DT	SIEGE	0.90						
5.2.5.3 Matériels et outillages												
DTP	413 DT	759 DT	852 DT	931 DT	DTP	0.90	767	805	846	888	932	4238
5.2.6 Pièces de rechange												
5.2.6.1 Stat. épur. + pomp.												
DTP	13,115 DT	14,423 DT	15,801 DT	16,714 DT	DTP							
DEPT	0 DT	0 DT	0 DT	0 DT	DEPT							
DME	0 DT	0 DT	0 DT	0 DT	DME							
5.2.6.2 Matériel roulant												
DTP	26,411 DT	29,894 DT	34,424 DT	37,040 DT	DTP	0.90	30982	32531	34157	35865	37659	171194
SIEGE	4,132 DT	4,132 DT	4,132 DT	4,132 DT	SIEGE							
5.2.6.3 Bâtiments												
DTP	421 DT	463 DT	509 DT	528 DT	DTP							
DEPT	64 DT	70 DT	77 DT	83 DT	DEPT							
5.2.7 Autres matières consommables												
DTP	1,042 DT	767 DT	827 DT	905 DT	DTP	0.90	744	782	821	862	905	4114
DEXT	79 DT	91 DT	97 DT	104 DT	DEXT	0.90	87	92	96	101	106	483
DME	0 DT	0 DT	0 DT	0 DT	DME	0.90	0	0	0	0	0	0

BUDGET DU PROJET PILOTE RESEAU (DT)

Analyse de sensibilite #4 : 10% augmentation couts material roulant

CHARGES D'EXPLOITATION	1992	1993	1994	1995	Affect. Budget.	Clef des économies	Budget secteur prive AN # 1	AN # 2	AN # 3	AN # 4	AN # 5	TOTAL
DEPT	96 DT	110 DT	121 DT	132 DT	DEPT	0.90	109	114	120	126	132	602
DMMRT	448 DT	55 DT	61 DT	66 DT	DMMRT	0.90	54	57	60	63	66	301
SIEGE	2,892 DT	2,892 DT	2,892 DT	2,892 DT	SIEGE							
5.3 FRAIS SUR ACHAT												
SIEGE	3,650 DT	3,650 DT	3,650 DT	3,650 DT	SIEGE							
6.0 IMPOTS ET TAXES	0 DT	0 DT	0 DT	0 DT								
6.1 TFP												
SIEGE	592 DT	592 DT	592 DT	592 DT	SIEGE							
6.2 Taxes de circulation												
DTP	4,260 DT	4,748 DT	5,588 DT	6,118 DT	DTP	0.90	5029	5230	5440	5657	5883	27239
DME	0 DT	0 DT	0 DT	0 DT	DME	0.90	0	0	0	0	0	0
DMMRT	76 DT	84 DT	88 DT	94 DT	DMMRT	0.90	79	82	86	89	93	429
DEXT	156 DT	162 DT	168 DT	175 DT	DEXT	0.90	151	157	164	170	177	820
DEPT	307 DT	330 DT	358 DT	385 DT	DEPT	0.90	322	335	348	362	376	1743
SIEGE	868 DT	868 DT	868 DT	868 DT	SIEGE							
6.3 TCCL	0 DT	0 DT	0 DT	0 DT								
6.4 Droit d'enrégistrement												
SIEGE	1,653 DT	1,653 DT	1,653 DT	1,653 DT	SIEGE							
7.0 FRAIS FINANCIERS DE FONCTIONNEMENT												
SIEGE	1,377 DT	1,377 DT	1,377 DT	1,377 DT	SIEGE							
8.0 FRAIS DIVERS D'EXPLOITATION												
SIEGE	344 DT	344 DT	344 DT	344 DT	SIEGE							
9.0 CHARGES DE FINANCEMENT												
SIEGE	2,479 DT	2,479 DT	2,479 DT	2,479 DT	SIEGE							
10.0 AMORTISSEMENT												
SIEGE	4,132 DT	4,132 DT	4,132 DT	4,132 DT	SIEGE							
Matériel roulant	52,470 DT	52,470 DT	52,470 DT	52,470 DT	CENTRE		81189	81189	81189	81189	81189	405944
Intérêts												
TOTAL DES CHARGES	422,755 DT	478,803 DT	510,933 DT	549,887 DT	CENTRE		300186	314520	329065	344330	360933	1649034
IMPREVU						0.10	30019	31452	32907	34433	36093	164903
FRAIS D'ADMINISTRATION SIEGE PRIVE						0.03	9006	9436	9872	10330	10828	49471
FRAIS D'ADMINISTRATION LOCAUX						0.12	36022	37742	39488	41320	43312	197884
TOTAL AVANT BENEFICE							375232	393150	411332	430412	451166	2061292
MARGE BENEFICIAIRE AVANT IMPOT						0.20	75046	78630	82266	86082	90233	412258
IMPOT SUR MARGE BENEFICIAIRE						0.20	15009	15726	16453	17216	18047	82452
TOTAL DU CONTRAT PRIVE							450278	471780	493598	516495	541399	2473551
COUT DE UDC							63000	63000	63000	63000	63000	315000
TOTAL DU COUT D'EXPLOITATION PREVU							513278	534780	556598	579495	604399	2788551
COUT DE L'ONAS							510933	549887	582881	617853	654925	2916479
ECONOMIE REALISEE PAR L'ONAS							-2345	15107	26283	38359	50526	127928
% ECONOMIE							-0.46%	2.75%	4.51%	6.21%	7.71%	4.39%

ANNEX D

Operating Accounts for the
El Menzah/Khadra and El Menazeh Centers

BEST AVAILABLE COPY

RESEAU EL-MENZEH-KHADRA	0,405											
	DIRECT								INDIRECTS			
CHARGES D'EXPLOITATION	1992	1993	1994	1995		UNITAIRE	UEC RESTITUTION		1992	1993	1994	1995
RESEAU						RESEAU	Geogrph	Activité				
1.1 Personnel Centre	170 932 DT	177 769 DT	184 880 DT	192 275 DT	CENTRE	157 010	1.000					
1.2 Personnel departement					DEPT	2 195 452	0.072					
1.3 Personnel Siège	32 724 DT	32 724 DT	32 724 DT	32 724 DT	SIEGE	5 157 791	0.030	0.50	2 150 000 DT	2 150 000 DT	2 150 000 DT	2 150 000 DT
2.0 TRANSPORT & DEPLACEMENT												
2.1 Siège	365 DT	365 DT	365 DT	365 DT	SIEGE	5 157 791	0.030	0.50	24 000 DT	24 000 DT	24 000 DT	24 000 DT
2.2 DME	0 DT	0 DT	0 DT	0 DT	DME	2 195 452	0.072		100 DT	100 DT	150 DT	175 DT
2.3 DEXT	0 DT	29 DT	62 DT	64 DT	DEXT	2 195 452	0.072	1.00	0 DT	400 DT	850 DT	900 DT
2.4 Centre												
3.0 FRAIS DIVERS DE PRODUCTION												
3.1 Téléphone												
3.1.1 Téléphone Centre	912 DT	1 311 DT	550 DT	550 DT	CENTRE	157 010	1.000					
3.1.2 Téléphone DEPT	345 DT	506 DT	542 DT	580 DT	DEPT	2 195 452	0.072	0.95	5 645 DT	8 330 DT	8 910 DT	9 540 DT
3.1.3 Téléphone siège	2 314 DT	2 314 DT	2 314 DT	2 314 DT	SIEGE	5 157 791	0.030	0.50	152 000 DT	152 000 DT	152 000 DT	152 000 DT
3.1.4 Téléphone district	531 DT	584 DT	642 DT	706 DT	DTV	591 604	0.265	1.00	2 000 DT	2 200 DT	2 420 DT	2 662 DT
3.1.4 Téléphone DME	0 DT	0 DT	0 DT	0 DT	DME	2 195 452	0.072	0.00	550 DT	600 DT	650 DT	700 DT
3.2 Télégrams												
DEPT	1 DT	1 DT	1 DT	2 DT	DEPT	2 195 452	0.072	0.95	18 DT	21 DT	23 DT	25 DT
Centre	0 DT	0 DT	0 DT	0 DT	CENTRE	157 010	1.000					
3.3 Télex Centre	0 DT	0 DT	0 DT	0 DT	CENTRE	157 010	1.000					
3.4 Actes de contentieux												
3.4.1 Actes de contentieux Centre	0 DT	0 DT	0 DT	0 DT	CENTRE	157 010	1.000					
3.4.2 Actes de contentieux DEXT	95 DT	16 DT	50 DT	50 DT	DEXT	2 195 452	0.072	1.00	1 200 DT	225 DT	700 DT	730 DT
3.4.3 Actes de contentieux Siège	152 DT	152 DT	152 DT	152 DT	SIEGE	5 157 791	0.030	0.50	10 000 DT	10 000 DT	10 000 DT	10 000 DT
3.5 Documentation												
3.5.1 Documentation Siège	609 DT	609 DT	609 DT	609 DT	SIEGE	5 157 791	0.030	0.50	40 000 DT	40 000 DT	40 000 DT	40 000 DT
3.5.1 Documentation DEXT	29 DT	59 DT	72 DT	114 DT	DEXT	2 195 452	0.072	1.00	200 DT	810 DT	1 000 DT	1 600 DT
3.6 Affranchissement												
3.6.1 Affranchissement Centre	0 DT	0 DT	0 DT	0 DT	CENTRE	157 010	1.000					
3.6.2 Affranchissement DEXT	0 DT	1 DT	2 DT	2 DT	DEXT	2 195 452	0.072	1.00	0 DT	11 DT	30 DT	30 DT
3.6.3 Affranchissement Siège	76 DT	76 DT	76 DT	76 DT	SIEGE	5 157 791	0.030	0.50	5 000 DT	5 000 DT	5 000 DT	5 000 DT
3.7 Affichage et annonces												
3.7.1 Affichage et annonce Centre	0 DT	0 DT	0 DT	0 DT	CENTRE	157 010	1.000					
3.7.2 Affichage et annonce DEXT	14 DT	36 DT	36 DT	36 DT	DEXT	2 195 452	0.072	1.00	200 DT	500 DT	500 DT	500 DT
3.7.3 Affichage et annonce Siège	913 DT	913 DT	913 DT	913 DT	SIEGE	5 157 791	0.030	0.50	60 000 DT	60 000 DT	60 000 DT	60 000 DT
3.8 Mission et réception												
3.8.1 Mission et réception Centre	0 DT	0 DT	0 DT	0 DT	CENTRE	157 010	1.000					
3.8.2 Mission et réception DEXT	0 DT	72 DT	143 DT	215 DT	DEXT	2 195 452	0.072	1.00	0 DT	1 000 DT	2 000 DT	3 000 DT
3.8.2 Mission et réception Siège	807 DT	807 DT	807 DT	807 DT	SIEGE	5 157 791	0.030	0.50	53 000 DT	53 000 DT	53 000 DT	53 000 DT
3.9 Fourniture de bureau	0 DT	0 DT	0 DT	0 DT	CENTRE	157 010	1.000					
3.10 Autres frais divers												
3.10.1 Siège	1 279 DT	1 279 DT	1 279 DT	1 279 DT	SIEGE	5 157 791	0.030	0.50	84 000 DT	84 000 DT	84 000 DT	84 000 DT
4.0 TRAVAUX-FOURN -SERVICES EXTERIEURS												
4.1 Loyers												
4.1.1 Location de materiel DEPT	0 DT	61 DT	61 DT	61 DT	DEPT	2 195 452	0.072	0.95	0 DT	1 000 DT	1 000 DT	1 000 DT
4.1.2 Loyer de bâtiments DEPT	1 422 DT	2 845 DT	2 918 DT	3 039 DT	DEPT	2 195 452	0.072	0.95	23 430 DT	46 800 DT	48 000 DT	50 000 DT
4.1.3 Loyer Siège	639 DT	639 DT	639 DT	639 DT	SIEGE	5 157 791	0.030	0.50	42 000 DT	42 000 DT	42 000 DT	42 000 DT
4.1.4 Location de matériel District	0 DT	0 DT	0 DT	0 DT	DTV	591 604	0.265	0.00	0 DT	0 DT	0 DT	0 DT
4.1.5 Loyer de locaux district	0 DT	0 DT	0 DT	0 DT	DTV	591 604	0.265	0.00	0 DT	0 DT	0 DT	0 DT
4.1.6 Location de matériel centre	0 DT	0 DT	0 DT	0 DT	CENTRE	157 010	1.000					
4.1.7 Loyer de Centre	0 DT	0 DT	0 DT	0 DT	CENTRE	157 010	1.000					
4.2 Entretien-réparations												
4.2.1 Sous-traitance réseau SVT	0 DT	6 713 DT	6 713 DT	6 713 DT	SVT	1 403 262	0.112	1.00	0 DT	50 000 DT	50 000 DT	50 000 DT
4.2.2 S.T. Station pompage DTV	7 550 DT	0 DT	0 DT	30 521 DT	DTV	591 604	0.265	1.00	29 448 DT	0 DT	0 DT	115 000 DT
4.2.3 S.T. Stat. pompage DEXT	10 636 DT	19 096 DT	22 027 DT	24 315 DT	DEXT	2 195 452	0.072	1.00	145 550 DT	266 640 DT	305 000 DT	340 000 DT
4.2.4 Matériel roulant DMMRT	8 561 DT	10 031 DT	13 848 DT	1 520 DT	DMMRT	2 195 452	0.072	0.85	140 640 DT	165 620 DT	227 800 DT	25 000 DT
4.2.5 Bâtments DME	0 DT	912 DT	304 DT	304 DT	DME	2 195 452	0.072	0.95	0 DT	15 000 DT	5 000 DT	5 000 DT
4.2.6 Réparations Siège	1 979 DT	1 979 DT	1 979 DT	1 979 DT	SIEGE	5 157 791	0.030	0.50	130 000 DT	130 000 DT	130 000 DT	130 000 DT
4.2.7 Réparations CENTRE	0 DT	0 DT	0 DT	0 DT	CENTRE	157 010	1.000					
4.3 Travaux et façons												
4.3.1 Travaux Siège	2 131 DT	2 131 DT	2 131 DT	2 131 DT	SIEGE	5 157 791	0.030	0.50	140 000 DT	140 000 DT	140 000 DT	140 000 DT
4.3.2 Travaux Centre	3 234 DT	5 656 DT	5 500 DT	7 000 DT	CENTRE	157 010	1.000					
4.4 Fourniture d'eau												
Stat. pomp. Mohamed V					BV			0.00	231 DT	273 DT	300 DT	350 DT
S.P. Tunis-Marine					BV			0.00	420 DT	450 DT	500 DT	600 DT
S.P. Khadra					BV			0.00				
S.P. Ikram					BV			0.00				
S.P. Manpalaix					BV			0.00	47 696 DT	56 755 DT	58 000 DT	60 000 DT
DEPT	21 DT	37 DT	40 DT	43 DT	DEPT	2 195 452	0.072	0.95	342 DT	610 DT	650 DT	700 DT
SIEGE	167 DT	167 DT	167 DT	167 DT	SIEGE	5 157 791	0.030	0.50	11 000 DT	11 000 DT	11 000 DT	11 000 DT
District	0 DT	0 DT	0 DT	0 DT	DTV	591 604	0.265		0 DT	0 DT	0 DT	0 DT
Centre	0 DT	0 DT	0 DT	0 DT	CENTRE	157 010	1.000					
4.5 Fourniture d'électricité												
Stat. pomp. Mohamed V					BV			0.00	5 731 DT	4 886 DT	5 400 DT	6 000 DT
S.P. Tunis-Marine					BV			0.00	23 997 DT	29 567 DT	30 500 DT	31 000 DT
S.P. Khadra					BV			0.00	70 DT	150 DT	200 DT	220 DT
S.P. Ikram					BV			0.00	3 913 DT	4 500 DT	5 500 DT	6 000 DT
S.P. Manpalaix					BV			0.00	319 665 DT	343 716 DT	345 000 DT	348 000 DT
DEPT Tunis	87 DT	245 DT	274 DT	310 DT	DEPT	2 195 452	0.072	0.95	1 431 DT	4 035 DT	4 500 DT	5 095 DT
Siège	2 283 DT	2 283 DT	2 283 DT	2 283 DT	SIEGE	5 157 791	0.030	0.50	50 000 DT	150 000 DT	150 000 DT	150 000 DT
District	0 DT	0 DT	0 DT	0 DT	DTV	591 604	0.265	1.00	0 DT	0 DT	0 DT	0 DT
Centre	0 DT	0 DT	0 DT	0 DT	CENTRE	157 010	1.000	1.00				
4.6 Prestation SONEDE												
CENTRE	0 DT	0 DT	0 DT	0 DT	CENTRE	157 010	0.000	1.00				
4.7 Assurances												
4.7.1 Assurances matériel roulant												
CENTRE	0 DT	0 DT	0 DT	0 DT	CENTRE	157 010	1.000	1.00				
DTV	2 750 DT	3 195 DT	3 776 DT	4 246 DT	DTV	591 604	0.265	1.00	10 400 DT	12 000 DT	14 000 DT	14 000 DT

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RESEAU EL-MENZEH-KHADRA

CHARGES D'EXPLOITATION	DIRECTS 1992	1993	1994	1995		LINEAIRE-LE CE REPARTITION RESEAU	Geographe	Agence	INDIRECTS 1992	1993	1994	1995
RESEAU												
DME	0 DT	0 DT	0 DT	0 DT	DME	2 195 452	0.072	0.00	1 021 DT	1 200 DT	1 300 DT	1 400 DT
DMMRT	34 DT	35 DT	36 DT	38 DT	DMMRT	2 195 452	0.072	0.85	552 DT	580 DT	610 DT	620 DT
DEXT	75 DT	79 DT	86 DT	93 DT	DEXT	2 195 452	0.072	1.00	1 042 DT	1 130 DT	1 200 DT	1 300 DT
DEPT	156 DT	176 DT	188 DT	201 DT	DEPT	2 195 452	0.072	0.85	2 570 DT	2 900 DT	3 100 DT	3 300 DT
SIEGE	3 041 DT	3 041 DT	3 041 DT	3 041 DT	SIEGE	5 157 791	0.030	0.50	534 000 DT	534 000 DT	534 000 DT	534 000 DT
4.8 Honoraires et gardiennage												
4.8.1 Honor. et gardien. Siège	1 750 DT	1 750 DT	1 750 DT	1 750 DT	SIEGE	5 157 791	0.030	0.50	115 000 DT	115 000 DT	115 000 DT	115 000 DT
4.9 Petits outillages et autres												
DEXT	67 DT	72 DT	86 DT	93 DT	DEXT	2 195 452	0.072	1.00	538 DT	1 000 DT	1 200 DT	1 300 DT
SIEGE	3 044 DT	3 044 DT	3 044 DT	3 044 DT	SIEGE	5 157 791	0.030	0.50	200 000 DT	200 000 DT	200 000 DT	200 000 DT
5.0 BIENS CONSOMMES												
5.1 MATIERES PREMIERES												
5.1.1 Matériaux de construction												
CENTRE	2 174 DT	2 500 DT	3 000 DT	3 500 DT	CENTRE	157 010	1.000					
DTV	33 DT	5 613 DT	7 166 DT	9 037 DT	DTV	591 604	0.265	1.00	125 DT	21 151 DT	27 000 DT	34 050 DT
DME	0 DT	0 DT	0 DT	0 DT	DME	2 195 452	0.072	0.00	100 DT	5 500 DT	6 500 DT	7 000 DT
SIEGE	152 DT	152 DT	152 DT	152 DT	SIEGE	5 157 791	0.030	0.50	10 000 DT	10 000 DT	10 000 DT	10 000 DT
5.1.2 Autres matières premières												
DTV	20 DT	6 064 DT	8 493 DT	9 924 DT	DTV	591 604	0.265	1.00	75 DT	30 384 DT	32 000 DT	34 000 DT
DME	0 DT	0 DT	0 DT	0 DT	DME	2 195 452	0.072	0.00	5 612 DT	15 236 DT	15 000 DT	17 000 DT
CENTRE	2 394 DT	2 600 DT	3 000 DT	3 400 DT	CENTRE	157 010	1.000					
DEXT	161 DT	215 DT	286 DT	358 DT	DEXT	2 195 452	0.072	1.00	2 259 DT	3 000 DT	4 000 DT	5 000 DT
5.1.3 Tuyaux consommés												
5.1.3.1 Tuyaux siège	609 DT	609 DT	609 DT	609 DT	SIEGE	5 157 791	0.030	0.50	40 000 DT	40 000 DT	40 000 DT	40 000 DT
5.1.3.2 Tuyaux centre	1 220 DT	3 000 DT	5 000 DT	6 000 DT	CENTRE	157 010	1.000					
5.1.3.2 Tuyaux DTV	0 DT	12 906 DT	14 733 DT	16 853 DT	DTV	591 604	0.265	1.00		49 550 DT	55 000 DT	63 000 DT
5.1.4 Tuyaux pour la vente					CENTRE	157 010	1.000					
5.1.5 Pièces en fonte consommées												
5.1.5.1 Pièces en fonte - Siège	4 033 DT	4 033 DT	4 033 DT	4 033 DT	SIEGE	5 157 791	0.030	0.50	265 000 DT	265 000 DT	265 000 DT	265 000 DT
5.1.5.2 Pièces en fonte - Centre	5 314 DT	6 500 DT	7 500 DT	8 000 DT	CENTRE	157 010	1.000					
5.1.5.3 Pièces en fonte - District	6 635 DT	8 067 DT	10 616 DT	13 004 DT	DTV	591 604	0.265	1.00	25 000 DT	30 396 DT	40 000 DT	49 000 DT
5.1.6 Pièces en fonte pour la vente												
5.1.7 Autres	2 308 DT	2 600 DT	3 000 DT	3 500 DT	CENTRE	157 010	1.000					
5.2 MATIERES CONSOMMABLES												
5.2.1 Habillement-Tenue de protection												
DTV	6 500 DT	7 555 DT	8 493 DT	9 289 DT	DTV	591 604	0.265	1.00	674 DT	28 516 DT	32 000 DT	35 000 DT
DMMRT	137 DT	133 DT	152 DT	170 DT	DMMRT	2 195 452	0.072	0.85	2 250 DT	2 164 DT	2 500 DT	2 800 DT
DME	0 DT	0 DT	0 DT	0 DT	DME	2 195 452	0.072	0.00	4 534 DT	4 522 DT	4 800 DT	5 000 DT
DEXT	43 DT	46 DT	57 DT	64 DT	DEXT	2 195 452	0.072	1.00	608 DT	649 DT	800 DT	900 DT
DEPT	215 DT	358 DT	365 DT	395 DT	DEPT	2 195 452	0.072	0.85	3 544 DT	5 895 DT	6 000 DT	6 500 DT
SIEGE	1 365 DT	1 365 DT	1 365 DT	1 365 DT	SIEGE	5 157 791	0.030	0.50	91 000 DT	91 000 DT	91 000 DT	91 000 DT
CENTRE	2 573 DT	3 500 DT	4 500 DT	5 000 DT	CENTRE	157 010	1.000					
5.2.2 Produits d'entretien												
DTV	0 DT	1 349 DT	2 203 DT	2 521 DT	DTV	591 604	0.265	1.00	1 DT	7 545 DT	8 300 DT	9 500 DT
DMMRT	232 DT	115 DT	182 DT	243 DT	DMMRT	2 195 452	0.072	0.85	3 620 DT	1 898 DT	3 000 DT	4 000 DT
DME	0 DT	0 DT	0 DT	0 DT	DME	2 195 452	0.072	0.00	1 241 DT	1 300 DT	2 000 DT	3 000 DT
DEXT	16 DT	9 DT	14 DT	19 DT	DEXT	2 195 452	0.072	1.00	228 DT	132 DT	200 DT	250 DT
DEPT	61 DT	53 DT	79 DT	97 DT	DEPT	2 195 452	0.072	0.85	1 000 DT	971 DT	1 300 DT	1 600 DT
SIEGE	167 DT	167 DT	167 DT	167 DT	SIEGE	5 157 791	0.030	0.50	11 000 DT	11 000 DT	11 000 DT	11 000 DT
CENTRE	568 DT	1 500 DT	3 000 DT	3 500 DT	CENTRE	157 010	1.000					
5.2.3 Fournitures d'atelier-Laboratoire												
DME	0 DT	0 DT	0 DT	0 DT	DME	2 195 452	0.072	0.00	3 200 DT	3 500 DT	3 500 DT	3 500 DT
DTV	186 DT	265 DT	262 DT	265 DT	DTV	591 604	0.265	1.00	200 DT	1 000 DT	1 000 DT	1 000 DT
DMMRT	182 DT	182 DT	182 DT	182 DT	DMMRT	2 195 452	0.072	0.85	3 000 DT	3 000 DT	3 000 DT	3 000 DT
SIEGE	1 674 DT	1 674 DT	1 674 DT	1 674 DT	SIEGE	5 157 791	0.030	0.50	110 000 DT	110 000 DT	110 000 DT	110 000 DT
DEXT	72 DT	72 DT	386 DT	536 DT	DEXT	2 195 452	0.072	1.00	1 000 DT	1 000 DT	5 400 DT	7 500 DT
5.2.4 Fournitures de bureau												
DEPT	1 125 DT	1 447 DT	1 520 DT	1 581 DT	DEPT	2 195 452	0.072	0.85	18 700 DT	23 800 DT	25 000 DT	26 000 DT
SIEGE	2 116 DT	2 116 DT	2 116 DT	2 116 DT	SIEGE	5 157 791	0.030	0.50	139 000 DT	139 000 DT	139 000 DT	139 000 DT
5.2.5 Combustible et lubrifiant												
5.2.5.1 Stat. pompage												
DTV	49 DT	1 DT	13 DT	27 DT	DTV	591 604	0.265	1.00	164 DT	4 DT	50 DT	100 DT
5.2.5.2 Matériel roulant												
DTV	12 496 DT	14 066 DT	16 189 DT	17 251 DT	DTV	591 604	0.265	1.00	47 063 DT	53 000 DT	61 000 DT	65 000 DT
DME	0 DT	0 DT	0 DT	0 DT	DME	2 195 452	0.072	0.00	10 208 DT	12 500 DT	14 000 DT	15 000 DT
DMMRT	233 DT	255 DT	274 DT	304 DT	DMMRT	2 195 452	0.072	0.85	3 630 DT	4 200 DT	4 500 DT	5 000 DT
DEXT	653 DT	787 DT	868 DT	930 DT	DEXT	2 195 452	0.072	1.00	9 126 DT	11 000 DT	12 000 DT	13 000 DT
DEPT	1 471 DT	1 581 DT	1 702 DT	1 824 DT	DEPT	2 195 452	0.072	0.85	24 200 DT	26 000 DT	28 000 DT	30 000 DT
SIEGE	1 979 DT	1 979 DT	1 979 DT	1 979 DT	SIEGE	5 157 791	0.030	0.50	130 000 DT	130 000 DT	130 000 DT	130 000 DT
5.2.5.3 Matériels et outillages												
DTV	932 DT	1 733 DT	1 951 DT	2 123 DT	DTV	591 604	0.265	1.00	3 512 DT	6 500 DT	7 250 DT	8 000 DT
5.2.6 Pièces de rechange												
5.2.6.1 Stat. épur. + pomp.												
DTV	16 736 DT	18 472 DT	20 170 DT	21 232 DT	DTV	591 604	0.265	1.00	53 286 DT	59 600 DT	75 000 DT	80 000 DT
DEPT	0 DT	0 DT	0 DT	0 DT	DEPT	2 195 452	0.072	0.00	6 834 DT	7 500 DT	8 200 DT	8 500 DT
DME	0 DT	0 DT	0 DT	0 DT	DME	2 195 452	0.072	0.00	225 000 DT	241 000 DT	257 000 DT	275 000 DT
5.2.6.2 Matériel roulant												
DTV	25 698 DT	27 735 DT	30 494 DT	31 646 DT	DTV	591 604	0.265	1.00	96 790 DT	104 505 DT	114 900 DT	120 000 DT
SIEGE	4 566 DT	4 566 DT	4 566 DT	4 566 DT	SIEGE	5 157 791	0.030	0.50	300 000 DT	300 000 DT	300 000 DT	300 000 DT
5.2.6.3 Bâtiments												
DTV	531 DT	584 DT	642 DT	663 DT	DTV	591 604	0.265	1.00	2 002 DT	2 200 DT	2 420 DT	2 500 DT
DEPT	70 DT	79 DT	85 DT	91 DT	DEPT	2 195 452	0.072	0.85	1 156 DT	1 290 DT	1 400 DT	1 500 DT
5.2.7 Autres matières consommables												
DTV	1 443 DT	1 170 DT	1 274 DT	1 380 DT	DTV	591 604	0.265	1.00	5 439 DT	4 400 DT	4 800 DT	5 200 DT
DEXT	87 DT	100 DT	107 DT	114 DT	DEXT	2 195 452	0.072	1.00	1 217 DT	1 400 DT	1 500 DT	1 600 DT
DME	0 DT	0 DT	0 DT	0 DT	DME	2 195 452	0.072	0.00	9 342 DT	1 970 DT	2 100 DT	2 200 DT
DEPT	116 DT	122 DT	134 DT	146 DT	DEPT	2 195 452	0.072	0.85	2 745 DT	2 000 DT	2 200 DT	2 400 DT

RESEAU EL MENZEH KHADRA												
CHARGES D'EXPLOITATION	1992	1993	1994	1995					1996	1997	1998	1999
RESEAU						RESEAU	Géographique	Activité				
DMMRT	495 DT	51 DT	67 DT	71 DT	DMMRT	2 195 452	0.072	0.85	9 140 DT	1 000 DT	1 100 DT	1 200 DT
SIEGE	3 196 DT	3 196 DT	3 196 DT	3 196 DT	SIEGE	5 157 791	0.030	0.50	210 000 DT	210 000 DT	210 000 DT	210 000 DT
5.3 FRAIS SUR ACHAT												
SIEGE	4 033 DT	4 033 DT	4 033 DT	4 033 DT	SIEGE	5 157 791	0.030	0.50	265 000 DT	265 000 DT	265 000 DT	265 000 DT
6.0 IMPOTS ET TAXES												
6.1 TFP												
SIEGE	654 DT	654 DT	654 DT	654 DT	SIEGE	5 157 791	0.030	0.50	43 000 DT	43 000 DT	43 000 DT	43 000 DT
6.2 Taxes de circulation												
DTV	5 762 DT	7 962 DT	8 758 DT	9 554 DT	DTV	531 604	0.265	1.00	25 480 DT	30 000 DT	33 000 DT	36 000 DT
DME	0 DT	0 DT	0 DT	0 DT	DME	2 195 452	0.072	0.00	1 734 DT	1 970 DT	2 000 DT	2 200 DT
DMMRT	84 DT	93 DT	97 DT	103 DT	DMMRT	2 195 452	0.072	0.85	1 334 DT	1 535 DT	1 600 DT	1 700 DT
DEXT	173 DT	179 DT	166 DT	193 DT	DEXT	2 195 452	0.072	1.00	2 417 DT	2 500 DT	2 600 DT	2 700 DT
DEPT	339 DT	365 DT	395 DT	426 DT	DEPT	2 195 452	0.072	0.85	5 575 DT	6 000 DT	6 500 DT	7 000 DT
SIEGE	959 DT	959 DT	959 DT	959 DT	SIEGE	5 157 791	0.030	0.50	63 000 DT	63 000 DT	63 000 DT	63 000 DT
6.3 TCCL												
6.4 Droit d'enregistrement												
SIEGE	1 826 DT	1 826 DT	1 826 DT	1 826 DT	SIEGE	5 157 791	0.030	0.50	120 000 DT	120 000 DT	120 000 DT	120 000 DT
7.0 FRAIS FINANCIERS DE FONCTIONNEMENT												
SIEGE	1 522 DT	1 522 DT	1 522 DT	1 522 DT	SIEGE	5 157 791	0.030	0.50	100 000 DT	100 000 DT	100 000 DT	100 000 DT
8.0 FRAIS DIVERS D'EXPLOITATION												
SIEGE	381 DT	381 DT	381 DT	381 DT	SIEGE	5 157 791	0.030	0.50	25 000 DT	25 000 DT	25 000 DT	25 000 DT
9.0 CHARGES DE FINANCEMENT												
SIEGE	2 740 DT	2 740 DT	2 740 DT	2 740 DT	SIEGE	5 157 791	0.030	0.50	180 000 DT	180 000 DT	180 000 DT	180 000 DT
10.0 AMORTISSEMENT												
SIEGE	4 566 DT	4 566 DT	4 566 DT	4 566 DT	SIEGE	5 157 791	0.030	0.50	300 000 DT	300 000 DT	300 000 DT	300 000 DT

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RESEAU EL-MENAZEH	0,516 % zone pilote											
	DIRECT								INDIRECTS			
CHARGES D'EXPLOITATION	1992	1993	1994	1995	RESEAU	LINEAIRE	CLE DE REPARTITION Géograph	Activité	1992	1993	1994	1995
RESEAU												
1.0 FRAIS DE PERSONNEL												
1.1 Personnel Centre	118 121 DT	122 946 DT	127 760 DT	132 870 DT	CENTRE	151 811	1.000					
1.2 Personnel departement					DEPT	2 195 452	0.069	0.85				
1.3 Personnel Siège	31 641 DT	31 641 DT	31 641 DT	31 641 DT	SIEGE	5 157 791	0.029	0.50	2 150 000 DT	2 150 000 DT	2 150 000 DT	2 150 000 DT
2.0 TRANSPORT & DEPLACEMENT												
2.1 Siège	333 DT	333 DT	333 DT	333 DT	SIEGE	5 157 791	0.029	0.50	24 000 DT	24 000 DT	24 000 DT	24 000 DT
2.2 DME	0 DT	0 DT	0 DT	0 DT	DME	2 195 452	0.069	0.00	100 DT	120 DT	144 DT	173 DT
2.3 DEXT	7 DT	28 DT	59 DT	69 DT	DEXT	2 195 452	0.069	1.00	160 DT	400 DT	860 DT	1 000 DT
2.4 Centre												
3.0 FRAIS DIVERS DE PRODUCTION												
3.1 Téléphone												
3.1.1 Téléphone Centre	166 DT	694 DT	600 DT	650 DT	CENTRE	151 811	1.000					
3.1.2 Téléphone DEPT	334 DT	490 DT	524 DT	561 DT	DEPT	2 195 452	0.069	0.85	5 682 DT	8 330 DT	8 910 DT	9 540 DT
3.1.3 Téléphone siège	2 237 DT	2 237 DT	2 237 DT	2 237 DT	SIEGE	5 157 791	0.029	0.50	152 000 DT	152 000 DT	152 000 DT	152 000 DT
3.1.4 Téléphone district	573 DT	660 DT	724 DT	761 DT	DTA	454 862	0.334	1.00	1 717 DT	1 978 DT	2 170 DT	2 280 DT
3.1.4 Téléphone DME	0 DT	0 DT	0 DT	0 DT	DME	2 195 452	0.069	0.00	550 DT	600 DT	650 DT	700 DT
3.2 Télégramme et Fax												
DEPT	1 DT	1 DT	1 DT	1 DT	DEPT	2 195 452	0.069	0.85	19 DT	21 DT	23 DT	25 DT
Centre	0 DT	0 DT	0 DT	0 DT	CENTRE	151 811	1.000					
3.3 Télex Centre	0 DT	0 DT	0 DT	0 DT	CENTRE	151 811	1.000					
3.4 Actes de contentieux												
3.4.1 Actes de contentieux Centre	0 DT	0 DT	0 DT	0 DT	CENTRE	151 811	1.000					
3.4.2 Actes de contentieux DEXT	83 DT	16 DT	46 DT	48 DT	DEXT	2 195 452	0.069	1.00	1 200 DT	226 DT	700 DT	700 DT
3.4.3 Actes de contentieux Siège	147 DT	147 DT	147 DT	147 DT	SIEGE	5 157 791	0.029	0.50	10 000 DT	10 000 DT	10 000 DT	10 000 DT
3.5 Documentation												
3.5.1 Documentation Siège	589 DT	589 DT	589 DT	589 DT	SIEGE	5 157 791	0.029	0.50	40 000 DT	40 000 DT	40 000 DT	40 000 DT
3.5.1 Documentation DEXT	19 DT	56 DT	69 DT	111 DT	DEXT	2 195 452	0.069	1.00	290 DT	810 DT	1 000 DT	1 600 DT
3.6 Affranchissement												
3.6.1 Affranchissement Centre	0 DT	0 DT	0 DT	0 DT	CENTRE	151 811	1.000					
3.6.2 Affranchissement DEXT	0 DT	1 DT	2 DT	2 DT	DEXT	2 195 452	0.069	1.00	0 DT	11 DT	30 DT	30 DT
3.6.3 Affranchissement Siège	74 DT	74 DT	74 DT	74 DT	SIEGE	5 157 791	0.029	0.50	5 000 DT	5 000 DT	5 000 DT	5 000 DT
3.7 Affichage et annonce												
3.7.1 Affichage et annonce Centre	0 DT	0 DT	0 DT	0 DT	CENTRE	151 811	1.000					
3.7.2 Affichage et annonce DEXT	14 DT	15 DT	35 DT	35 DT	DEXT	2 195 452	0.069	1.00	200 DT	500 DT	500 DT	500 DT
3.7.3 Affichage et annonce Siège	883 DT	883 DT	883 DT	883 DT	SIEGE	5 157 791	0.029	0.50	60 000 DT	60 000 DT	60 000 DT	60 000 DT
3.8 Mission et réception												
3.8.1 Mission et réception Centre	0 DT	0 DT	0 DT	0 DT	CENTRE	151 811	1.000					
3.8.2 Mission et réception DEXT	0 DT	69 DT	138 DT	207 DT	DEXT	2 195 452	0.069	1.00	0 DT	1 000 DT	2 000 DT	3 000 DT
3.8.3 Mission et réception Siège	780 DT	780 DT	780 DT	780 DT	SIEGE	5 157 791	0.029	0.50	53 000 DT	53 000 DT	53 000 DT	53 000 DT
3.9 Fourniture de bureau	0 DT	0 DT	0 DT	0 DT	CENTRE	151 811	1.000					
3.10 Autres frais divers												
3.10.1 Siège	1 236 DT	1 236 DT	1 236 DT	1 236 DT	SIEGE	5 157 791	0.029	0.50	84 000 DT	84 000 DT	84 000 DT	84 000 DT
4.0 TRAVAUX-FOURN.-SERVICES EXTERIEURS												
4.1 Loyers												
4.1.1 Location de matériel DEPT	0 DT	59 DT	59 DT	59 DT	DEPT	2 195 452	0.069	0.85	0 DT	1 000 DT	1 000 DT	1 000 DT
4.1.2 Loyer de bâtiments DEPT	1 375 DT	2 751 DT	2 821 DT	2 935 DT	DEPT	2 195 452	0.069	0.85	23 400 DT	45 800 DT	49 000 DT	50 000 DT
4.1.3 Loyer Siège	618 DT	618 DT	618 DT	618 DT	SIEGE	5 157 791	0.029	0.50	42 000 DT	42 000 DT	42 000 DT	42 000 DT
4.1.4 Location de matériel District	156 DT	156 DT	156 DT	156 DT	DTA	454 862	0.334	1.00	468 DT	468 DT	468 DT	468 DT
4.1.5 Loyer de locaux districts	2 359 DT	2 905 DT	1 736 DT	2 336 DT	DTA	454 862	0.334	1.00	7 068 DT	8 705 DT	5 200 DT	7 000 DT
4.1.6 Location de matériel Centre	1 200 DT	1 200 DT	1 200 DT	5 600 DT	CENTRE	151 811	1.000	1.00				
4.1.7 Loyer de Centre	0 DT	0 DT	0 DT	0 DT	CENTRE	151 811	1.000					
4.2 Entretien-réparations												
4.2.1 Sous-traitance réseau GVA	0 DT	5 575 DT	5 675 DT	5 675 DT	GVA	454 862	0.334	1.00	0 DT	20 000 DT	20 000 DT	20 000 DT
4.2.2 S.T. Station pompage DTA	1 097 DT	0 DT	0 DT	0 DT	DTA	454 862	0.334	1.00	3 286 DT	0 DT	0 DT	0 DT
4.2.3 S.T. Stat. pompage DEXT	10 342 DT	16 454 DT	21 298 DT	23 510 DT	DEXT	2 195 452	0.069	1.00	149 560 DT	266 880 DT	308 000 DT	340 000 DT
4.2.4 Matériel roulant DMMR	8 278 DT	9 699 DT	12 389 DT	14 694 DT	DMMRT	2 195 452	0.069	0.85	140 840 DT	165 020 DT	227 800 DT	250 000 DT
4.2.5 Bâtiments DME	0 DT	882 DT	294 DT	294 DT	DME	2 195 452	0.069	0.85	0 DT	15 000 DT	5 000 DT	5 000 DT
4.2.6 Réparations Siège	1 913 DT	1 913 DT	1 913 DT	1 913 DT	SIEGE	5 157 791	0.029	0.50	130 000 DT	130 000 DT	130 000 DT	130 000 DT
4.2.7 Réparations CENTRE	75 000 DT	82 500 DT	90 000 DT	120 000 DT	CENTRE	151 811	1.000					
4.3 Travaux et façons												
4.3.1 Travaux Siège	2 060 DT	2 060 DT	2 060 DT	2 060 DT	SIEGE	5 157 791	0.029	0.50	140 000 DT	140 000 DT	140 000 DT	140 000 DT
4.3.2 Travaux Centre	1 000 DT	1 000 DT	1 000 DT	1 000 DT	CENTRE	151 811	1.000					
4.4 Fourniture d'eau												
Stat. pomp. Mohamed V					BV			0.00	231 DT	273 DT	300 DT	350 DT
S.P. Tunis-Marine					BV			0.00	420 DT	469 DT	520 DT	600 DT
S.P. Khadra					BV			0.00				
S.P. Iekon					BV			0.00				
S.P. Monplaisir					BV			0.00	47 636 DT	56 752 DT	58 000 DT	60 000 DT

DEPT	20 DT	36 DT	39 DT	41 DT	DEPT	2 195 452	0.069	0.85	342 DT	610 DT	650 DT	700 DT
SIEGE	162 DT	162 DT	162 DT	162 DT	SIEGE	5 157 791	0.029	0.50	11 000 DT	11 000 DT	11 000 DT	11 000 DT
DTA	11 DT	6 DT	7 DT	7 DT	DTA	454 862	0.334	1.00	33 DT	19 DT	20 DT	20 DT
Centre	1 138 DT	3 324 DT	3 000 DT	3 300 DT	CENTRE	151 811	1.000					
4.5 Fourniture d'électricité												
Stat. pomp. Mohamed V					BV			0.00	5 711 DT	4 886 DT	5 400 DT	6 000 DT
S.P. Tunis-Marine					BV			0.00	23 537 DT	29 587 DT	30 500 DT	31 000 DT
S.P. Khadra					BV			0.00	70 DT	150 DT	200 DT	220 DT
S.P. Iskan					BV			0.00	3 914 DT	4 500 DT	5 500 DT	6 000 DT
S.P. Montplaisir					BV			0.00	319 665 DT	343 716 DT	345 000 DT	348 000 DT
DEPT	84 DT	237 DT	264 DT	299 DT	DEPT	2 195 452	0.069	0.85	1 431 DT	4 035 DT	4 500 DT	5 095 DT
Siège	2 208 DT	2 208 DT	2 208 DT	2 208 DT	SIEGE	5 157 791	0.029	0.50	150 000 DT	150 000 DT	150 000 DT	150 000 DT
DTA	300 DT	233 DT	234 DT	250 DT	DTA	454 862	0.334	1.00	898 DT	699 DT	700 DT	750 DT
Centre	246 DT	945 DT	1 000 DT	1 100 DT	CENTRE	151 811						
4.6 Prestation SONEDE												
CENTRE	0 DT	0 DT	0 DT	3 DT	CENTRE	151 811	0.000	0.00				
4.7 Assurances												
4.7.1 Assurances matériel roulant												
CENTRE	0 DT	0 DT	0 DT	0 DT	CENTRE	151 811	1.000	1.00				
DTA	1 807 DT	1 902 DT	2 003 DT	2 169 DT	DTA	454 862	0.334	1.00	5 414 DT	5 700 DT	6 000 DT	6 500 DT
DME	0 DT	0 DT	0 DT	0 DT	DME	2 195 452	0.069	0.00	1 021 DT	1 200 DT	1 300 DT	1 400 DT
DMMRT	32 DT	34 DT	35 DT	36 DT	DMMRT	2 195 452	0.069	0.85	569 DT	580 DT	600 DT	620 DT
DEXT	72 DT	76 DT	83 DT	90 DT	DEXT	2 195 452	0.069	1.00	1 042 DT	1 100 DT	1 200 DT	1 300 DT
DEPT	151 DT	170 DT	192 DT	194 DT	DEPT	2 195 452	0.069	0.85	2 570 DT	2 900 DT	3 100 DT	3 300 DT
SIEGE	8 742 DT	8 742 DT	8 742 DT	8 742 DT	SIEGE	5 157 791	0.029	0.50	594 000 DT	594 000 DT	594 000 DT	594 000 DT
4.8 Honoraires et gardiennage												
4.8.1 Honor. et gardien. Siège	1 692 DT	1 692 DT	1 692 DT	1 692 DT	SIEGE	5 157 791	0.029	0.50	115 000 DT	115 000 DT	115 000 DT	115 000 DT
4.9 Petits outillages et autres												
DEXT	65 DT	69 DT	83 DT	90 DT	DEXT	2 195 452	0.069	1.00	938 DT	1 000 DT	1 200 DT	1 300 DT
SIEGE	2 943 DT	2 943 DT	2 943 DT	2 943 DT	SIEGE	5 157 791	0.029	0.50	200 000 DT	200 000 DT	200 000 DT	200 000 DT
5.0 BIENS CONSOMMES												
5.1 MATIERES PREMIERES												
5.1.1 Matériaux de construction												
CENTRE	615 DT	675 DT	750 DT	800 DT	CENTRE	151 811	1.000					
DTA	3 338 DT	3 912 DT	4 605 DT	4 673 DT	DTA	454 862	0.334	1.00	10 000 DT	11 720 DT	13 800 DT	14 000 DT
DME	0 DT	0 DT	0 DT	0 DT	DME	2 195 452	0.069	0.00	100 DT	5 920 DT	6 500 DT	7 000 DT
SIEGE	147 DT	147 DT	147 DT	147 DT	SIEGE	5 157 791	0.029	0.50	10 000 DT	10 000 DT	10 000 DT	10 000 DT
5.1.2 Autres matières premières												
DTA	3 DT	5 168 DT	5 340 DT	5 674 DT	DTA	454 862	0.334	1.00	9 DT	15 486 DT	16 000 DT	17 000 DT
DME	0 DT	0 DT	0 DT	0 DT	DME	2 195 452	0.069	0.00	6 612 DT	15 238 DT	16 000 DT	17 000 DT
CENTRE	202 DT	220 DT	240 DT	260 DT	CENTRE	151 811	1.000					
DEXT	156 DT	207 DT	277 DT	346 DT	DEXT	2 195 452	0.069	1.00	2 258 DT	3 000 DT	4 000 DT	5 000 DT
5.1.3 Tuyaux consommés												
5.1.3.1 Tuyaux siège	589 DT	589 DT	589 DT	589 DT	SIEGE	5 157 791	0.029	0.50	40 000 DT	40 000 DT	40 000 DT	40 000 DT
5.1.3.2 Tuyaux centre	597 DT	650 DT	710 DT	800 DT	CENTRE	151 811	1.000					
5.1.3.2 Tuyaux DTA	6 675 DT	7 492 DT	8 144 DT	9 011 DT	DTA	454 862	0.334	1.00	20 000 DT	22 448 DT	24 400 DT	27 000 DT
5.1.4 Tuyaux pour la vente					CENTRE	151 811	1.000					
5.1.5 Pièces en fonte consommées					CENTRE	151 811	1.000					
5.1.5.1 Pièces en fonte - Siège	3 900 DT	3 900 DT	3 900 DT	3 900 DT	SIEGE	5 157 791	0.029	0.50	265 000 DT	265 000 DT	265 000 DT	265 000 DT
5.1.5.2 Pièces en fonte - Centre	2 462 DT	3 650 DT	4 380 DT	5 000 DT	CENTRE	151 811	1.000					
5.1.5.3 Pièces en fonte - District	3 338 DT	4 075 DT	4 439 DT	4 939 DT	DTA	454 862	0.334	1.00	10 000 DT	12 210 DT	13 300 DT	14 500 DT
5.1.6 Pièces en fonte pour la vente												
5.1.7 Autres					CENTRE	151 811	1.000					
5.2 MATIERES CONSOMMABLES												
5.2.1 Habillement-Tenue de protection												
DTA	93 DT	5 106 DT	5 507 DT	6 241 DT	DTA	454 862	0.334	1.00	279 DT	15 298 DT	16 500 DT	18 700 DT
DMMRT	132 DT	136 DT	147 DT	165 DT	DMMRT	2 195 452	0.069	0.85	2 250 DT	2 184 DT	2 500 DT	2 800 DT
DME	0 DT	0 DT	0 DT	0 DT	DME	2 195 452	0.069	0.00	4 934 DT	4 522 DT	4 800 DT	5 000 DT
DEXT	42 DT	45 DT	55 DT	62 DT	DEXT	2 195 452	0.069	1.00	608 DT	649 DT	800 DT	900 DT
DEPT	208 DT	346 DT	353 DT	382 DT	DEPT	2 195 452	0.069	0.85	3 544 DT	5 895 DT	6 000 DT	6 500 DT
SIEGE	1 339 DT	1 339 DT	1 339 DT	1 339 DT	SIEGE	5 157 791	0.029	0.50	91 000 DT	91 000 DT	91 000 DT	91 000 DT
CENTRE	2 121 DT	2 400 DT	2 700 DT	3 000 DT	CENTRE	151 811	1.000					
5.2.2 Produits d'entretien												
DTA	39 DT	885 DT	968 DT	1 452 DT	DTA	454 862	0.334	1.00	115 DT	2 653 DT	2 900 DT	4 350 DT
DMMRT	225 DT	[illegible] DT	175 DT	235 DT	DMMRT	2 195 452	0.069	0.85	3 820 DT	1 898 DT	3 000 DT	4 000 DT
DME	0 DT	0 DT	0 DT	0 DT	DME	2 195 452	0.069	0.00	1 241 DT	1 330 DT	1 500 DT	2 000 DT
DEXT	16 DT	9 DT	14 DT	17 DT	DEXT	2 195 452	0.069	1.00	226 DT	132 DT	200 DT	250 DT
DEPT	59 DT	57 DT	76 DT	94 DT	DEPT	2 195 452	0.069	0.85	1 000 DT	971 DT	1 300 DT	1 600 DT
SIEGE	162 DT	162 DT	162 DT	162 DT	SIEGE	5 157 791	0.029	0.50	11 000 DT	11 000 DT	11 000 DT	11 000 DT
CENTRE	235 DT	300 DT	353 DT	400 DT	CENTRE	151 811	1.000					
5.2.3 Fournitures d'atelier-Laboratoire												
DME	0 DT	0 DT	0 DT	0 DT	DME	2 195 452	0.069	0.00	3 200 DT	3 500 DT	3 500 DT	3 500 DT
DTA	0 DT	0 DT	0 DT	0 DT	DTA	454 862	0.334	1.00	0 DT	0 DT	0 DT	0 DT

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DMMRT	176 DT	176 DT	176 DT	176 DT	DMMRT	2 195 452	0 069	0 85	3 000 DT	3 000 DT	3 000 DT	3 000 DT
SIEGE	1 619 DT	1 619 DT	1 619 DT	1 619 DT	SIEGE	5 157 791	0 029	0 50	110 000 DT	110 000 DT	110 000 DT	110 000 DT
DEXT	0 DT	69 DT	373 DT	519 DT	DEXT	2 195 452	0 069	1 00		1 000 DT	5 400 DT	7 500 DT
5.2 4 Fournitures de bureau												
DEPT	1 087 DT	1 399 DT	1 463 DT	1 528 DT	DEPT	2 195 452	0 069	0 85	18 500 DT	23 800 DT	25 000 DT	26 000 DT
SIEGE	2 046 DT	2 046 DT	2 046 DT	2 046 DT	SIEGE	5 157 791	0 029	0 50	139 000 DT	139 000 DT	139 000 DT	139 000 DT
5.2.5 Combustible et lubrifiant												
5 2.5 1 Stat. pompage												
DTA	37 DT	122 DT	175 DT	250 DT	DTA	454 862	0 334	1 00	112 DT	367 DT	525 DT	750 DT
5 2 5 2 Matériel roulant												
DTA	8 428 DT	9 345 DT	11 681 DT	13 350 DT	DTA	454 862	0 334	1 00	25 253 DT	28 000 DT	35 000 DT	40 000 DT
DME	0 DT	0 DT	0 DT	0 DT	DME	2 195 452	0 069	0 00	10 209 DT	12 500 DT	14 000 DT	15 000 DT
DMMRT	225 DT	247 DT	264 DT	294 DT	DMMRT	2 195 452	0 069	0 85	3 830 DT	4 200 DT	4 500 DT	5 000 DT
DEXT	631 DT	761 DT	830 DT	899 DT	DEXT	2 195 452	0 069	1 00	9 126 DT	11 000 DT	12 000 DT	13 000 DT
DEPT	1 422 DT	1 528 DT	1 646 DT	1 763 DT	DEPT	2 195 452	0 069	0 85	24 200 DT	26 000 DT	28 000 DT	30 000 DT
SIEGE	1 913 DT	1 913 DT	1 913 DT	1 913 DT	SIEGE	5 157 791	0 029	0 50	130 000 DT	130 000 DT	130 000 DT	130 000 DT
5 2 5.3 Matériels et outillages												
DTA	66 DT	107 DT	117 DT	134 DT	DTA	454 862	0 334	1 00	199 DT	320 DT	350 DT	400 DT
5 2 6 Pièces de rechange												
5 2 6.1 Stat. épur. + pomp												
DTA	12 201 DT	13 417 DT	14 752 DT	15 666 DT	DTA	454 862	0 334	1 00	36 556 DT	40 200 DT	44 200 DT	47 000 DT
DEPT	0 DT	0 DT	0 DT	0 DT	DEPT	2 195 452	0 069	0 00	6 834 DT	7 500 DT	8 200 DT	8 500 DT
DME	0 DT	0 DT	0 DT	0 DT	DME	2 195 452	0 069	0 00	225 000 DT	241 000 DT	257 000 DT	275 000 DT
5.2.6.2 Matériel roulant												
DTA	30 972 DT	36 112 DT	42 720 DT	46 725 DT	DTA	454 862	0 334	1,00	92 800 DT	108 200 DT	128 000 DT	145 000 DT
SIEGE	4 415 DT	4 415 DT	4 415 DT	4 415 DT	SIEGE	5 157 791	0 029	0 50	300 000 DT	300 000 DT	300 000 DT	300 000 DT
5 2.6.3 Bâtiments												
DTA	398 DT	437 DT	481 DT	501 DT	DTA	454 862	0 334	1 00	1 192 DT	1 310 DT	1 440 DT	1 500 DT
DEPT	68 DT	75 DT	82 DT	68 DT	DEPT	2 195 452	0 069	0 85	1 158 DT	1 280 DT	1 400 DT	1 500 DT
5 2 7 Autres matières consommables												
DTA	885 DT	567 DT	601 DT	668 DT	DTA	454 862	0 334	1 00	2 651 DT	1 698 DT	1 800 DT	2 000 DT
DEXT	84 DT	97 DT	104 DT	111 DT	DEXT	2 195 452	0 069	1 00	1 217 DT	1 400 DT	1 500 DT	1 600 DT
DME	0 DT	0 DT	0 DT	0 DT	DME	2 195 452	0 069	0 00	9 342 DT	1 970 DT	2 100 DT	2 500 DT
DEPT	103 DT	118 DT	129 DT	141 DT	DEPT	2 195 452	0 069	0 85	1 745 DT	2 000 DT	2 200 DT	2 400 DT
DMMRT	478 DT	59 DT	65 DT	71 DT	DMMRT	2 195 452	0 069	0 85	8 140 DT	1 008 DT	1 100 DT	1 200 DT
SIEGE	3 091 DT	3 091 DT	3 091 DT	3 091 DT	SIEGE	5 157 791	0 029	0 50	210 000 DT	210 000 DT	210 000 DT	210 000 DT
5.3 FRAIS SUR ACHAT												
SIEGE	3 900 DT	3 900 DT	3 900 DT	3 900 DT	SIEGE	5 157 791	0 029	0 50	265 000 DT	265 000 DT	265 000 DT	265 000 DT
6.0 IMPOTS ET TAXES												
6.1 TFP												
SIEGE	633 DT	633 DT	633 DT	633 DT	SIEGE	5 157 791	0 029	0 50	43 000 DT	43 000 DT	43 000 DT	43 000 DT
6 2 Taxes de circulation												
DTA	2 935 DT	3 937 DT	3 938 DT	4 339 DT	DTA	454 862	0 334	1 00	8 795 DT	6 800 DT	11 800 DT	13 000 DT
DME	0 DT	0 DT	0 DT	0 DT	DME	2 195 452	0 069	0 00	1 794 DT	1 970 DT	2 000 DT	2 200 DT
DMMRT	81 DT	90 DT	94 DT	100 DT	DMMRT	2 195 452	0 069	0 85	1 384 DT	1 535 DT	1 600 DT	1 700 DT
DEXT	167 DT	173 DT	180 DT	187 DT	DEXT	2 195 452	0 069	1 00	2 417 DT	2 500 DT	2 600 DT	2 700 DT
DEPT	328 DT	353 DT	382 DT	411 DT	DEPT	2 195 452	0 069	0 85	5 575 DT	6 000 DT	6 500 DT	7 000 DT
SIEGE	927 DT	927 DT	927 DT	927 DT	SIEGE	5 157 791	0 029	0 50	63 000 DT	63 000 DT	63 000 DT	63 000 DT
6 3 TCCL												
6 4 Droit d'enregistrement												
SIEGE	1 766 DT	1 766 DT	1 766 DT	1 766 DT	SIEGE	5 157 791	0 029	0 50	120 000 DT	120 000 DT	120 000 DT	120 000 DT
7.0 FRAIS FINANCIERS DE FONCTIONNEMENT												
SIEGE	1 472 DT	1 472 DT	1 472 DT	1 472 DT	SIEGE	5 157 791	0 029	0 50	100 000 DT	100 000 DT	100 000 DT	100 000 DT
8.0 FRAIS DIVERS D'EXPLOITATION												
SIEGE	368 DT	368 DT	368 DT	368 DT	SIEGE	5 157 791	0 029	0 50	25 000 DT	25 000 DT	25 000 DT	25 000 DT
9.0 CHARGES DE FINANCEMENT												
SIEGE	2 649 DT	2 649 DT	2 649 DT	2 649 DT	SIEGE	5 157 791	0 029	0 50	180 000 DT	180 000 DT	180 000 DT	180 000 DT
10.0 AMORTISSEMENT												
SIEGE	4 415 DT	4 415 DT	4 415 DT	4 415 DT	SIEGE	5 157 791	0 029	0 50	300 000 DT	300 000 DT	300 000 DT	300 000 DT
Matériel roulant	47 060 DT	47 060 DT	47 060 DT	47 060 DT	CENTRE							
TOTAL DES CHARGES	446 074 DT	502 744 DT	535 716 DT	592 255 DT	TOTAL							

ANNEX E

References

References

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Etude de marché : Le rôle potentiel du secteur privé dans le domaine de l'assainissement liquide en Tunisie. PADCO/SIDES, août 1994.

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ANNEX F

Terms of Reference

Terms of Reference

The contractor will prepare two feasibility studies, one for the pilot project in contracting out operation and maintenance of sewer networks, and the other in contracting out operation and maintenance of sewage treatment plants. The objective of these studies is to determine from both the public and private sector perspectives, the feasibility for contracting out sewer system operation and maintenance functions.

For these two studies, this feasibility will be determined through:

1. An Assessment of the Current Situation

The contractor will carry out an assessment of the operation and maintenance services for the pilot sewage network site and for the pilot sewage treatment plant. This assessment will cover the following aspects.

a. Technical Aspects

- A detailed assessment of the current physical condition of the sewer network, the sewage treatment plant and all other liquid waste facilities to be included in the contract pilot O&M contracts.
- An evaluation of the technical performance of the operation and maintenance services during the last three years; for the network, the frequency of pipe cleaning, the number of broken pipes, the number of blocked pipes, etc.; for the sewage treatment plant, the output, the frequency of small parts replacement, the frequency of equipment replacement, etc.
- The main constraints on O&M.

b. Financial Aspects

- A detailed evaluation of the current costs of the operation and maintenance services related to the O&M pilot project sites, including a breakdown of the costs of activities performed by the head office, the department office and/or the district office and which benefit the pilot project sites.
- Preparation of O&M pilot project budgets, including all costs related to monitoring private sector performance.

c. Organizational Aspects

- The identification of all the tasks related to O&M services, including the tasks currently performed by the head office, the department office and/or district office and which benefit the pilot zone.

2. Project Feasibility

Having defined the general operating conditions, service levels, costs and primary constraints related to each of the pilot projects, the contractor will propose an allocation of tasks between ONAS and the private firm. The contractor will then verify that this allocation

meets the criteria of both parties. The specific and unique characteristics of each pilot project site will be taken into account during this process.

The specialists will also take into account the information contained on the Market and Cost/ Revenues Study on private sector involvement in the liquid waste field referred to above. The most pertinent information in this document deals with the allocation of tasks between the public entity and the private firm in the area of contracting out (service contract), as well as the public sector and private sector criteria for entering into contractual relations for service delivery. The pilot projects are considered feasible if they meet the following criteria:

a. Public Sector

- Cost reduction. Although the administrative costs related to changing procedures will create delays in cost reduction, this decrease in costs should become evident over the life of the contract.
- Improvement in service quality. The transfer of the operation and maintenance services from the public to the private sector should bring about an improvement in the quality of services. It must be noted, however, that all changes in the level of services must be taken into account when comparing current costs to future costs.

b. Private Sector

- Profitability. The conditions of the contract must allow the private firms to make an acceptable profit.

Cash flow analyses similar to those presented in the above-mentioned Market and Cost/ Revenue Study will be prepared in order to demonstrate the levels of cost reduction and profitability associated with the proposed operations.

The contractor will also analyze the possibility of incorporating existing ONAS operation and maintenance staff into the private firms who will operate and maintain the facilities in question. The contractor will make recommendations which respond to the concerns of all parties involved.