

**REQUEST FOR PROPOSALS**

**TECHNICAL ASSISTANCE FOR THE**

**ONEP GEOGRAPHIC INFORMATION SYSTEM**

Submission Deadline: **12:00 p.m. NOON**

**LOCAL TIME**

**MARCH 27, 2009**

Submission Place:

**BUREAU DES MARCHES  
DIRECTION APPROVISIONNEMENT ET MARCHES  
OFFICE NATIONAL DE L'EAU POTABLE  
6 BIS, RUE PATRICE LUMUMBA  
RABAT, MOROCCO  
Tel: (212) 37 70 22 59  
Fax: (212) 37 72 10 30**

**SEALED PROPOSALS SHALL BE CLEARLY MARKED AND RECEIVED PRIOR TO THE TIME AND DATE SPECIFIED ABOVE. PROPOSALS RECEIVED AFTER SAID TIME AND DATE WILL NOT BE ACCEPTED OR CONSIDERED.**

## REQUEST FOR PROPOSALS

SECTION 1:	INTRODUCTION .....
1.1	BACKGROUND SUMMARY .....
1.2	OBJECTIVE .....
1.3	PROPOSALS TO BE SUBMITTED .....
1.4	CONTRACT FUNDED BY USTDA.....
SECTION 2:	INSTRUCTIONS TO PROPOSERS.....
2.1	PROJECT TITLE .....
2.2	DEFINITIONS.....
2.3	DEFINITIONAL MISSION REPORT .....
2.4	EXAMINATION OF DOCUMENTS .....
2.5	PROJECT FUNDING SOURCE.....
2.6	RESPONSIBILITY FOR COSTS .....
2.7	TAXES .....
2.8	CONFIDENTIALITY.....
2.9	ECONOMY OF PROPOSALS .....
2.10	SUBSTANTIVE PROPOSALS .....
2.11	CONDITIONS REQUIRED FOR PARTICIPATION .....
2.12	LANGUAGE OF PROPOSAL.....
2.13	PROPOSAL SUBMISSION REQUIREMENTS .....
2.14	PACKAGING.....
2.15	AUTHORIZED SIGNATURE .....
2.16	EFFECTIVE PERIOD OF PROPOSAL .....
2.17	EXCEPTIONS.....
2.18	OFFEROR QUALIFICATIONS .....
2.19	RIGHT TO REJECT PROPOSALS.....
2.20	PRIME CONTRACTOR RESPONSIBILITY .....
2.21	AWARD .....
2.22	COMPLETE SERVICES .....
2.23	INVOICING AND PAYMENT .....
SECTION 3:	PROPOSAL FORMAT AND CONTENT .....
3.1	SECTION 1: INTRODUCTION AND EXECUTIVE SUMMARY.....
3.2	SECTION 2: COMPANY INFORMATION.....
3.2.1	COMPANY PROFILE .....
3.2.2	OFFEROR'S AUTHORIZED NEGOTIATOR .....
3.2.3	NEGOTIATION PREREQUISITES .....
3.3	SECTION 3: ORGANIZATIONAL STRUCTURE, MANAGEMENT, AND KEY PERSONNEL .....
3.4	SECTION 4: TECHNICAL APPROACH AND WORK PLAN .....
3.5	SECTION 5: EXPERIENCE AND QUALIFICATIONS .....
SECTION 4:	AWARD CRITERIA.....

ANNEX 1 FEDBIZOPPS ANNOUNCEMENT  
ANNEX 2 BACKGROUND DEFINITIONAL MISSION REPORT  
ANNEX 3 USTDA NATIONALITY REQUIREMENTS  
ANNEX 4 USTDA GRANT AGREEMENT, INCLUDING MANDATORY  
CONTRACT CLAUSES  
ANNEX 5 TERMS OF REFERENCE (FROM USTDA GRANT AGREEMENT)

## **Section 1: INTRODUCTION**

The U.S. Trade and Development Agency (USTDA) has provided a grant to the Grantee, (Office National de l'Eau Potable (ONEP), for an ONEP Geographic Information System (GIS) Technical Assistance. The grant agreement is attached at Annex 4 for reference. The Grantee is soliciting technical proposals from qualified U.S. firms to provide expert consulting services to carry out the Technical Assistance.

### **1.1 BACKGROUND SUMMARY**

Founded in 1972, ONEP is the main producer of drinking water, producing 80% of the national production. ONEP is a public company and is responsible for the country's potable water supply, as well as for wastewater treatment and recycling. Subsequently, ONEP is charged with the management of drinking water and wastewater networks as well as watershed protection zones.

Until recently, ONEP has tended to manage the areas of urban water supply, rural water supply, and wastewater treatment as separate and unrelated areas. As water/wastewater management becomes increasingly more important in Morocco, the need on ONEP's part for an integrated, "enterprise-wide" approach is becoming increasingly evident. Effective water resource management requires an in-depth understanding of the location, timing and amount of water used, and GIS technology can provide an essential platform in which to analyze and display this type of information, to make better-informed decisions about management and allocation, and to improve long-range planning.

ONEP's core operations would substantially benefit from a new, GIS-supported, unified approach to its activities, particularly in the following areas:

- Land usage as it applies to ONEP land (for example: land associated with treatment plants, ONEP pipeline rights-of-way)
- Water resources (technical and administrative data, quality, etc.)
- Watershed protection zones (both physical and environmental aspects)
- Drinking-water networks (production; rural drinking-water supply; urban distribution)
- Wastewater networks (including drinking-water purification plants)
- Commercial aspects (customer management, billing, etc.)

Full implementation of an integrated, enterprise-wide GIS solution would yield for ONEP better data processing and management, a reduced cost of data generation and utilization as well as improved decision making and communication. The technologies are similar to those in widespread use throughout the international water industry, and such a system would modernize and integrate data management to improve ONEP's activities. A background Definitional Mission is provided for reference in Annex 2.

## **1.2 OBJECTIVE**

The Terms of Reference (TOR) for this Technical Assistance is attached as Annex 5.

## **1.3 PROPOSALS TO BE SUBMITTED**

Technical proposals are solicited from interested and qualified U.S. firms. The administrative and technical requirements as detailed throughout the Request for Proposals (RFP) will apply. Specific proposal format and content requirements are detailed in Section 3.

COST will not be a factor in the evaluation and therefore, cost proposals should not be submitted; upon detailed evaluation of technical proposals, one firm will be selected for contract negotiations. The amount for the negotiated contract has been established by a USTDA grant of U.S. \$385,876 dollars.

## **1.4 CONTRACT FUNDED BY USTDA**

The negotiated contract will be funded by USTDA in accordance with the terms and conditions of its grant to the Grantee. The contract must include certain USTDA mandatory clauses relating to nationality, taxes, payment, reporting, and other matters. The USTDA nationality requirements and the USTDA mandatory clauses are attached at Annexes 3 and 4 for reference.

## **Section 2: INSTRUCTIONS TO PROPOSERS**

### **2.1 PROJECT TITLE**

The project is called "ONEP Geographic Information System Technical Assistance."

### **2.2 DEFINITIONS**

Please note the following definitions of terms as used in this RFP.

The term "Request for Proposals" means this solicitation of a formal technical proposal including qualifications statement.

The term "Offeror" means the U.S. individual, or U.S. firm, including any and all subcontractors, which responds to the RFP and submits a formal proposal and which may or may not be successful in being awarded this procurement.

### **2.3 DEFINITIONAL MISSION REPORT**

USTDA sponsored a Definitional Mission to address technical, financial, sociopolitical, environmental and other aspects of the proposed project. A copy of the Report is attached at Annex 2 for background information only.

### **2.4 EXAMINATION OF DOCUMENTS**

Offerors should carefully examine this RFP. It will be assumed that Offerors have done such inspection and that through examinations, inquiries and investigation they have become familiarized with local conditions and the nature of problems to be solved during the execution of the Technical Assistance.

Offerors shall address all items as specified in this RFP. Failure to adhere to this format may disqualify an Offeror from further consideration.

Submission of a proposal shall constitute evidence that the Offeror has made all the above mentioned examinations and investigations, and is free of any uncertainty with respect to conditions which would affect the execution, and completion of the Technical Assistance.

## **2.5 PROJECT FUNDING SOURCE**

The Technical Assistance will be funded under a grant from USTDA. The total amount of the grant is not to exceed U.S. \$385,876 dollars.

## **2.6 RESPONSIBILITY FOR COSTS**

Offeror shall be fully responsible for all costs incurred in the development and submission of the proposal or any other cost incurred by Offeror prior to issuance of an agreement or contract. Neither USTDA nor the Grantee assumes any contractual obligation as a result of the issuance of this proposal request, the preparation or submission of a proposal by an Offeror, the evaluation of proposals, or final selection.

## **2.7 TAXES**

Offerors should submit proposals which note that in Annex 4, USTDA Mandatory Contract Provisions, USTDA funds are not to be used to pay taxes or duties under the laws of host country.

## **2.8 CONFIDENTIALITY**

The Grantee will use its best efforts to preserve the confidentiality of any business proprietary or confidential information submitted by the Offeror, which is clearly designated as such by the Offeror.

## **2.9 ECONOMY OF PROPOSALS**

Proposal documents should be prepared simply and economically, providing a comprehensive and concise description of the Offeror's capabilities to satisfy the requirements of the RFP. There is no necessity for expensive bindings, colored displays, or other promotional material unless such material is absolutely pertinent to the proposal. Emphasis should be placed on completeness and clarity of content.

## **2.10 SUBSTANTIVE PROPOSALS**

The Offeror shall certify (a) that its proposal is genuine and is not made in the interest of, or on the behalf of, any undisclosed person, firm, or corporation, and is not submitted in conformity with, and agreement of, any undisclosed group, association, organization, or corporation; (b) that it has not directly or indirectly induced or solicited any other Offeror to put in a false proposal; (c) that it has not solicited or induced any other person, firm, or corporation to refrain from submitting a proposal; and (d) that it has not sought by collusion to obtain for himself any advantage over any other Offeror or over the Grantee or USTDA or any employee thereof.

## **2.11 CONDITIONS REQUIRED FOR PARTICIPATION**

Only U.S. firms are eligible to participate in this tender. However, U.S. firms may utilize subcontractors from host country for up to 20 percent of the amount of the USTDA grant. USTDA nationality requirements are detailed in Annex 3.

## **2.12 LANGUAGE OF PROPOSAL**

All proposal documents shall be prepared and submitted in English, and only English.

## **2.13 PROPOSAL SUBMISSION REQUIREMENTS**

The **Cover Letter** in the proposal must be addressed to:

BUREAU DES MARCHES  
DIRECTION APPROVISIONNEMENT ET MARCHES  
Office National de l'Eau Potable  
6 bis, rue Patrice Lumumba  
Rabat, Morocco  
Tel: (212) 37 70 22 59  
Fax: (212) 37 72 10 30  
Email: ahimmi@onep.org.ma

**An Original hard copy, eight (8) paper copies and one (1) numeric copy on CD ROM (Word format for text, Excel for charts, Project schedules, and pdf for external documents) of your proposal, must be received at the above address no later than 12:00 p.m. NOON, on March 27, 2009.**

Proposals may be either sent by post, overnight courier, or hand-delivered. Whether the proposal is sent by post, courier or hand-delivered, the Offeror shall be responsible for actual delivery of the proposal to the above address before the deadline. Any proposal received after the deadline will be returned unopened.

Upon timely receipt, all proposals become the property of the Grantee.

## **2.14 PACKAGING**

Each proposal must be sealed to ensure confidentiality of the information. The proposals should be individually wrapped and sealed, and labeled for content including "original" or "copy number x"; the original and eight (8) copies should be collectively wrapped and sealed, and clearly marked for content.

Neither USTDA nor the Grantee will be responsible for premature opening of proposals not properly labeled.

## **2.15 AUTHORIZED SIGNATURE**

The proposal must contain the signature of a duly authorized officer or agent of the Offeror empowered with the right to bind the Offeror.

## **2.16 EFFECTIVE PERIOD OF PROPOSAL**

The proposal shall be binding upon the Offeror for sixty (60) days after the proposal due date, and Offeror may withdraw or modify this proposal at any time prior to the due date upon written request, signed in the same manner and by the same person who signed the original proposal.

## **2.17 EXCEPTIONS**

Firms agree by their response to the RFP announcement to abide by the procedures set forth therein. Material modifications in the TOR or responsibilities of the parties will not be accepted.

Any exceptions in the proposal shall be clearly identified, and shall include the scope of such exception, and its impact, on the procurement. The Grantee shall make final determination as to the responsiveness of such exceptions and their acceptability.

## **2.18 OFFEROR QUALIFICATIONS**

As provided in Section 3, Offerors shall submit evidence that they have relevant past experience and have previously delivered advisory and Technical Assistance services similar to those required in the TOR.

## **2.19 RIGHT TO REJECT PROPOSALS**

The Grantee reserves the right to reject any and all proposals and to accept or reject any or all of the items in the proposal, and to award the contract in whole or in part if it is deemed in the best interest of the Grantee.

## **2.20 PRIME CONTRACTOR RESPONSIBILITY**

Offerors have the option of subcontracting parts of the services they propose. The Offeror's proposal must include a description of any anticipated subcontracting arrangements, including the name, address, and qualifications of consultants and subcontractors. USTDA nationality provisions are set forth in detail in Annex 3. The successful Offeror shall cause appropriate provisions of its contract, including all mandatory USTDA clauses, to be inserted in all subcontracts ensuing to ensure fulfillment of all contractual provisions by subcontractors.

## **2.21 AWARD**

An award resulting from this RFP shall be made to the best qualified Offeror, taking into consideration the evaluation factors set forth herein; however, the right is reserved to reject any and all proposals received and, in all cases, the Grantee will be the judge as to whether a proposal has or has not satisfactorily met the requirements of this RFP.

## **2.22 COMPLETE SERVICES**

The successful Offeror shall be required to (a) furnish all supplies, supervision, transportation, and other execution accessories, services, and facilities; (b) provide and perform all necessary labor; and (c) in accordance with good technical practice, with due diligence, and in accordance with the requirements, stipulations, provisions and conditions of this RFP and the resultant contract, execute and complete all specified work to the satisfaction of the Grantee.

## **2.23 INVOICING AND PAYMENT**

Deliverables under the contract shall be delivered on a schedule to be agreed upon in a contract with the Grantee. The Contractor may submit invoices to the designated Grantee Project Director in accordance with a schedule to be negotiated and included in the contract. Upon approval of each invoice, the Grantee will forward the invoice to USTDA which will process payment to the Contractor. All payments by USTDA under the Grant Agreement will be made in U.S. currency.

### **Section 3: PROPOSAL FORMAT AND CONTENT**

To expedite proposal review and evaluation, and to assure that each proposal receives the same orderly review, all proposals must follow the format described in this section.

Proposal sections and pages shall be appropriately numbered and the proposal shall include a Table of Contents. Offerors are encouraged to submit concise and clear responses to the RFP. Proposals shall contain all elements of information requested without exception. Instructions regarding the required scope and content are given in this section. The Grantee reserves the right to include any part of the selected proposal in the final contract.

The proposal shall consist of a technical proposal only. No cost proposal is required as the value of the USTDA grant is established at U.S. \$385,876 dollars.

Offerors shall submit one (1) original and eight (8) copies of the proposal in English and in French. Proposals received by fax cannot be accepted.

The following sections and content are required for each proposal:

- Transmittal Letter,
- Cover/Title Page,
- Table of Contents,
- Introduction and Executive Summary,
- Company Information,
- Organizational Structure, Management Plan, and Key Personnel,
- Technical Approach and Work Plan,
- Experience and Qualifications, and
- Miscellaneous.

Detailed requirements and directions for the preparation of each section are presented below.

#### **3.1 SECTION 1: INTRODUCTION AND EXECUTIVE SUMMARY**

An Executive Summary should be prepared describing the major facts or features of the proposal, including any conclusions, assumptions, and generalized recommendations the Offeror desires to make. Offerors are requested to make every effort to limit the length of the Executive Summary to no more than five (5) pages.

## **3.2 SECTION 2: COMPANY INFORMATION**

### **3.2.1 Company Profile**

Provide the information listed below relative to the Offeror's firm. If the Offeror is proposing to subcontract some of the proposed work to another firm(s), similar information must be provided for each subcontractor. Offerors are requested to limit the length of the Company Profile Information to one (1) page per firm.

1. Name of firm and business address, including telephone and fax numbers.
2. Year established (include former firm names and year established, if applicable).
3. Type of ownership and parent company, if any.
4. Project Manager's name, address, telephone and fax number, if different from (1).

### **3.2.2 Offeror's Authorized Negotiator**

Provide name, title, address, telephone and fax number of the Offeror's authorized negotiator. The person cited shall be empowered to make binding commitments for the Offeror and its subcontractors, if any.

### **3.2.3 Negotiation Prerequisites**

1. Discuss any impact of any current or anticipated commitments which may impact the ability of the Offeror or its subcontractors to complete the Technical Assistance as proposed and within the project schedule.
2. Identify any specific information which is needed from the Grantee before commencing contract negotiations.

## **3.3 SECTION 3: ORGANIZATIONAL STRUCTURE, MANAGEMENT, AND KEY PERSONNEL**

Describe the Offeror's proposed project organizational structure. Discuss how the project will be managed including the principal and key staff assignments for this Technical Assistance. Identify the Project Manager who will be the individual responsible for this project. The Project Manager must have the responsibility and authority to act on behalf of the Offeror in matters related to the proposed Technical Assistance.

Provide a listing of personnel (including subcontractors and consultants) to be engaged in the project, either U.S. or local with the following information for key staff: position in the project; pertinent experience, curriculum vitae; other relevant information. If subcontractors are to be used, the organizational relationship between the firms must be described.

A manpower schedule and the level of effort for the project period, by activities and tasks, as detailed under the Work Plan shall be submitted. A statement confirming the availability of the proposed project manager and key staff over the duration of the project must be included in the proposal.

### **3.4 SECTION 4: TECHNICAL APPROACH AND WORK PLAN**

Describe in detail the proposed technical approach and work plan. Discuss the project requirements as perceived by the Offeror. Include a brief narrative of tasks within each activity series. Begin with the information gathering phase and continue through delivery and approval of all required reports.

Prepare a detailed schedule of performance that describes all activities and tasks within the Technical Work Plan, including periodic reporting or review points, incremental delivery dates, and other project milestones.

Based on the Technical Work Plan, and previous project experience, explain when and where Offeror will require support from the Grantee. Detail the amount of staff time required by the Grantee or participating agencies and any work space or facilities needed to complete the Technical Assistance.

### **3.5 SECTION 5: EXPERIENCE AND QUALIFICATIONS**

Provide a discussion of the Offeror's experience, and qualifications which are relevant to the objectives and TOR for the Technical Assistance. If a subcontractor(s) is being used, similar information must be provided for the prime and each subcontractor firm proposed for the project. Relevant experience and qualifications of key staff proposed shall be provided including letters of commitment from the individuals proposed concerning their availability for contract performance.

#### **3.5.1 Project references of Offerors**

As many as possible but not more than six (6) relevant and verifiable project references must be provided, including the following information:

- Project name,
- Name and address of client (indicate if joint venture),
- Client contact person (name/ position/ current phone and fax numbers),
- Period of Contract,
- Description of services provided,
- Dollar amount of Contract, and
- Status and comments.

At least, 4 (four) of the six (6) project references should be related to GIS studies. The project references should correspond to the last 10 years.

Offerors are strongly encouraged to include in their experience summary primarily those projects that are similar to or larger in scope than the Technical Assistance as described in this RFP.

### 3.5.2 Offeror's team

In terms of the composition and particular credentials of the Contractor, it is judged that the team should consist of a Project Manager, two GIS Specialists, an IT Architecture Specialist, and an IT Systems/Database Specialist, plus Local Support. The position of Project Manager may be combined with that of the IT Architecture Specialist, or the IT Systems/Database Specialist, provided that the person so designated meets all of the requirements of the two positions separately, and it can be shown that the proposed Contractor Team can efficiently carry out the full scope of the Technical Assistance. More specific descriptions follow.

#### Project Manager:

- At least ten (10) years' experience in the IT industry
- Specific expertise in developing and deploying enterprise IT applications, preferably GIS-related, in the context of large organizations
- At least two GIS project references
- Organizational, management and cross-cultural skills and perspective to structure, oversee and carry out the Technical Assistance effectively
- Ability to work closely and effectively with ONEP personnel throughout the Technical Assistance, as well as with ONEP management and other stakeholders and interested parties
- Proficiency in French, at a level adequate to enable effective conduct of day-to-day work in that language

#### GIS Specialist 1:

- At least eight (8) years' experience with GIS systems and solutions
- Specific experience with the application and/or deployment of GIS in the context of public utility companies, preferably water/wastewater utilities
- Organizational and management skills and cross-cultural skills and perspective to structure, oversee and carry out the Technical Assistance effectively
- Ability to work closely and effectively with ONEP personnel throughout the Technical Assistance
- Proficiency in French, at a level adequate to enable effective conduct of day-to-day work in that language

#### GIS Specialist 2:

- At least six (6) years' experience with GIS systems and solutions
- Specific expertise with the application, testing and/or deployment of GIS, that is complementary to that of GIS Specialist 1
- Ability to support GIS Specialist 1 in other tasks as may be required

- Organizational and management skills to structure, oversee and carry out the Technical Assistance effectively

#### IT Architecture Specialist:

- At least eight (8) years' experience in the IT industry; exposure to GIS systems and solutions would be a distinct advantage
- Specific expertise with planning complex enterprise IT projects and developing conceptual and logical solution designs
- Organizational, management and cross-cultural skills and perspective to structure, oversee and carry out the Technical Assistance effectively
- Ability to work closely and effectively with ONEP personnel throughout the Technical Assistance
- Proficiency in French, at a level adequate to enable effective conduct of day-to-day work in that language

#### IT Systems/Database Specialist:

- At least six (6) years' experience in the IT industry; exposure to GIS systems and solutions would be a distinct advantage
- Specific expertise in data modeling; database development, testing and production; data integration issues
- At least two project references demonstrating past experience in creating GIS databases
- Organizational and management skills to structure, oversee and carry out the Technical Assistance effectively

For the skills evaluation of Contractor Team, the Grantee reserves the right to contact any and all references to evaluate the skills of the Contractor Team

The team member's CV should be explicit and complete, to allow for their thorough evaluation.

In addition, the Contractor Team shall include Local Support. It is envisaged that Local Support will take the form of an individual or small firm based in Rabat, with knowledge and experience in working with public-sector institutions (ideally, with ONEP and/or its sister parastatals). The Local Support will provide general logistical and translation assistance and will assist the Contractor Team with various data-gathering and on-site activities (see the Terms of Reference in Annex IV or V), as well as liaison and continuity in the intervals between in-country visits of U.S.-based Contractor Team members.

#### 3.5.3 Proposed approach to the Technical Assistance and to the individual tasks

The Offeror should present in their bid the work plan and methodology needed to fulfil the terms of reference. The work plan should include:

- By task, the steps required to reach the results and objectives defined by the Grantee,
- A detailed work schedule,, including :

- The listing of each team member included in the task, by task,
- The required stay in Morocco for each team member, by task,
- The description of work to be completed by each team member, by task,
- Strategy to manage the project and monitoring its progress (quality, risk management, management teams, ...)

The methodology proposed will be part of the contract between the Offeror and the Grantee..

#### Section 4: AWARD CRITERIA

Individual proposals will be initially evaluated by a Procurement Selection Committee of representatives from the Grantee. The Committee will then conduct a final evaluation and completion of ranking of qualified Offerors, and the Grantee shall promptly negotiate a contract with the best qualified Offeror. If a satisfactory contract cannot be negotiated with the best qualified Offeror, negotiations will be formally terminated. Negotiations shall then be undertaken with the second most qualified Offeror and so forth.

As is evident from the accompanying Terms of Reference (TOR; see Annex 5), the proposed Technical Assistance involves a comprehensive effort to define an enterprise-wide GIS solution that is maximally adequate to ONEP's particular needs and requirements, while at the same time ensuring effective implementation and deployment throughout the ONEP organization. The following general attributes on the part of the Contractor are considered critical to the successful outcome of the Technical Assistance:

- Requisite breadth and depth of expertise in GIS systems and solutions, in particular with their application and use in large public-sector organizations
- Familiarity with needs assessment, requirements definition, development of functional specifications, concept testing and implementation of IT enterprise applications and systems
- Ability to work closely with technical and administrative personnel and senior management; experience in communicating results and disseminating information to management and to interested parties, and in conducting workshops and seminars

Successful performance of the Technical Assistance will require close collaboration with ONEP to ensure that that maximum practical benefit is derived from the Technical Assistance and that the resources thus acquired are put to good practical use. Furthermore, the following additional attributes are also considered critical to a successful outcome:

- Willingness of Contractor to spend significant time in-country
- A work plan ensuring close collaboration and interaction with ONEP
- The capability to deliver quality results and recommendations in timely fashion
- Proficiency in French, at a level adequate to enable effective conduct of day-to-day work in that language (see also below)

The selection of the Contractor will be based on the following criteria:

<i>Criterion</i>	<b>Max. Points</b>
Expertise and skills of proposed personnel	55
Proposed approach to the Technical Assistance and to the individual tasks	25
Pertinent international experience and cross-cultural skills	20
Total	100

The evaluation of individual proposals will be made as below :

**A- Expertise and skills of proposed personnel (54 points):**

- Project manager: 13 points
- Specialist GIS 1: 12 points
- Specialist GIS 2: 9 points
- IT Architecture Specialist: 12 points
- IT Systems/Database Specialist: 9 points

**B- Proposed approach to the Technical Assistance and to the individual tasks (24 points)**

The evaluation of this section will be based on the analysis of:

• **The clarity and comprehensiveness of the proposal : 6 points**

The proposal must address all components of the RFP. It must be complete, written in a clear manner and structured to meet all of the Grantee's requirements.

• **The analytical approach and methodology proposed : 7 points**

The proposal must include a technical paper detailing the methodology and organization of the work proposed. The Offeror will clearly indicate the methodological tools, logistical and IT tools, etc., that they intend to deploy to fulfil the Terms of Reference. This document must be consistent, clear, precise, and structured to meet the requirements of the RFP.

• **Schedule and work plan : 9 points**

The proposal must present the overall work plan, schedule and the chronology of tasks. The proposal should consider:

- the work flow and progression of each task,
- the labor requirements for each task,
- the distribution of work between members of the Offeror's team,
- the coordination between the Offeror and the Grantee

The schedule must provide the time requirements of every task, in a coherent, detailed and precise manner. For each member of the project team, the schedule should present the various jobs and services that must be performed as well as the corresponding tasks.

**C- Pertinent international experience and cross-cultural skills (20 points):**

GIS experiences and IT experiences will be evaluated separately.

**SUMMARY OF DISMISSAL CRITERIAS**

Any proposals that do not have the following will be rejected:

- The offeror must have at least 4 GIS project experiences during the last 10 years
- The proposal must have the minimum team members required by the terms of reference
- The members of the Contractor team shall have demonstrated fluency in French.

- Proposals which do not include all requested information may be considered non-responsive.

Price will not be a factor in contractor selection.

**ANNEX 1**

Bureau des Marches, Direction Approvisionnement et Marches, Office National de l'Eau Potable, 6 BIS, Rue Patrice Lumumba, Rabat, Morocco, Tel: (212) 37 70 22 59, Fax: (212) 37 72 10 30, email : nhimmi@onep.org.ma

B: ONEP Geographic Information System (GIS) Technical Assistance

POC John Kusnierek, USTDA, 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901, Tel: (703) 875-4357, Fax: (703) 875-4009. ONEP Geographic Information System (GIS) Technical Assistance. The Grantee invites submission of qualifications and proposal data (collectively referred to as the "Proposal") from interested U.S. firms which are qualified on the basis of experience and capability to develop a technical assistance for ONEP Geographic Information System (GIS)

Founded in 1972, ONEP is the main producer of drinking water, producing 80% of the national production. ONEP is a public company and is responsible for the country's potable water supply, as well as for wastewater treatment and recycling. Subsequently, ONEP is charged with the management of drinking water and wastewater networks as well as watershed protection zones.

Until recently, ONEP has tended to manage the areas of urban water supply, rural water supply, and wastewater treatment as separate and unrelated areas. As water/wastewater management becomes increasingly more important in Morocco, the need on ONEP's part for an integrated, "enterprise-wide" approach is becoming increasingly evident. Effective water resource management requires an in-depth understanding of the location, timing and amount of water used, and GIS technology can provide an essential platform in which to analyze and display this type of information, to make better-informed decisions about management and allocation, and to improve long-range planning.

ONEP's core operations would substantially benefit from a new, GIS-supported, unified approach to its activities, particularly in the following areas:

- Land usage as it applies to ONEP land (for example: land associated with treatment plants, ONEP pipeline rights-of-way)
- Water resources (technical and administrative data, quality, etc.)
- Watershed protection zones (both physical and environmental aspects)
- Drinking-water networks (production; rural drinking-water supply; urban distribution)
- Wastewater networks (including drinking-water purification plants)
- Commercial aspects (customer management, billing, etc.)

Full implementation of an integrated, enterprise-wide GIS solution would yield for ONEP better data processing and management, a reduced cost of data generation and utilization as well as improved decision making and communication. The technologies are similar to those in widespread use throughout the international water industry, and such a system would modernize and integrate data management to improve ONEP's activities. The implementation of modern GIS-based information for water management

in Morocco is essential in order for ONEP to achieve its corporate objectives in a competitive 21<sup>st</sup> century environment.

The U.S. firm selected will be paid in U.S. dollars from a \$385,876 grant to the Grantee from the U.S. Trade and Development Agency (USTDA).

A detailed Request for Proposals (RFP), which includes requirements for the Proposal, the Terms of Reference, and a background definitional mission report are available from USTDA, at 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901. To request the RFP in PDF format, please go to:

<https://www.ustda.gov/USTDA/FedBizOpps/RFP/rfpform.asp>. Requests for a mailed hardcopy version of the RFP may also be faxed to the IRC, USTDA at 703-875-4009. In the fax, please include your firm's name, contact person, address, and telephone number. Some firms have found that RFP materials sent by U.S. mail do not reach them in time for preparation of an adequate response. Firms that want USTDA to use an overnight delivery service should include the name of the delivery service and your firm's account number in the request for the RFP. Firms that want to send a courier to USTDA to retrieve the RFP should allow one hour after faxing the request to USTDA before scheduling a pick-up. Please note that no telephone requests for the RFP will be honored. Please check your internal fax verification receipt. Because of the large number of RFP requests, USTDA cannot respond to requests for fax verification. Requests for RFPs received before 4:00 PM will be mailed the same day. Requests received after 4:00 PM will be mailed the following day. Please check with your courier and/or mail room before calling USTDA.

Only U.S. firms and individuals may bid on this USTDA financed activity. Interested firms, their subcontractors and employees of all participants must qualify under USTDA's nationality requirements as of the due date for submission of qualifications and proposals and, if selected to carry out the USTDA-financed activity, must continue to meet such requirements throughout the duration of the USTDA-financed activity. All goods and services to be provided by the selected firm shall have their nationality, source and origin in the U.S. or host country. The U.S. firm may use subcontractors from the host country for up to 20 percent of the USTDA grant amount. Details of USTDA's nationality requirements and mandatory contract clauses are also included in the RFP.

Interested U.S. firms should submit their Proposal in English directly to the Grantee by 12:00 p.m. NOON, March 27, 2009 at the above address. Evaluation criteria for the Proposal are included in the RFP. Price will not be a factor in contractor selection, and therefore, cost proposals should NOT be submitted. The Grantee reserves the right to reject any and/or all Proposals. The Grantee also reserves the right to contract with the selected firm for subsequent work related to the project. The Grantee is not bound to pay for any costs associated with the preparation and submission of Proposals.

ANNEX 2

## **A. Executive Summary**

Among other activities, the present Definitional Mission (DM) to the ICT Sector in Morocco evaluated the terms, feasibility and impact of a request for Technical Assistance made to USTDA by the Office National de l'Eau Potable (ONEP), the Moroccan agency that is responsible for the potable-water and wastewater sectors. ONEP is seeking to implement a so-called Geographic Information System (GIS) on an enterprise-wide scale. Effective water resource management requires an in-depth understanding of the location, timing and amount of water used, and GIS technology can provide an essential platform in which to analyze and display this type of information, to make better-informed decisions about water resource management and allocation, and to improve long-range planning.

While the ICT sector in Morocco has rapidly evolved into a multibillion-dollar industry that contributes appreciably to GDP, the deployment and use of GIS technology has been slower than in the United States and Western Europe. By comparison with other Moroccan parastatal companies, such as the Office Chérifien des Phosphates (OCP), the Office National des Hydrocarbures et des Mines (ONHYM), Office National des Chemins de Fer (ONCF), etc., ONEP is relatively progressive in terms of GIS awareness and usage; it has a unit dedicated to GIS and a small but knowledgeable and experienced staff.

The U.S. export potential of an ONEP GIS initiative is difficult to calculate but is conservatively estimated at around US\$4 million. At the same time, it is believed that an ONEP "success story" with GIS implementation would generate considerable interest among ONEP's sister parastatals. In such case, and assuming that an additional three or four parastatals undertook similar GIS initiatives as a result, the U.S. export potential can be estimated at US\$16–20 million over a five-year period.

The proposed Technical Assistance would have substantial positive developmental impact, both for ONEP and for the larger Moroccan economy.

Successful performance of the TA will enable ONEP to carry out its responsibilities more effectively and efficiently. Particular benefits to ONEP include better data processing and management; reduced cost of data generation and utilization; improved forecasting, planning and decision-making; and improved internal and external communication.

For the Moroccan economy, the availability of powerful GIS technology and tools at ONEP will yield significant benefits as a result of optimization of the planning and management of national water/wastewater resources. In particular, it can be anticipated that the provision of potable water to rural areas which presently lack piped water supply will be greatly improved. This in turn will yield a number of indirect benefits, including reduced risk of water-borne diseases, reduction of labor required to fetch water (which currently falls disproportionately on women and children), and improved quality of life and economic opportunity in the countryside. Additionally, improvements to wastewater treatment facilities that accrue from improved planning and management will increase the supply of recycled water available for agriculture and for human consumption.

The DM Contractor believes that funding of the Technical Assistance on behalf of ONEP represents a good use of USTDA resources, and recommends that the Technical Assistance be funded at a budget level of \$385,876.

## **B. Project Description**

### **1. DEFINITIONAL MISSION BACKGROUND**

One purpose of the Definitional Mission (DM) was to evaluate the terms, feasibility and impact of a request for Technical Assistance made to USTDA by the Office National de l'Eau Potable (ONEP), the Moroccan agency that is responsible for the potable-water and wastewater sectors. ONEP is seeking to implement a so-called Geographic Information System (GIS) on an enterprise-wide scale. Effective water resource management requires an in-depth understanding of the location, timing and amount of water used, and GIS technology can provide an essential platform in which to analyze and display this type of information, to make better-informed decisions about management and allocation, and to improve long-range planning.

The DM Contractor was tasked with evaluating the technical, financial and economic aspects of the request in question; reporting the findings to USTDA; and recommending whether or not USTDA should support the request for a Technical Assistance (TA) or other activities on behalf of ONEP. In the event of an affirmative recommendation, the DM Contractor was to develop a budget and Terms of Reference (TOR) for the TA or other activities.

The DM Contractor conducted several interviews with ONEP personnel over the course of a two-week period in June 2008, and reviewed and revised a TOR initially proposed by the GIS Service of ONEP. As a result of these activities, the DM Contractor determined that an affirmative recommendation should indeed be made.

### **2. ONEP MISSION, RESPONSIBILITIES, ORGANIZATION AND ACTIVITIES**

Morocco is a semi-arid country where water resources are limited and decreasing – Morocco is believed to be losing about 10% of its water table each decade. As a developing country with a high birth rate, moreover, Morocco faces problems of increased water residue and difficulties in finding alternative solutions to protect the environment, to improve quality of life and to mitigate potential conflicts among people and groups who share water resources. Additionally, aquifers used for drinking water in many regions of Morocco have been found to be contaminated with high levels of nitrates, posing a serious health problem to the population of these regions.

ONEP is the Moroccan national public-sector agency responsible for production of about 80% of the country's potable water supply, as well as for wastewater treatment and recycling. ONEP's main strategic objectives and responsibilities are enumerated below:

***Main Strategic Objectives:***

- To ensure permanent and secure potable water supply in urban areas, and to strengthen and intensify the supply as may be required
- To ensure universal access to potable water in rural areas
- To overcome the current underdeveloped state of liquid-wastewater treatment

***Main Responsibilities:***

- Planning of potable water supply at the national level
- Production of potable water
- Distribution of potable water on behalf of local communities
- Management of liquid wastewater treatment on behalf of local communities
- Monitoring of water quality

In the area of urban water supply, ONEP is the country's principal producer of potable water, accounting for 80% of total production and covering the needs of 96% of the urban population. ONEP is also the largest single distributor, with some 1.2 million customers in 500 urban communities. In rural water supply, through a vigorous investment program ONEP has been able to provide access to potable water to some 86% of the rural population, although a relatively small proportion of these are served by direct-to-home indoor piping. Additionally, some 1 million rural inhabitants obtain their drinking water from communal wells, of which there are more than 3000 in the country.

ONEP also provides wastewater treatment to more than 40 urban communities with a total population in excess of 1.7 million.

From an organizational perspective, ONEP comprises: a headquarters in Rabat, which is home to 16 functional directorates (major administrative units); eight regional directorates<sup>1</sup>; and several dozen subdivisions, the larger ones of which are typically located in provincial capitals. As of 2006, the total number of ONEP employees was nearly 6800; total turnover was nearly MAD 3 billion, or US\$400 million; and the company registered a modest profit of MAD 134.1 million, or US\$18 million.

Until recently, ONEP has tended to manage the areas of urban water supply, rural water supply, and wastewater treatment as separate and unrelated areas. As water/wastewater management becomes increasingly more important in Morocco, the need on ONEP's part for an integrated, "enterprise-wide" approach is becoming increasingly evident. Geographic Information Systems (GIS) can provide the infrastructure and environment that will enable this integration to take place, while at the same time enabling better definition and modeling of local geographical features.

Geographic Information Systems (GIS) are computer-based information systems that are used to capture, model, manipulate, retrieve, analyze and present data that is geographically referenced. More specifically, they are database-management systems that can

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<sup>1</sup> The regional directorates are located in Agadir, Marrakesh, Khouribga, Kenitra, Fez, Oujda, Meknes and Laayoune. The last-named, the Direction des Provinces Sahariennes, is responsible for the disputed territory of Western Sahara, the Moroccan claims to which are not recognized by the United States.

simultaneously analyze information from heterogeneous sources, provided that this information is furnished with geographic location coordinates. They also permit the analysis of spatial associations between different dimensions, and discovery of patterns which would not be evident from analysis of the different dimensions themselves. They allow simultaneous analysis of variables which are observed at different levels; for instance, the interactions between objects extending over large areas (e.g., watersheds) and others confined to smaller zones (e.g., individual wells). Finally, they have predictive or "what-if?" capabilities – for example, it is clearly more desirable to model the effects of, say, drought or excessive rainfall in a particular geographic area, in order to gain insight into and anticipate future conditions, as opposed to simply waiting for such situations to occur.

ONEP believes that the main areas of its activity (organized somewhat differently from urban/rural/wastewater) which could derive the greatest benefit from a new, GIS-supported, unified approach to its activities are the following:

- Land usage as it applies to ONEP land (for example: land associated with treatment plants, ONEP pipeline rights-of-way)
- Water resources (technical and administrative data, quality, etc.)
- Watershed protection zones (both physical and environmental aspects)
- Drinking-water networks (production; rural drinking-water supply; urban distribution)
- Wastewater networks (including drinking-water purification plants)
- Commercial aspects (customer management, billing, etc.)

Collectively, these areas of activity span the entire territory of the country, an area of several hundred thousand square kilometers.

### 3. The ONEP GIS Initiative

A unit devoted to GIS, the Service SIG (GIS Service), was established at ONEP in 2002. It has been gradually expanding its resources and areas of application. Recently, the GIS Service acquired some basic GIS tools, including the ArcView software package supplied by the U.S. firm of ESRI (see below for more details), as well as some extensions and the development package known as ArcEditor. Within the ONEP organization, however, GIS is generally used within individual departments for limited purposes (e.g., map-making), so that the potential benefits have hardly begun to be realized, although general awareness of its potentialities is gradually increasing.

The GIS Service believes that full implementation of an integrated, enterprise-wide GIS solution would yield the following specific benefits:

- **Better data processing and management:** Centralization, linkage and management of a wide range of data types (satellite imagery, aerial photographs, maps, digitized data, property/resource/facility data, etc.), making it easier to access the data, to ensure greater data reliability, quality and integrity, to combine geographic data with socio-economic information, etc.
- **Reduced cost of data generation and utilization:** Avoidance of cost duplication through centralization of data resources; optimization of data collection, processing and integration; optimization of map production; reduced costs of data access and of deployment of new applications.

- **Improved forecasting, planning and decision-making:** Improvement of forecasting capabilities; ability to perform more complex supporting calculations involving multivariate spatial/temporal analysis; ability to run and analyze “what-if?” scenarios.
- **Improved communication:** Improved ability to conceptualize and comprehend situations and to formulate responses to them; creation of a common “language” to facilitate communication between field teams, administrative units, applications, decision-makers and partners; ability to present high-quality information more effectively to ONEP’s customers.

#### **4. The study objectives**

The objective of this technical assistance is to define and design the GIS-ONEP solution.

This includes:

- Definition of the detailed technical and organizational GIS architecture;
- Definition of job applications;
- Definition of support measures: training, maintenance, plan quality;
- Definition of information flow circuits;
- Definition and validation of hardware and software platform;
- Identification of prototypes and pilots projects to test the validity and the viability of the selected solutions;
- Budgets for such operations.

### **C. Developmental Impact**

#### **Primary Developmental Benefits**

Water plays a critical role in the Moroccan economy and in the quality of life of the citizenry. Availability of water is especially critical in the agricultural sector, which accounts for some 20% of Moroccan GDP. This is evident from a comparison of the statistics for 4Q 2007, a period of relative drought, versus the same period in 2006: agricultural revenues declined by 19.4%, compared with 23.7% growth the previous year. As a result, Morocco’s overall economic growth fell to 2.1% in the fourth quarter of 2007, from 8.1% in the same period in 2006.<sup>1</sup>

Moreover, the availability and ease of access of water generally, and of drinking-water in particular, is very unevenly distributed in Morocco. While in urban areas such as Casablanca and Rabat, 90% or more of households have access to piped water, in some rural areas, where water is scarce, access to roads is poor and villages are not closely grouped, the figure is as low as 20%. Lack of adequate drinking-water infrastructure has a number of serious social and economic consequences, for example:

- Women and children are compelled to engage in the labor of fetching water
- Use of untreated water increases the risk of infection by water-borne diseases
- Absence of prospects for improvement of drinking-water provision promotes migration from the countryside to the increasingly crowded cities

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<sup>1</sup> Data reported by the Haute Commission de Planification du Maroc.

Additionally, improvements to wastewater treatment facilities that accrue from improved planning and management will increase the supply of recycled water available for agriculture and for human consumption.

Accordingly, the developmental benefits associated with implementation of a system that enables more efficient management of, and better-grounded decision-making about, water resource allocation in Morocco are potentially very great.

In particular, successful completion of a suitably targeted Technical Assistance (TA) on behalf of ONEP, with the aim of planning the deployment and use of a Geographical Information System (GIS) for water resource management, would have a significant beneficial developmental impact for ONEP, for the Moroccan economy, and for the quality of life of the citizenry. Particular developmental benefits can be enumerated as follows:

- **Infrastructure:** The developmental benefits in terms of infrastructure would be not so much in the form of improved infrastructure as improved management of existing water-resource infrastructure and improved planning of new infrastructure. For example, GIS would provide much more accurate and systematized descriptions of watersheds, aquifers, treatment plants, pipeline systems, networks of communal wells, etc., than have heretofore been available, leading to improvements in the utilization and maintenance of such facilities. Additionally, GIS would greatly facilitate and simplify the planning and siting of new facilities such as pipeline networks.
- **Human Capacity Building:** In terms of the number of people involved, the initial direct capacity-building impact of the proposed TA will probably be confined to a group of perhaps 50–100 people within the ONEP organization, who deal with GIS either as implementers or developers or as major users. Once an enterprise-wide GIS capability was in place, however, the capacity-building effects would extend to a significant fraction of the ONEP workforce (perhaps 1000 people or more). In addition, a GIS “success story” at ONEP would almost certainly not go unnoticed by ONEP’s numerous sister organizations, as discussed in more detail below. Finally, it should be noted that ONEP has an extensive training program of international scope, in which numerous countries of francophone Sub-Saharan Africa, in particular, have participated; eventual inclusion of GIS within the training program would have very extensive capacity-building implications.
- **Technology Transfer:** GIS is a state-of-the-art technology whose use is becoming pervasive in the developed world, and whose benefits are widely acknowledged. In general, Morocco has been somewhat slow to deploy GIS; ONEP is somewhat of a visionary in this respect. The technology-transfer potential inherent in the proposed TA is considerable.
- **Market Oriented Reforms:** As a technical intervention on behalf of a state agency in Morocco, the proposed TA would not contribute significantly to market-oriented reforms. It can be suggested, however, that better management and planning of water resources could eventually lead to adoption of market-oriented practices, e.g., improved and more equitable water pricing policies.

Specific benefits to the ONEP organization were enumerated above (see Section B).

#### **D. Project Sponsor’s CAPABILITY AND Commitment**

The Service SIG (GIS Service) of ONEP is under the Direction Contrôle de Gestion et Systèmes d'Information (Directorate of Management Control and Information Systems) of ONEP, which in turn reports to the Direction Centrale / Pôle Financier (Financial Area of the Central Directorate). The staff of the Service SIG is relatively small but is very knowledgeable and experienced regarding the uses and applications of GIS; of particular relevance for the proposed TA, the Service SIG has a thorough understanding of GIS technology; a clear vision of the role that GIS can play in improving ONEP's ability to carry out its responsibilities; and an appreciation of the organizational issues that will need to be dealt with in order to ensure a successful internal migration to widespread use of GIS.

It is reported that senior management of ONEP is supportive of the proposed GIS initiative, but at the same time will be looking to the TA to confirm that the way forward proposed by the Service SIG is in fact a viable and appropriate one.

### **E. Implementation Financing**

As the principal supplier of potable water in a country with increasingly limited and unevenly distributed water resources and a growing population, ONEP has been making large and sustained investments in water/wastewater infrastructure. In 2006 ONEP's total investments amounted to MAD3.3 billion, or roughly US\$450 million, while the projected figure for 2007 was MAD5.37 billion, or more than US\$720 million. As is evident from Section F below, despite uncertainties in estimating the cost of implementing GIS in the ONEP environment, the overall cost is certainly less than 1% of ONEP's 2007 investment budget. Discussions with ONEP personnel indicated that, once the benefits of GIS have been quantified by the proposed TA, ONEP would not have a problem in principle in allocating the necessary resources for GIS implementation.

Additionally, it would appear that, to the extent that the GIS equipment is sourced from the U.S., the supplier would qualify for financing support through the U.S. Export-Import Bank (U.S. Ex-Im), which could enable the equipment to be procured under more favorable payment terms.

### **F. US Export Potential**

#### **General**

In Morocco, ICT has rapidly evolved into a multibillion-dollar industry that contributes appreciably to GDP. In part, the growth can be attributed to changes in underlying government policies, which have come to place high priority on ICT as an engine of economic growth, as well as on attracting and creating incentives for foreign direct investment. These policy shifts have resulted in major restructuring of the legal/regulatory regime, which in turn has yielded a number of positive outcomes, including:

- Greater private-sector participation and foreign investment in the sector;
- Increased competition in the provision of telecom and Internet-based services;

- Greater availability and ease of provision of basic and advanced services, as well as lower prices.

In addition, the Government of Morocco (GOM) has embarked on a number of initiatives targeting issues such as:

- Increasing the use of ICT across a wide variety of environments (e-government, e-commerce, e-learning, e-health, etc.);
- Attracting further foreign investment and know-how;
- Creating a domestic knowledge-based economy with corresponding resources and workforce.

These initiatives are embodied in particular in the so-called Contrat Progrès (Progress Contract) for the period 2006–2012. The Contrat Progrès seeks to optimize the prospects for developing a national, competitive and high-performance ICT industry. Specific objectives of the Contrat Progrès include achieving a turnover in the ICT sector of nearly US\$9 billion by 2012, a figure that represents roughly 10% of GDP.

These developments have created significant export opportunities for U.S. firms in the telecom and ICT sector. In Morocco, these opportunities have been additionally facilitated by the coming into effect, in 2006, of the Morocco-U.S. Free Trade Agreement (FTA), which eliminated customs duties on most U.S.-made ICT products, and also created a more favorable environment for players such as U.S. value-added service providers to enter the Moroccan market.

The U.S. Commercial Service regards Morocco is a very attractive location for U.S. investors, and estimates that more than 120 U.S. firms now have offices, factories, subsidiaries or joint ventures operating in Morocco. These include Alcatel/Lucent, Cisco, Compaq, 3Com, Dell, Hewlett-Packard, IBM, Microsoft, Motorola and Oracle, among others. Collectively, U.S. firms have invested more than US\$600 million and are reported to have created 90,000 direct and indirect jobs.

### **Estimation of U.S. Export Potential**

Estimation of the potential for U.S. exports that might result from successful completion of the TA on behalf of ONEP is problematic, for a number of reasons. In the first place, neither the particular architecture and configuration of the GIS solution nor the extent of its deployment within the ONEP organization – nor, obviously, the particular supplier or suppliers – are known at this time, since all these factors remain to be determined or clarified by the TA itself. Additional complications stem from the fact that, as discussed below, an ONEP “success story” as regards GIS deployment could have significant “knock-on” effects, particularly among ONEP’s sister parastatal organizations. At the same time, it needs to be borne in mind that the cost of GIS solutions is generally dropping, so that a system procured a few years in the future may cost substantially less than one acquired today.

Under the circumstances, the most appropriate way to seek to quantify the potential for U.S. exports is to resort to some fairly general assumptions about what a typical GIS deployment might consist of in a large organization with a GIS-intensive environment such as ONEP.

Generally speaking, GIS infrastructure consists of the following major elements:

- Database hardware and software (e.g., Oracle/Unix), including license fees
- GIS core hardware and software (servers, proprietary software products), including license fees
- Backup for the above, including Uninterrupted Power Supply (UPS), etc.
- GIS workstations and associated software
- User workstations
- Office peripherals (mainly high-end printers and plotters of various kinds, scanners, digital photographic equipment)
- Field-work peripherals (GPS devices, PDAs)
- Support for remote offices: Intranet/Web clients, office and networking software, firewalling, etc.
- Maintenance
- Training (which may include GIS training, database training, and/or GIS training)
- On-site consulting services
- Materials and consumables

An important category which is excluded from the above list is the underlying GIS-related data itself, which may be generated internally (e.g., from field observations or by digitizing existing sources such as maps), but is more likely to be acquired or purchased from other organizations. Studies have shown that the cost of acquiring and updating such data can be considerable, and may even represent the single largest cost item in a GIS implementation. However, since the other organizations from which ONEP will be obliged to acquire data are almost certainly going to be Moroccan ones, we can exclude this cost category from consideration, since it has no impact on U.S. export potential.

As our representative large organization, we will take a large multi-location organization with a total staff of a few thousand, a GIS department consisting of 20 analysts and support staff, and 20 locations around the country. We will further assume that (as in the case of ONEP) the organization has a pre-existing Intranet linking these locations, and, furthermore, that the addition of GIS-related applications to the existing Intranet will not create performance problems (an assumption which obviously has yet to be tested in the ONEP environment). Finally, we will assume that a full-blown GIS implementation is acquired all at once, so that the great majority of costs are incurred in Year 1 of implementation; in reality, a staged procurement over perhaps a five-year period is more likely.

Under these assumptions, the following rough estimate of GIS implementation cost in the organization in question can be developed:

Cost Category	Quantity	Unit Cost (x 000)	Total Cost (x 000)	One-time (O) or Annual (A)
Database hardware and software	2	\$600	\$1200	O
GIS core hardware and software	1	\$750	\$750	O
Backup	2	\$450	\$900	O

GIS workstations	20	\$10	\$200	O
User workstations	100	\$5	\$500	O
Office peripherals	20	\$10	\$150	O
Field-work peripherals	50	\$8	\$400	O
Support for remote offices	20	\$7.5	\$100	O
Maintenance	1	\$50	\$50	A
Training	3	\$30	\$90	O
On-site consulting services	5	\$15	\$75	O
Materials and consumables	1	\$10	\$10	A
		<b>Grand Total:</b>	<b>\$4425</b>	

As can be seen, the grand total cost is around US\$4.4 million; however, this figure represents only the first-year cost, without allowance for the ongoing cost of maintenance, materials and consumables, which adds another US\$240,000 if reckoned over a five-year period. Additionally, it can be assumed that some upgrading or expansion would be likely to occur in years 2-5, so that a grand total cost of US\$5 million seems reasonable.

Moreover, the majority of the cost categories cover items that could be sourced from the United States. The possible exceptions are the user workstations, some of the office peripherals (although here as well, there are potential U.S. sources of supply), and recurring-cost items such as maintenance and materials and consumables, which could be supplied locally. Collectively, these items account for some US\$1 million of the total, so that the U.S. export potential for our hypothetical representative large organization can be estimated at US\$4 million over a five-year period.

However, ONEP is only one of more than 20 large parastatal companies in Morocco, most of which have similar needs for GIS solutions, although of course the various applications that would be supported differ from those in the ONEP environment. The other parastatals include the Office Chérifien des Phosphates (OCP), the national phosphates company, which is the world's largest exporter of phosphates and derivatives; the Office National des Hydrocarbures et des Mines (ONHYM), which deals with oil and gas and mining resources; the national railway company Office National des Chemins de Fer (ONCF); the national electricity company (ONE); and so forth. It is believed that an ONEP "success story" with GIS implementation would generate considerable interest among these sister companies. Assuming this to be the case, and assuming that an additional three or four parastatals undertook similar GIS initiatives as a result, the U.S. export potential would increase to US\$16-20 million over the five-year period under consideration.

It may be added that ONEP has an extensive training program of international scope, in which numerous countries of francophone Sub-Saharan Africa, in particular, have participated. Eventual inclusion of GIS in water-resource management in the training program would have additional "knock-on" effects that would create further opportunities for U.S. exports. However, it is not possible to quantify these long-term indirect opportunities.

## Potential U.S. Suppliers

U.S. suppliers are exceptionally strong in the field of GIS technology and solutions. A privately held U.S. company, ESRI, dominates the field and is a *de facto* worldwide standards-setter for GIS applications, ESRI is believed to account for 60–70% of the total worldwide market for GIS software. ESRI, headquartered in Redlands, CA, claims a customer base of more than 300,000 organizations worldwide, including most U.S. federal government agencies and national mapping agencies; 45 of the top 50 petroleum companies; and some 24,000 state and local governments. Reported company revenues (2006) were in excess of US\$660 million.

ESRI has subsidiary offices in numerous foreign countries; in Morocco, ESRI works through a distributor, Geomatic, which is based in Casablanca.

ESRI has its own proprietary water-resource management software package, known as ArcHydro. In addition, ESRI partners with a wide range of companies to offer specialized solutions and services. For example, in just the area of water/wastewater management alone, ESRI has partnering arrangements of this type with nearly 100 companies.

As previously mentioned, ONEP has already acquired a limited number of ESRI products, and reportedly has a good opinion of them. Thus ONEP is already well disposed for follow-on sales of ESRI or ESRI partner products.

Some of the better-known U.S. companies offering integrated GIS solutions in the area of water/wastewater management include:

- **Azteca Systems, Inc.:** A Utah-based company that specializes in public-works applications of GIS, and has developed a GIS-based asset-management software package known as Cityworks.
- **Black and Veatch:** A large Atlanta-based consulting firm with a focus on GIS-based asset management, process automation, and SCADA applications
- **Oracle:** Oracle has a database-management package known as Oracle Utilities with well-developed GIS capabilities

Additionally, there are many U.S.-based suppliers of highly specialized GIS products for water/wastewater management and allied applications.

## G. Foreign Competition

As previously noted, the U.S. dominates the market for GIS products and services. However, GIS is a multi-billion-dollar industry worldwide, and correspondingly there is significant foreign competition in virtually every aspect of the market. Additionally, it should be noted that Morocco has long-standing ties with France, and increasingly with countries of the European Union (EU). Four EU-based companies in particular have been identified as likely competitors on the Moroccan GIS market:

- **GeoConcept S.A.:** Founded in 1990 and headquartered in Paris, GeoConcept S.A. specializes in the design and implementation of cartographic optimization technologies based on its proprietary GIS solution. GeoConcept claims more than 10,000 customers and

has 95,000 licenses in 30 countries. It has not been possible to establish whether the company is active in Morocco..

- **Wallingford Software:** A U.K.-based company specializing in water resource management software (the so-called InfoWorks package), that is extensively used in the U.K., Europe, a number of Middle Eastern countries (Jordan, Kuwait, Abu Dhabi), and Anglophone countries of Sub-Saharan Africa, as well as the U.S. and Mexico. At present, however, the company is not believed to be active in Morocco.
- **DHI:** A Danish technology-development and consulting firm, which like Wallingford has developed proprietary water-management software (known as MIKE).
- **Eptisa:** A large Spanish engineering and consulting firm with an Information Technology division that specializes in GIS solutions.

Additionally, it should be noted that some of the nonspecialized equipment used in GIS implementations, such as user workstations and peripherals (printers, plotters, scanners and digital photographic equipment, and GPS devices) could in principle be procured from a large number of European and Asian manufacturers in addition to American ones.

## **H. Impact on the Environment**

As a project whose principal focus is Information Technology and whose main activities involve technical assistance and consulting, the recommended TA is not expected to have any measurable environmental impact. The eventual benefits to the environment from implementation of the ONEP-GIS project, as a result of a more integrated and holistic approach to water resource management on a national scale, better definition and allocation of scarce water resources, etc., could be substantial.

## **I. Impact on US Labor**

The "Impact on US Labor" Statement reads as follows:

"The Foreign Operations, Export Financing and Related Programs Appropriations legislation restricts U.S. foreign assistance from being used to provide: (a) any financial incentive to a business enterprise currently located in the United States for the purpose of inducing such an enterprise to relocate outside the United States if such incentive or inducement is likely to reduce the number of employees of such business enterprise in the United States because United States production is being replaced by such enterprise outside the United States; (b) assistance for the purpose of establishing or developing in a foreign country any export processing zone or designated area in which the tax, tariff, labor, environment, and safety laws of that country do not apply, in part or in whole, to activities carried out within that zone or area; (c) assistance for any project or activity that contributes to the violation of internationally recognized workers rights; and (d) direct assistance for establishing or expanding production of any commodity for export by any country other than the United States, if the commodity is likely to be in surplus on world markets at the time the resulting productive capacity is expected to become

operative and if the assistance will cause substantial injury to United States producers of the same, similar, or competing commodity.”

There is nothing in the proposed Technical Assistance to indicate any likely breach of the above conditions.

### **K. Justification**

The proposed Technical Assistance can be justified on the basis of its substantial positive developmental impact, both for ONEP and for the larger Moroccan economy.

ONEP is the Moroccan national agency tasked with provisioning of a critical national resource, namely potable water. Successful performance of the TA will enable ONEP to carry out its responsibilities more effectively and efficiently. Particular benefits to ONEP include better data processing and management; reduced cost of data generation and utilization; improved forecasting, planning and decision-making; and improved internal and external communication.

For the Moroccan economy, the availability of powerful GIS systems and tools at ONEP will yield significant benefits as a result of optimization of the planning and management of national water resources. In particular, it can be anticipated that the provision of potable water to rural areas which presently lack piped water supply will be greatly improved. This in turn will yield a number of indirect benefits, including reduced risk of water-borne diseases, reduction of labor required to fetch water (which currently falls disproportionately on women and children), and improved quality of life and economic opportunity in the countryside. Additionally, improvements to wastewater treatment facilities that accrue from improved planning and management will increase the supply of recycled water available for agriculture and for human consumption.

Accordingly, the DM Contractor believes that funding of the TA on behalf of ONEP represents a good use of USTDA resources.

**ANNEX 3**



**U.S. TRADE AND DEVELOPMENT AGENCY  
Arlington, VA 22209-2131**

**NATIONALITY, SOURCE, AND ORIGIN REQUIREMENTS**

The purpose of USTDA's nationality, source, and origin requirements is to assure the maximum practicable participation of American contractors, technology, equipment and materials in the prefeasibility, feasibility, and implementation stages of a project.

**USTDA STANDARD RULE (GRANT AGREEMENT STANDARD LANGUAGE):**

Except as USTDA may otherwise agree, each of the following provisions shall apply to the delivery of goods and services funded by USTDA under this Grant Agreement: (a) for professional services, the Contractor must be either a U.S. firm or U.S. individual; (b) the Contractor may use U.S. subcontractors without limitation, but the use of subcontractors from host country may not exceed twenty percent (20%) of the USTDA Grant amount and may only be used for specific services from the Terms of Reference identified in the subcontract; (c) employees of U.S. Contractor or U.S. subcontractor firms responsible for professional services shall be U.S. citizens or non-U.S. citizens lawfully admitted for permanent residence in the U.S.; (d) goods purchased for implementation of the Study and associated delivery services (e.g., international transportation and insurance) must have their nationality, source and origin in the United States; and (e) goods and services incidental to Study support (e.g., local lodging, food, and transportation) in host country are not subject to the above restrictions. USTDA will make available further details concerning these standards of eligibility upon request.

**NATIONALITY:**

1) Rule

Except as USTDA may otherwise agree, the Contractor for USTDA funded activities must be either a U.S. firm or a U.S. individual. Prime contractors may utilize U.S.

subcontractors without limitation, but the use of host country subcontractors is limited to 20% of the USTDA grant amount.

## 2) Application

Accordingly, only a U.S. firm or U.S. individual may submit proposals on USTDA funded activities. Although those proposals may include subcontracting arrangements with host country firms or individuals for up to 20% of the USTDA grant amount, they may not include subcontracts with third country entities. U.S. firms submitting proposals must ensure that the professional services funded by the USTDA grant, to the extent not subcontracted to host country entities, are supplied by employees of the firm or employees of U.S. subcontractor firms who are U.S. individuals.

Interested U.S. firms and consultants who submit proposals must meet USTDA nationality requirements as of the due date for the submission of proposals and, if selected, must continue to meet such requirements throughout the duration of the USTDA-financed activity. These nationality provisions apply to whatever portion of the Terms of Reference is funded with the USTDA grant.

## 3) Definitions

A "U.S. individual" is (a) a U.S. citizen, or (b) a non-U.S. citizen lawfully admitted for permanent residence in the U.S. (a green card holder).

A "U.S. firm" is a privately owned firm which is incorporated in the U.S., with its principal place of business in the U.S., and which is either (a) more than 50% owned by U.S. individuals, or (b) has been incorporated in the U.S. for more than three (3) years prior to the issuance date of the request for proposals; has performed similar services in the U.S. for that three (3) year period; employs U.S. citizens in more than half of its permanent full-time positions in the U.S.; and has the existing capability in the U.S. to perform the work in question.

A partnership, organized in the U.S. with its principal place of business in the U.S., may also qualify as a "U.S. firm" as would a joint venture organized or incorporated in the United States consisting entirely of U.S. firms and/or U.S. individuals.

A nonprofit organization, such as an educational institution, foundation, or association may also qualify as a "U.S. firm" if it is incorporated in the United States and managed by a governing body, a majority of whose members are U.S. individuals.

## **SOURCE AND ORIGIN:**

### 1) Rule

In addition to the nationality requirement stated above, any goods (e.g., equipment and materials) and services related to their shipment (e.g., international transportation and insurance) funded under the USTDA Grant Agreement must have their source and origin in the United States, unless USTDA otherwise agrees. However, necessary purchases of goods and project support services which are unavailable from a U.S. source (e.g., local food, housing and transportation) are eligible without specific USTDA approval.

### 2) Application

Accordingly, the prime contractor must be able to demonstrate that all goods and services purchased in the host country to carry out the Terms of Reference for a USTDA Grant Agreement that were not of U.S. source and origin were unavailable in the United States.

### 3) Definitions

“Source” means the country from which shipment is made.

“Origin” means the place of production, through manufacturing, assembly or otherwise.

*Questions regarding these nationality, source and origin requirements may be addressed to the USTDA Office of General Counsel.*

ANNEX 4

## GRANT AGREEMENT

This Grant Agreement is entered into between the Government of the United States of America, acting through the U.S. Trade and Development Agency ("USTDA") and Office National de l'Eau Potable (the Moroccan Office of Potable Water) ("Grantee" or "ONEP"). USTDA agrees to provide the Grantee under the terms of this Agreement US\$385,876 ("USTDA Grant") to fund the cost of goods and services required for a technical assistance ("TA") on the proposed ONEP Geographic Information System (GIS) ("Project") in Morocco ("Host Country").

### 1. USTDA Funding

The funding to be provided under this Grant Agreement shall be used to fund the costs of a contract between the Grantee and the U.S. firm selected by the Grantee ("Contractor") under which the Contractor will perform the TA ("Contract"). Payment to the Contractor will be made directly by USTDA on behalf of the Grantee with the USTDA Grant funds provided under this Grant Agreement.

### 2. Terms of Reference

The Terms of Reference for the TA ("Terms of Reference") are attached as Annex I and are hereby made a part of this Grant Agreement. The TA will examine the technical, financial, environmental, and other critical aspects of the proposed Project. The Terms of Reference for the TA shall also be included in the Contract.

### 3. Standards of Conduct

USTDA and the Grantee recognize the existence of standards of conduct for public officials, and commercial entities, in their respective countries. The parties to this Grant Agreement and the Contractor shall observe these standards, which include not accepting payment of money or anything of value, directly or indirectly, from any person for the purpose of illegally or improperly inducing anyone to take any action favorable to any party in connection with the TA.

### 4. Grantee Responsibilities

The Grantee shall undertake its best efforts to provide reasonable support for the Contractor, such as local transportation, office space, and secretarial support.

## **5. USTDA as Financier**

### **(A) USTDA Approval of Competitive Selection Procedures**

Selection of the U.S. Contractor shall be carried out by the Grantee according to its established procedures for the competitive selection of contractors with advance notice of the procurement published online through *Federal Business Opportunities* ([www.fedbizopps.gov](http://www.fedbizopps.gov)). Upon request, the Grantee will submit these contracting procedures and related documents to USTDA for information and/or approval.

### **(B) USTDA Approval of Contractor Selection**

The Grantee shall notify USTDA at the address of record set forth in Article 17 below upon selection of the Contractor to perform the TA. Upon approval of this selection by USTDA, the Grantee and the Contractor shall then enter into a contract for performance of the TA. The Grantee shall notify in writing the U.S. firms that submitted unsuccessful proposals to perform the TA that they were not selected.

### **(C) USTDA Approval of Contract Between Grantee and Contractor**

The Grantee and the Contractor shall enter into a contract for performance of the TA. This contract, and any amendments thereto, including assignments and changes in the Terms of Reference, must be approved by USTDA in writing. To expedite this approval, the Grantee (or the Contractor on the Grantee's behalf) shall transmit to USTDA, at the address set forth in Article 17 below, a photocopy of an English language version of the signed contract or a final negotiated draft version of the contract.

### **(D) USTDA Not a Party to the Contract**

It is understood by the parties that USTDA has reserved certain rights such as, but not limited to, the right to approve the terms of the contract and any amendments thereto, including assignments, the selection of all contractors, the Terms of Reference, the Final Report, and any and all documents related to any contract funded under the Grant Agreement. The parties hereto further understand and agree that USTDA, in reserving any or all of the foregoing approval rights, has acted solely as a financing entity to assure the proper use of United States Government funds, and that any decision by USTDA to exercise or refrain from exercising these approval rights shall be made as a financier in the course of funding the TA and shall not be construed as making USTDA a party to the contract. The parties hereto understand and agree that USTDA may, from time to time, exercise the foregoing approval rights, or discuss matters related to these rights and the Project with the parties to the contract or any subcontract, jointly or separately, without thereby incurring any responsibility or liability to such parties. Any approval or failure to approve by USTDA shall not bar the Grantee or USTDA from asserting any right they might have against the

Contractor, or relieve the Contractor of any liability which the Contractor might otherwise have to the Grantee or USTDA.

**(E) Grant Agreement Controlling**

Regardless of USTDA approval, the rights and obligations of any party to the contract or subcontract thereunder must be consistent with this Grant Agreement. In the event of any inconsistency between the Grant Agreement and any contract or subcontract funded by the Grant Agreement, the Grant Agreement shall be controlling.

**6. Disbursement Procedures**

**(A) USTDA Approval of Contract Required**

USTDA will make disbursements of Grant funds directly to the Contractor only after USTDA approves the Grantee's contract with the Contractor.

**(B) Contractor Invoice Requirements**

The Grantee should request disbursement of funds by USTDA to the Contractor for performance of the TA by submitting invoices in accordance with the procedures set forth in the USTDA Mandatory Clauses in Annex II.

**7. Effective Date**

The effective date of this Grant Agreement ("Effective Date") shall be the date of signature by both parties or, if the parties sign on different dates, the date of the last signature.

**8. TA Schedule**

**(A) TA Completion Date**

The completion date for the TA, which is, December 31, 2010 is the date by which the parties estimate that the TA will have been completed.

**(B) Time Limitation on Disbursement of USTDA Grant Funds**

Except as USTDA may otherwise agree, (a) no USTDA funds may be disbursed under this Grant Agreement for goods and services which are provided prior to the Effective Date of the Grant Agreement; and (b) all funds made available under the Grant Agreement must be disbursed within four (4) years from the Effective Date of the Grant Agreement.

## **9. USTDA Mandatory Clauses**

All contracts funded under this Grant Agreement shall include the USTDA mandatory clauses set forth in Annex II to this Grant Agreement. All subcontracts funded or partially funded with USTDA Grant funds shall include the USTDA mandatory clauses, except for clauses B(1), G, H, I, and J.

## **10. Use of U.S. Carriers**

### **(A) Air**

Transportation by air of persons or property funded under the Grant Agreement shall be on U.S. flag carriers in accordance with the Fly America Act, 49 U.S.C. 40118, to the extent service by such carriers is available, as provided under applicable U.S. Government regulations.

### **(B) Marine**

Transportation by sea of property funded under the Grant Agreement shall be on U.S. carriers in accordance with U.S. cargo preference law.

## **11. Nationality, Source and Origin**

Except as USTDA may otherwise agree, the following provisions shall govern the delivery of goods and services funded by USTDA under the Grant Agreement: (a) for professional services, the Contractor must be either a U.S. firm or U.S. individual; (b) the Contractor may use U.S. subcontractors without limitation, but the use of subcontractors from Host Country may not exceed twenty percent (20%) of the USTDA Grant amount and may only be used for specific services from the Terms of Reference identified in the subcontract; (c) employees of U.S. Contractor or U.S. subcontractor firms responsible for professional services shall be U.S. citizens or non-U.S. citizens lawfully admitted for permanent residence in the U.S.; (d) goods purchased for performance of the TA and associated delivery services (e.g., international transportation and insurance) must have their nationality, source and origin in the United States; and (e) goods and services incidental to TA support (e.g., local lodging, food, and transportation) in Host Country are not subject to the above restrictions. USTDA will make available further details concerning these provisions upon request.

## **12. Taxes**

USTDA funds provided under the Grant Agreement shall not be used to pay any taxes, tariffs, duties, fees or other levies imposed under laws in effect in Host Country. Neither the Grantee nor the Contractor will seek reimbursement from USTDA for such taxes, tariffs, duties, fees or other levies.

### **13. Cooperation Between Parties and Follow-Up**

The parties will cooperate to assure that the purposes of the Grant Agreement are accomplished. For five (5) years following receipt by USTDA of the Final Report (as defined in Clause I of Annex II), the Grantee agrees to respond to any reasonable inquiries from USTDA about the status of the Project.

### **14. Implementation Letters**

To assist the Grantee in the implementation of the TA, USTDA may, from time to time, issue implementation letters that will provide additional information about matters covered by the Grant Agreement. The parties may also use jointly agreed upon implementation letters to confirm and record their mutual understanding of matters covered by the Grant Agreement.

### **15. Recordkeeping and Audit**

The Grantee agrees to maintain books, records, and other documents relating to the TA and the Grant Agreement adequate to demonstrate implementation of its responsibilities under the Grant Agreement, including the selection of contractors, receipt and approval of contract deliverables, and approval or disapproval of contractor invoices for payment by USTDA. Such books, records, and other documents shall be separately maintained for three (3) years after the date of the final disbursement by USTDA. The Grantee shall afford USTDA or its authorized representatives the opportunity at reasonable times to review books, records, and other documents relating to the TA and the Grant Agreement.

### **16. Representation of Parties**

For all purposes relevant to the Grant Agreement, the Government of the United States of America will be represented by the U. S. Ambassador to Host Country or USTDA and Grantee will be represented by the Director General of the Office National de l'Eau Potable. The parties hereto may, by written notice, designate additional representatives for all purposes under the Grant Agreement.

### **17. Addresses of Record for Parties**

Any notice, request, document, or other communication submitted by either party to the other under the Grant Agreement shall be in writing or through a wire or electronic medium which produces a tangible record of the transmission, such as a telegram, cable or facsimile, and will be deemed duly given or sent when delivered to such party at the following:

To: Dr. Asma El Kasmi  
International Cooperation  
Office National de l'Eau Potable

Station de Traitement Avenue Mohamed  
Belhassan El Ouazzani  
B.P. Rabat-Chellah 10002

Phone: (212) 37 75 96 00  
Fax: (212) 37 75 91 06

To: U.S. Trade and Development Agency  
1000 Wilson Boulevard, Suite 1600  
Arlington, Virginia 22209-3901  
USA

Phone: (703) 875-4357  
Fax: (703) 875-4009

All such communications shall be in English, unless the parties otherwise agree in writing. In addition, the Grantee shall provide the Commercial Section of the U.S. Embassy in Host Country with a copy of each communication sent to USTDA.

Any communication relating to this Grant Agreement shall include the following fiscal data:

Appropriation No.:118/91001  
Activity No.: 2008-21025A  
Reservation No.:2008210039  
Grant No.: GH 2008210011

#### **18. Termination Clause**

Either party may terminate the Grant Agreement by giving the other party thirty (30) days advance written notice. The termination of the Grant Agreement will end any obligations of the parties to provide financial or other resources for the TA, except for payments which they are committed to make pursuant to noncancellable commitments entered into with third parties prior to the written notice of termination.

**19. Non-waiver of Rights and Remedies**

No delay in exercising any right or remedy accruing to either party in connection with the Grant Agreement shall be construed as a waiver of such right or remedy.

**20. U.S. Technology and Equipment**

By funding this TA, USTDA seeks to promote the project objectives of the Host Country through the use of U.S. technology, goods, and services. In recognition of this purpose, the Grantee agrees that it will allow U.S. suppliers to compete in the procurement of technology, goods and services needed for Project implementation.

**[THE REMAINDER OF THIS PAGE IS INTENTIONALLY LEFT BLANK]**

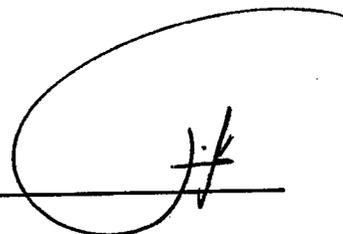
IN WITNESS WHEREOF, the Government of the United States of America and the Office National de l'Eau Potable, each acting through its duly authorized representative, have caused this Agreement to be signed in the English language in their names and delivered as of the day and year written below. In the event that this Grant Agreement is signed in more than one language, the English language version shall govern.

For the Government of the  
United States of America

By: 

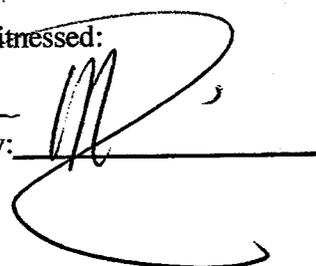
Date: Aug. 29, 2008

For the Office National de l'Eau Potable

By: 

Date: Aug 29, 2008

Witnessed:

By: 

Witnessed:

By: 

Annex I -- Terms of Reference

Annex II -- USTDA Mandatory Clauses

## Annex I

### Terms of Reference

#### **Task 1: Assessment of the Current Situation**

Contractor personnel shall travel to Morocco to hold meetings with ONEP personnel at ONEP headquarters in Rabat and at one other ONEP location (regional office) in Morocco. In collaboration with the staff of the GIS Service, Contractor shall carry out the following activities:

- Evaluate steps already undertaken by ONEP as regards GIS.
- Validate and supplement the descriptions and definitions of the ONEP "lines of business" (métiers) that will be impacted by GIS deployment, in particular:
  - Land usage as it applies to ONEP land (which may be either social or technical)
  - Water resources (technical and administrative data, quality, etc.)
  - Watershed protection zones (physical and environmental)
  - Drinking-water networks (production; rural drinking-water supply; urban distribution)
  - Wastewater networks (including drinking-water purification plants)
  - Commercial aspects
- Define the required GIS functionality by line of business
- Provide a detailed identification of the geographical data required by each line of business, as well as the source and manner of acquisition of this data (which may be either formal or informal)
- Assess the geographical data produced by each line of business, with particular attention to quantity, quality, usage, manner of acquisition, database objects, structure, format, coverage, and availability
- Evaluate the current manner of dissemination and circulation of all data that could be appropriately incorporated into ONEP-GIS
- Assess existing applications at ONEP (whether GIS-related or otherwise) that could be appropriately incorporated into ONEP-GIS
- Assess the reference systems and nomenclature in use at ONEP
- Identify possible constraints on the implementation of ONEP-GIS
- Evaluate possible overlap, or synergies, between ONEP-GIS and existing ONEP information systems, and the impact of these on the two systems and on ONEP itself
- Evaluate the manner of co-existence of the information systems, and any necessary prerequisites

At the Contractor's request, ONEP will assist with the organization of meetings with other pertinent Moroccan organizations (in particular, organizations that are sources of geographic information).

**Deliverable:** The Contractor shall provide an Inception Report describing the results of the above activities.



## **Task 2: Functional Partitioning**

The Contractor shall develop a documented definition of the target ONEP-GIS system that corresponds to ONEP's needs. In particular, the Contractor shall:

- Determine the functional boundaries of ONEP-GIS
- Determine the functional structure and organizational scheme for the system
- Describe the possible interactions of the proposed solution with existing systems at ONEP
- Develop a "road map" for an evolutionary implementation of ONEP-GIS, as well as a preliminary estimate of the required resources (material, financial, human) for implementation

**Deliverable:** The Contractor shall provide the following: 1) A descriptive document that details the general and specific system requirements (high-level functional description), including functional boundaries and interactions with existing systems, 2) the "road map" for evolutionary implementation as described above.

## **Task 3: On-Site Workshop**

The Contractor shall prepare and conduct an on-site Workshop (journée technique), to include the following:

- An overview of the activities carried out in the course of Tasks 1 and 2
- An overview of the prerequisites for implementation of ONEP-GIS

The Workshop shall be conducted in French. Workshop materials prepared by the Contractor (e.g., PowerPoint presentations, handouts) shall be made available in French and English and shall be submitted to ONEP for review and approval prior to the Workshop, sufficiently in advance to allow time for incorporation of any recommended changes. ONEP shall provide the venue and any required audio-visual support (e.g., projector) for the Workshop.

At the discretion of ONEP, the Workshop may be conducted in two sessions: 1) an "Executive" session for ONEP senior management; 2) a "General" session for interested ONEP staff and (subject to agreement with ONEP) for outside stakeholders.

## **Task 4: Definition of the ONEP-GIS Solution**

The Contractor shall carry out the following activities:

- Develop a proposal for an adequate and appropriate functional partitioning of ONEP-GIS into independent and/or complementary elements
- Define a general ONEP-GIS architecture, including definition of each of the major elements of the structures, the databases and the corresponding ONEP entities, and the relationships among the elements
- Define the various GIS line-of-business applications to be developed, with attention to the following aspects: objects, consistency, functionality list, ONEP



line of business involved, necessary baseline data, tools, technical modeling requirements

- Define the technical and organizational procedures required to connect and integrate the applications in question within the ONEP-GIS environment
- Evaluate line-of-business solutions (i.e., GIS tools and applications) currently available at ONEP, and of possible procedures for integrating these applications and/or application data into ONEP-GIS

**Deliverable:** The Contractor shall produce an ONEP-GIS Solution Report covering the areas described above.

### **Task 5: Functional and Model Definition**

Task 5 consists of two related sub-tasks, as described below.

#### ***Sub-Task 5a: Functional Definition***

The Contractor shall carry out the following activities:

- Translate the requirements elaborated in Task 2 into specifications of technical functionality, in particular into a form of a requirements/specifications summary matrix, in which general requirements and line-of-business- or application-specific requirements are segregated to the extent practicable
- Define the mandatory technical characteristics a GIS solution must exhibit to meet ONEP's requirements
- Describe the characteristics and minimum quantities of the hardware elements necessary to install and operate the GIS
- Define the general software architecture to be implemented, including general organization, modules and manner of operation
- Define the human resources and training requirements for implementation, that will be required for the development and subsequent operation of ONEP-GIS
- Develop a proposal for the various modes of organization of the GIS data and for establishment of links between alphanumeric and graphic data to enable the ONEP system to accommodate possible evolution to other relevant GIS technologies
- Provide an analysis of at least three GIS solutions that meet ONEP's requirements. Particular attention should be paid to users needs as well as supplier experience and track record when choosing the three solutions to analyze. The selected GIS solution will be agreed upon by ONEP and the Contractor; preference should be given to U.S.-based suppliers.

#### ***Sub-Task 5b: Demonstration Model Definition***

The Contractor shall define a demonstration model that will make it possible to compare different GIS products/solutions on the basis of criteria predefined in Task 1 by ONEP. This sub-task shall include the definition of:

- The technical terms of reference of the model, including (but not necessarily limited to): the principal technical and functional elements; required interfaces (alphanumeric and graphic import/export capabilities); detailed descriptions of the



data manipulations to be performed; required system response time and performance, in order to be able to conduct an effective comparative evaluation of GIS products/solutions available on the market.

- The data sample on which the model should be run
- The selection criteria which will enable selection of the GIS products/solutions best suited to the ONEP environment, including a compliance matrix and associated rationale.

**Deliverable:** The Contractor shall produce a Report covering the areas described above.

### **Task 6: Implementation Planning**

The Contractor shall carry out the following activities:

- Elaborate an ONEP-GIS Development Plan, of which the principal elements are as follows:
  - Preparation, by line-of-business application, of detailed technical specifications (including a narrative description of the goals and objectives, the analyses and development activities to be carried out, hardware and software to be procured, training requirements, etc.)
  - For existing line-of-business GIS solutions, the technical and organizational activities to be carried out in order to integrate them and/or migrate them toward ONEP-GIS
  - Definition of the manner of data provisioning for the ONEP-GIS system, by type of data: procedures, baseline data to be prepared, automation of integration and updating, etc.
  - Definition of data exchange / data manipulation operations that may be required (if any)
  - Define planning phases and provisional timeframes, with a hierarchical specification of the various stages and implementations (global and specific)
  - Required acceptance testing on the part of ONEP for each of the stages and line-of-business applications, in order to ensure that what is provided conforms to the predefined requirements
  - Definition of required support activities to ensure successful installation of the system (such as training and organization activities)
  - Recommendation of a maintenance strategy for ONEP-GIS, including its general profile and duration
  - Recommendation of a plan for communicating the operation of the system to ONEP personnel
- Elaborate an ONEP-GIS Quality Plan, comprising primarily the rules to be observed in the course of development and installation of ONEP-GIS, and including (but not necessarily limited to) the following:
  - The resources to be put in place to track and monitor the project
  - Standards to be used for application development, documentation, meeting reports, etc.
  - Procedures to be used for:



- Delivery, commissioning and operation of ONEP-GIS
- Validation of GIS input data and of GIS cartographic output data
- Equipment support and maintenance
- A recommendation for an ad hoc monitoring structure for the solution
- Elaborate an ONEP-GIS Financing Plan, to include detailed estimates for the costs and expenses required for ONEP-GIS implementation, such as (to the extent practicable) the estimated cost of:
  - each stage or application
  - data retrieval
  - ongoing operation, maintenance and consumables

**Deliverable:** The Contractor shall provide a report containing the ONEP-GIS Development, Quality and Financing Plans as described above.

**Task 7: Environmental and Developmental Impact Assessment**

Task 7 consists of two sub-tasks, as follows:

***Sub-Task 7a: Environmental Impact Assessment***

The Contractor shall perform a preliminary review of the anticipated impact of the ONEP-GIS project on the environment, with particular reference to compliance with any applicable Moroccan or multilateral lending-agency requirements. In the event that the review identifies any potential negative impacts, the Contractor shall discuss the extent to which they can be mitigated, and shall develop plans for a full environmental impact assessment if and when the project moves forward to the implementation stage. In particular, the Contractor shall identify any steps that ONEP will need to undertake subsequent to the completion of the Contractor's activities and prior to project implementation.

***Sub-Task 7b: Analysis of Key Host Country Development Impacts***

With a view to providing the ONEP-GIS project's decision-makers and interested parties with a broader view of the project's potential effects on the host country, the Contractor shall conduct an analysis of key development impacts of the project, with particular reference to the following aspects:

- ***Infrastructure:*** How the Technical Assistance will result in improvements to and/or increased investment in drinking-water and wastewater infrastructure
- ***Human Capacity Building:*** Skills development and/or additional employment that will be generated within the ONEP environment and elsewhere
- ***Technology Transfer and Productivity Improvement:*** Identification of new recommended technologies deployed in conjunction with the project, and specific technology or knowledge transfer that will take place thereby
- ***Market-Oriented Reform:*** Identification of any market-oriented reforms that will be achieved as a result of the Technical Assistance, which could include improved competition; better market entry to new investment; more equitable consumer pricing policies; etc.



The analysis shall focus on likely developmental impact if the ONEP-GIS project is implemented according to the Contractor's recommendations. While specific attention shall be paid to the immediate impact of the project, analysis shall include any additional developmental benefits that may result from the project's implementation, including spin-off and demonstration effects.

**Deliverable:** The Contractor shall prepare a report containing the Environmental Impact Assessment and Developmental-Impact Analysis as described above.

**Task 8: On-Site Seminar**

The Contractor shall prepare and conduct an On-Site Seminar to communicate the results of the above activities (actions taken, results, recommendations for operation, next steps), as well as the results of planning of ONEP-GIS implementation and of the roles and responsibilities of the various stakeholders.

The Seminar shall be conducted in French. Seminar materials prepared by the Contractor (e.g., PowerPoint presentations, handouts) shall be made available in French and in English and shall be submitted to ONEP for review and approval prior to the Workshop, sufficiently in advance to allow time for incorporation of any recommended changes. ONEP shall provide the venue and any required audio-visual support (e.g., projector) for the Seminar.

At the discretion of ONEP, the Seminar may be conducted in two sessions: 1) an "Executive" session for ONEP senior management; 2) a "General" session for interested ONEP staff and (subject to agreement with ONEP) for outside stakeholders.

**Task 9: Draft and Final Reports**

The Contractor shall prepare Draft and Final Reports for submission to ONEP. ONEP shall be given adequate time to review the Draft Report and to propose modifications or amendments (if any) for incorporation into the Final Report.

The Contractor shall prepare and deliver to the Grantee and USTDA a substantive and comprehensive final report of all work performed under these Terms of Reference ("Final Report"). The Final Report shall be organized according to the above tasks, including all training materials, and shall include all deliverables and documents that have been provided to the Grantee. In particular, the Final Report shall summarize the findings and recommendations and shall present the ONEP-GIS implementation plan. The Final Report shall give an account of problems that were encountered in the course of the Technical Assistance and of any problems that can reasonably be anticipated in the future, together with any corresponding recommendations.

In addition, the Final Report shall include an analysis of key host country development impacts in conformity with USTDA guidelines. The Contractor shall identify prospective U.S. sources of supply in the Final Report as submitted to USTDA, in accordance with Clause I of Annex II of the Grant Agreement.



In the event that the Final Report contains confidential information, or information not yet made public, the Contractor shall take appropriate steps, in consultation with ONEP, to ensure that sensitive information is not released inopportunistically.

The Final Report shall be prepared and delivered to USTDA in accordance with Clause I of Annex II of the Grant Agreement. The Contractor shall provide the Grantee with 6 copies of the final report in both English and in French on CD-ROM and in hard copy formats.

Notes:

- (1) The Contractor is responsible for compliance with U.S. export licensing requirements, if applicable, in the performance of the Terms of Reference.
- (2) The Contractor and the Grantee shall be careful to ensure that the public version of the Final Report contains no security or confidential information.
- (3) The Grantee and USTDA shall have an irrevocable, worldwide, royalty-free, non-exclusive right to use and distribute the Final Report and all work product that is developed under these Terms of Reference.



## Annex II

### **USTDA Mandatory Contract Clauses**

#### **A. USTDA Mandatory Clauses Controlling**

The parties to this contract acknowledge that this contract is funded in whole or in part by the U.S. Trade and Development Agency ("USTDA") under the Grant Agreement between the Government of the United States of America acting through USTDA and Office National de l'Eau Potable ("Client"), dated \_\_\_\_\_ ("Grant Agreement"). The Client has selected \_\_\_\_\_ ("Contractor") to perform the technical assistance ("TA") for the ONEP GIS system project ("Project") in Morocco ("Host Country"). Notwithstanding any other provisions of this contract, the following USTDA mandatory contract clauses shall govern. All subcontracts entered into by Contractor funded or partially funded with USTDA Grant funds shall include these USTDA mandatory contract clauses, except for clauses B(1), G, H, I, and J. In addition, in the event of any inconsistency between the Grant Agreement and any contract or subcontract thereunder, the Grant Agreement shall be controlling.

#### **B. USTDA as Financier**

##### **(1) USTDA Approval of Contract**

All contracts funded under the Grant Agreement, and any amendments thereto, including assignments and changes in the Terms of Reference, must be approved by USTDA in writing in order to be effective with respect to the expenditure of USTDA Grant funds. USTDA will not authorize the disbursement of USTDA Grant funds until the contract has been formally approved by USTDA or until the contract conforms to modifications required by USTDA during the contract review process.

##### **(2) USTDA Not a Party to the Contract**

It is understood by the parties that USTDA has reserved certain rights such as, but not limited to, the right to approve the terms of this contract and amendments thereto, including assignments, the selection of all contractors, the Terms of Reference, the Final Report, and any and all documents related to any contract funded under the Grant Agreement. The parties hereto further understand and agree that USTDA, in reserving any or all of the foregoing approval rights, has acted solely as a financing entity to assure the proper use of United States Government funds, and that any decision by USTDA to exercise or refrain from exercising these approval rights shall be made as a financier in the course of financing the TA and shall not be construed as making USTDA a party to the contract. The parties hereto understand and agree that USTDA may, from time to time, exercise the foregoing approval rights, or discuss matters related to these rights and the Project with the parties to the contract or any subcontract, jointly or separately, without thereby incurring any responsibility or liability to such parties. Any approval or failure to approve by USTDA shall not bar

the Client or USTDA from asserting any right they might have against the Contractor, or relieve the Contractor of any liability which the Contractor might otherwise have to the Client or USTDA.

### **C. Nationality, Source and Origin**

Except as USTDA may otherwise agree, the following provisions shall govern the delivery of goods and services funded by USTDA under the Grant Agreement: (a) for professional services, the Contractor must be either a U.S. firm or U.S. individual; (b) the Contractor may use U.S. subcontractors without limitation, but the use of subcontractors from Host Country may not exceed twenty percent (20%) of the USTDA Grant amount and may only be used for specific services from the Terms of Reference identified in the subcontract; (c) employees of U.S. Contractor or U.S. subcontractor firms responsible for professional services shall be U.S. citizens or non-U.S. citizens lawfully admitted for permanent residence in the U.S.; (d) goods purchased for performance of the TA and associated delivery services (e.g., international transportation and insurance) must have their nationality, source and origin in the United States; and (e) goods and services incidental to TA support (e.g., local lodging, food, and transportation) in Host Country are not subject to the above restrictions. USTDA will make available further details concerning these provisions upon request.

### **D. Recordkeeping and Audit**

The Contractor and subcontractors funded under the Grant Agreement shall maintain, in accordance with generally accepted accounting procedures, books, records, and other documents, sufficient to reflect properly all transactions under or in connection with the contract. These books, records, and other documents shall clearly identify and track the use and expenditure of USTDA funds, separately from other funding sources. Such books, records, and documents shall be maintained during the contract term and for a period of three (3) years after final disbursement by USTDA. The Contractor and subcontractors shall afford USTDA, or its authorized representatives, the opportunity at reasonable times for inspection and audit of such books, records, and other documentation.

### **E. U.S. Carriers**

#### **(1) Air**

Transportation by air of persons or property funded under the Grant Agreement shall be on U.S. flag carriers in accordance with the Fly America Act, 49 U.S.C. 40118, to the extent service by such carriers is available, as provided under applicable U.S. Government regulations.

#### **(2) Marine**

Transportation by sea of property funded under the Grant Agreement shall be on U.S. carriers in accordance with U.S. cargo preference law.

#### **F. Workman's Compensation Insurance**

The Contractor shall provide adequate Workman's Compensation Insurance coverage for work performed under this Contract.

#### **G. Reporting Requirements**

The Contractor shall advise USTDA by letter as to the status of the Project on March 1st annually for a period of two (2) years after completion of the TA. In addition, if at any time the Contractor receives follow-on work from the Client, the Contractor shall so notify USTDA and designate the Contractor's contact point including name, telephone, and fax number. Since this information may be made publicly available by USTDA, any information which is confidential shall be designated as such by the Contractor and provided separately to USTDA. USTDA will maintain the confidentiality of such information in accordance with applicable law.

#### **H. Disbursement Procedures**

##### **(1) USTDA Approval of Contract**

Disbursement of Grant funds will be made only after USTDA approval of this contract. To make this review in a timely fashion, USTDA must receive from either the Client or the Contractor a photocopy of an English language version of a signed contract or a final negotiated draft version to the attention of the General Counsel's office at USTDA's address listed in Clause M below.

##### **(2) Payment Schedule Requirements**

A payment schedule for disbursement of Grant funds to the Contractor shall be included in this Contract. Such payment schedule must conform to the following USTDA requirements: (1) up to twenty percent (20%) of the total USTDA Grant amount may be used as a mobilization payment; (2) all other payments, with the exception of the final payment, shall be based upon contract performance milestones; and (3) the final payment may be no less than fifteen percent (15%) of the total USTDA Grant amount, payable upon receipt by USTDA of an approved Final Report in accordance with the specifications and quantities set forth in Clause I below. Invoicing procedures for all payments are described below.

##### **(3) Contractor Invoice Requirements**

USTDA will make all disbursements of USTDA Grant funds directly to the Contractor. The Contractor must provide USTDA with an ACH Vendor Enrollment Form (available from USTDA) with the first invoice. The Client shall request disbursement of funds by

USTDA to the Contractor for performance of the contract by submitting the following to USTDA:

**(a) Contractor's Invoice**

The Contractor's invoice shall include reference to an item listed in the Contract payment schedule, the requested payment amount, and an appropriate certification by the Contractor, as follows:

(i) For a mobilization payment (if any):

"As a condition for this mobilization payment, the Contractor certifies that it will perform all work in accordance with the terms of its Contract with the Client. To the extent that the Contractor does not comply with the terms and conditions of the Contract, including the USTDA mandatory provisions contained therein, it will, upon USTDA's request, make an appropriate refund to USTDA."

(ii) For contract performance milestone payments:

"The Contractor has performed the work described in this invoice in accordance with the terms of its contract with the Client and is entitled to payment thereunder. To the extent the Contractor has not complied with the terms and conditions of the Contract, including the USTDA mandatory provisions contained therein, it will, upon USTDA's request, make an appropriate refund to USTDA."

(iii) For final payment:

"The Contractor has performed the work described in this invoice in accordance with the terms of its contract with the Client and is entitled to payment thereunder. Specifically, the Contractor has submitted the Final Report to the Client, as required by the Contract, and received the Client's approval of the Final Report. To the extent the Contractor has not complied with the terms and conditions of the Contract, including the USTDA mandatory provisions contained therein, it will, upon USTDA's request, make an appropriate refund to USTDA."

**(b) Client's Approval of the Contractor's Invoice**

(i) The invoice for a mobilization payment must be approved in writing by the Client.

(ii) For contract performance milestone payments, the following certification by the Client must be provided on the invoice or separately:

"The services for which disbursement is requested by the Contractor have been performed satisfactorily, in accordance with applicable Contract provisions and the terms and conditions of the USTDA Grant Agreement."

(iii) For final payment, the following certification by the Client must be provided on the invoice or separately:

"The services for which disbursement is requested by the Contractor have been performed satisfactorily, in accordance with applicable Contract provisions and terms and conditions of the USTDA Grant Agreement. The Final Report submitted by the Contractor has been reviewed and approved by the Client. "

**(c) USTDA Address for Disbursement Requests**

Requests for disbursement shall be submitted by courier or mail to the attention of the Finance Department at USTDA's address listed in Clause M below.

**(4) Termination**

In the event that the Contract is terminated prior to completion, the Contractor will be eligible, subject to USTDA approval, for reasonable and documented costs which have been incurred in performing the Terms of Reference prior to termination, as well as reasonable wind down expenses. Reimbursement for such costs shall not exceed the total amount of undisbursed Grant funds. Likewise, in the event of such termination, USTDA is entitled to receive from the Contractor all USTDA Grant funds previously disbursed to the Contractor (including but not limited to mobilization payments) which exceed the reasonable and documented costs incurred in performing the Terms of Reference prior to termination.

**I. USTDA Final Report**

**(1) Definition**

"Final Report" shall mean the Final Report described in the attached Annex I Terms of Reference or, if no such "Final Report" is described therein, "Final Report" shall mean a substantive and comprehensive report of work performed in accordance with the attached Annex I Terms of Reference, including any documents delivered to the Client.

**(2) Final Report Submission Requirements**

The Contractor shall provide the following to USTDA:

(a) One (1) complete version of the Final Report for USTDA's records. This version shall have been approved by the Client in writing and must be in the English language. It is the responsibility of the Contractor to ensure that confidential information, if any, contained in this version be clearly marked. USTDA will maintain the confidentiality of such information in accordance with applicable law.

and

(b) One (1) copy of the Final Report suitable for public distribution ("Public Version"). The Public Version shall have been approved by the Client in writing and must be in the English language. As this version will be available for public distribution, it must not contain any confidential information. If the report in (a) above contains no confidential information, it may be used as the Public Version. In any event, the Public Version must be informative and contain sufficient Project detail to be useful to prospective equipment and service providers.

and

(c) Two (2) CD-ROMs, each containing a complete copy of the Public Version of the Final Report. The electronic files on the CD-ROMs shall be submitted in a commonly accessible read-only format. As these CD-ROMs will be available for public distribution, they must not contain any confidential information. It is the responsibility of the Contractor to ensure that no confidential information is contained on the CD-ROMs.

The Contractor shall also provide one (1) copy of the Public Version of the Final Report to the Foreign Commercial Service Officer or the Economic Section of the U.S. Embassy in Host Country for informational purposes.

### **(3) Final Report Presentation**

All Final Reports submitted to USTDA must be paginated and include the following:

(a) The front cover of every Final Report shall contain the name of the Client, the name of the Contractor who prepared the report, a report title, USTDA's logo, USTDA's mailing and delivery addresses. If the complete version of the Final Report contains confidential information, the Contractor shall be responsible for labeling the front cover of that version of the Final Report with the term "Confidential Version." The Contractor shall be responsible for labeling the front cover of the Public Version of the Final Report with the term "Public Version." The front cover of every Final Report shall also contain the following disclaimer:

"This report was funded by the U.S. Trade and Development Agency (USTDA), an agency of the U. S. Government. The opinions, findings, conclusions or recommendations expressed in this document are those of the author(s) and do not necessarily represent the official position or policies of USTDA. USTDA makes no representation about, nor does it accept responsibility for, the accuracy or completeness of the information contained in this report."

(b) The inside front cover of every Final Report shall contain USTDA's logo, USTDA's mailing and delivery addresses, and USTDA's mission statement.

Camera-ready copy of USTDA Final Report specifications will be available from USTDA upon request.

(c) The Contractor shall affix to the front of the CD-ROM a label identifying the Host Country, USTDA Activity Number, the name of the Client, the name of the Contractor who prepared the report, a report title, and the following language:

“The Contractor certifies that this CD-ROM contains the Public Version of the Final Report and that all contents are suitable for public distribution.”

(d) The Contractor and any subcontractors that perform work pursuant to the Grant Agreement must be clearly identified in the Final Report. Business name, point of contact, address, telephone and fax numbers shall be included for Contractor and each subcontractor.

(e) The Final Report, while aiming at optimum specifications and characteristics for the Project, shall identify the availability of prospective U.S. sources of supply. Business name, point of contact, address, telephone and fax numbers shall be included for each commercial source.

(f) The Final Report shall be accompanied by a letter or other notation by the Client which states that the Client approves the Final Report. A certification by the Client to this effect provided on or with the invoice for final payment will meet this requirement.

#### **J. Modifications**

All changes, modifications, assignments or amendments to this contract, including the appendices, shall be made only by written agreement by the parties hereto, subject to written USTDA approval.

#### **K. TA Schedule**

##### **(1) TA Completion Date**

The completion date for the TA, which is December 31, 2010, is the date by which the parties estimate that the TA will have been completed.

## **(2) Time Limitation on Disbursement of USTDA Grant Funds**

Except as USTDA may otherwise agree, (a) no USTDA funds may be disbursed under this contract for goods and services which are provided prior to the Effective Date of the Grant Agreement; and (b) all funds made available under the Grant Agreement must be disbursed within four (4) years from the Effective Date of the Grant Agreement.

### **L. Business Practices**

The Contractor agrees not to pay, promise to pay, or authorize the payment of any money or anything of value, directly or indirectly, to any person (whether a governmental official or private individual) for the purpose of illegally or improperly inducing anyone to take any action favorable to any party in connection with the TA. The Client agrees not to receive any such payment. The Contractor and the Client agree that each will require that any agent or representative hired to represent them in connection with the TA will comply with this paragraph and all laws which apply to activities and obligations of each party under this Contract, including but not limited to those laws and obligations dealing with improper payments as described above.

### **M. USTDA Address and Fiscal Data**

Any communication with USTDA regarding this Contract shall be sent to the following address and include the fiscal data listed below:

U.S. Trade and Development Agency  
1000 Wilson Boulevard, Suite 1600  
Arlington, Virginia 22209-3901  
USA

Phone: (703) 875-4357  
Fax: (703) 875-4009

#### Fiscal Data:

Appropriation No.: 118/91001  
Activity No.: 2008-21025A  
Reservation No.: 2008210039  
Grant No.: GH2008210011

### **N. Definitions**

All capitalized terms not otherwise defined herein shall have the meaning set forth in the Grant Agreement.

## **O. Taxes**

USTDA funds provided under the Grant Agreement shall not be used to pay any taxes, tariffs, duties, fees or other levies imposed under laws in effect in Host Country. Neither the Client nor the Contractor will seek reimbursement from USTDA for such taxes, tariffs, duties, fees or other levies.

**ANNEX 5**

## **TERMS OF REFERENCE**

### **Task 1: Assessment of the Current Situation**

Contractor personnel shall travel to Morocco to hold meetings with ONEP personnel at ONEP headquarters in Rabat and at one other ONEP location (regional office) in Morocco. In collaboration with the staff of the GIS Service, Contractor shall carry out the following activities:

- Evaluate steps already undertaken by ONEP as regards GIS.
- Validate and supplement the descriptions and definitions of the ONEP “lines of business” (métiers) that will be impacted by GIS deployment, in particular:
  - Land usage as it applies to ONEP land (which may be either social or technical)
  - Water resources (technical and administrative data, quality, etc.)
  - Watershed protection zones (physical and environmental)
  - Drinking-water networks (production; rural drinking-water supply; urban distribution)
  - Wastewater networks (including drinking-water purification plants)
  - Commercial aspects
- Define the required GIS functionality by line of business
- Provide a detailed identification of the geographical data required by each line of business, as well as the source and manner of acquisition of this data (which may be either formal or informal)
- Assess the geographical data produced by each line of business, with particular attention to quantity, quality, usage, manner of acquisition, database objects, structure, format, coverage, and availability
- Evaluate the current manner of dissemination and circulation of all data that could be appropriately incorporated into ONEP-GIS
- Assess existing applications at ONEP (whether GIS-related or otherwise) that could be appropriately incorporated into ONEP-GIS
- Assess the reference systems and nomenclature in use at ONEP
- Identify possible constraints on the implementation of ONEP-GIS
- Evaluate possible overlap, or synergies, between ONEP-GIS and existing ONEP information systems, and the impact of these on the two systems and on ONEP itself
- Evaluate the manner of co-existence of the information systems, and any necessary prerequisites

At the Contractor’s request, ONEP will assist with the organization of meetings with other pertinent Moroccan organizations (in particular, organizations that are sources of geographic information).

***Deliverable:*** The Contractor shall provide an Inception Report describing the results of the above activities.

### **Task 2: Functional Partitioning**

The Contractor shall develop a documented definition of the target ONEP-GIS system that corresponds to ONEP's needs. In particular, the Contractor shall:

- Determine the functional boundaries of ONEP-GIS
- Determine the functional structure and organizational scheme for the system
- Describe the possible interactions of the proposed solution with existing systems at ONEP
- Develop a "road map" for a gradual implementation of ONEP-GIS, as well as a preliminary estimate of the required resources (material, financial, human) for implementation

**Deliverable:** The Contractor shall provide the following: 1) A descriptive document that details the general and specific system requirements (high-level functional description), including functional boundaries and interactions with existing systems, 2) the "road map" for a gradual implementation as described above.

### **Task 3: On-Site Workshop**

The Contractor shall prepare and conduct an on-site Workshop (journée technique), to include the following:

- An overview of the activities carried out in the course of Tasks 1 and 2
- An overview of the prerequisites for implementation of ONEP-GIS

The Workshop shall be conducted in French. Workshop materials prepared by the Contractor (e.g., PowerPoint presentations, handouts) shall be made available in French and English and shall be submitted to ONEP for review and approval prior to the Workshop, sufficiently in advance to allow time for incorporation of any recommended changes. ONEP shall provide the venue and any required audio-visual support (e.g., projector) for the Workshop.

At the discretion of ONEP, the Workshop may be conducted in two sessions: 1) an "Executive" session for ONEP senior management; 2) a "General" session for interested ONEP staff and (subject to agreement with ONEP) for outside stakeholders.

### **Task 4: Definition of the ONEP-GIS Solution**

The Contractor shall carry out the following activities:

- Develop a proposal for an adequate and appropriate functional partitioning of ONEP-GIS into independent and/or complementary elements
- Define a general ONEP-GIS architecture, including definition of each of the major elements of the structures, the databases and the corresponding ONEP entities, and the relationships among the elements
- Define the various GIS line-of-business applications to be developed, with attention to the following aspects: objects, consistency, functionality list, ONEP line of business involved, necessary baseline data, tools, technical modeling requirements
- Define the technical and organizational procedures required to connect and integrate the applications in question within the ONEP-GIS environment

- Evaluate line-of-business solutions (i.e., GIS tools and applications) currently available at ONEP, and of possible procedures for integrating these applications and/or application data into ONEP-GIS

**Deliverable:** The Contractor shall produce an ONEP-GIS Solution Report detailing work performed in the areas described above.

### **Task 5: Functional and Model Definition**

Task 5 consists of two related sub-tasks, as described below.

#### ***Sub-Task 5a: Functional Definition***

The Contractor shall carry out the following activities:

- Translate the requirements elaborated in Task 2 into specifications of technical functionality, in particular into a form of a requirements/specifications summary matrix, in which general requirements and line-of-business- or application-specific requirements are segregated to the extent practicable
- Define the mandatory technical characteristics a GIS solution must exhibit to meet ONEP's requirements
- Describe the characteristics and minimum quantities of the hardware elements necessary to install and operate the GIS
- Define the general software architecture to be implemented, including general organization, modules and manner of operation
- Define the human resources and training requirements for implementation, that will be required for the development and subsequent operation of ONEP-GIS
- Develop a proposal for the various modes of organization of the GIS data and for establishment of links between alphanumeric and graphic data to enable the ONEP system to accommodate possible evolution to other relevant GIS technologies
- Provide an analysis of at least three GIS solutions that meet ONEP's requirements. Particular attention should be paid to users needs as well as supplier experience and track record when choosing the three solutions to analyze. The selected GIS solution will be agreed upon by ONEP and the Contractor. The Contractor shall provide a list of U.S. suppliers that can meet the requirements of the selected GIS solution.

#### ***Sub-Task 5b: Demonstration Model Definition***

The Contractor shall define a demonstration model that will make it possible to compare different GIS products/solutions on the basis of criteria predefined in Task 1 by ONEP. This sub-task shall include the definition of:

- The technical terms of reference of the model, including (but not limited to): the principal technical and functional elements; required interfaces (alphanumeric and graphic import/export capabilities); detailed descriptions of the data manipulations to be performed; required system response time and performance in order to be able to conduct an effective comparative evaluation of GIS products/solutions available on the market.
- The data sample on which the model should be run

- The selection criteria which will enable selection of the GIS products/solutions best suited to the ONEP environment, including a compliance matrix and associated rationale.

**Deliverable:** The Contractor shall produce a Report detailing work performed in the areas described above.

### **Task 6: Implementation Planning**

The Contractor shall carry out the following activities:

- Elaborate an ONEP-GIS Development Plan, of which the principal elements are as follows:
  - Preparation, by line-of-business application, of detailed technical specifications (including a narrative description of the goals and objectives, the analyses and development activities to be carried out, hardware and software to be procured, training requirements, etc.)
  - For existing line-of-business GIS solutions, the technical and organizational activities to be carried out in order to integrate them and/or migrate them toward ONEP-GIS
  - Definition of the manner of data provisioning for the ONEP-GIS system, by type of data: procedures, baseline data to be prepared, automation of integration and updating, etc.
  - Definition of data exchange / data manipulation operations that may be required (if any)
  - Definition of planning phases and provisional timeframes, with a hierarchical specification of the various stages and implementations (global and specific)
  - Required acceptance testing on the part of ONEP for each of the stages and line-of-business applications, in order to ensure that what is provided conforms to the predefined requirements
  - Definition of required support activities to ensure successful installation of the system (such as training and organization activities)
  - Recommendation of a maintenance strategy for ONEP-GIS, including its general profile and duration
  - Recommendation of a plan for communicating the operation of the system to ONEP personnel
- Elaborate an ONEP-GIS Quality Plan, comprising primarily the rules to be observed in the course of development and installation of ONEP-GIS, and including (but not limited to) the following:
  - The resources to be put in place to track and monitor the project
  - Standards to be used for application development, documentation, meeting reports, etc.
  - Procedures to be used for:
    - Delivery, commissioning and operation of ONEP-GIS
    - Validation of GIS input data and of GIS cartographic output data
    - Equipment support and maintenance
  - A recommendation for such monitoring structure for the solution as may be needed

- Elaborate an ONEP-GIS Financing Plan, to include detailed estimates for the costs and expenses required for ONEP-GIS implementation, such as (to the extent practicable) the estimated cost of:
  - each stage or application
  - data retrieval
  - ongoing operation, maintenance and consumables
 If any costs cannot be estimated the Contractor shall explain why.

**Deliverable:** The Contractor shall provide a report containing the ONEP-GIS Development, Quality and Financing Plans as described above.

**Task 7: Environmental and Developmental Impact Assessment**

Task 7 consists of two sub-tasks, as follows:

***Sub-Task 7a: Environmental Impact Assessment***

The Contractor shall perform a preliminary review of the anticipated impact of the ONEP-GIS project on the environment, with particular reference to compliance with any applicable Moroccan or multilateral lending-agency requirements. In the event that the review identifies any potential negative impacts, the Contractor shall discuss the extent to which they can be mitigated, and shall develop plans for a full environmental impact assessment if and when the project moves forward to the implementation stage. In particular, the Contractor shall identify any steps that ONEP will need to undertake subsequent to the completion of the Contractor's activities and prior to project implementation.

***Sub-Task 7b: Analysis of Key Host Country Development Impacts***

With a view to providing the ONEP-GIS project's decision-makers and interested parties with a broader view of the project's potential effects on the host country, the Contractor shall conduct an analysis of key development impacts of the project, with particular reference to the following aspects:

- ***Infrastructure:*** How the Technical Assistance will result in improvements to and/or increased investment in drinking-water and wastewater infrastructure
- ***Human Capacity Building:*** Skills development and/or additional employment that will be generated within the ONEP environment and elsewhere
- ***Technology Transfer and Productivity Improvement:*** Identification of new recommended technologies deployed in conjunction with the project, and specific technology or knowledge transfer that will take place thereby
- ***Market-Oriented Reform:*** Identification of any market-oriented reforms that will be achieved as a result of the Technical Assistance, which could include improved competition; better market entry to new investment; more equitable consumer pricing policies; etc.

The analysis shall focus on likely developmental impact if the ONEP-GIS project is implemented according to the Contractor's recommendations. While specific attention shall be paid to the immediate impact of the project, analysis shall include any additional developmental benefits that may result from the project's implementation, including spin-off and demonstration effects.

***Deliverable:*** The Contractor shall prepare a report containing the Environmental Impact Assessment and Developmental-Impact Analysis as described above.

**Task 8: On-Site Seminar**

The Contractor shall prepare and conduct an On-Site Seminar to communicate the results of the above activities (actions taken, results, recommendations for operation, next steps), as well as the results of planning of ONEP-GIS implementation and of the roles and responsibilities of the various stakeholders.

The Seminar shall be conducted in French. Seminar materials prepared by the Contractor (e.g., PowerPoint presentations, handouts) shall be made available in French and in English and shall be submitted to ONEP for review and approval prior to the Workshop, sufficiently in advance to allow time for incorporation of any recommended changes. ONEP shall provide the venue and any required audio-visual support (e.g., projector) for the Seminar.

At the discretion of ONEP, the Seminar may be conducted in two sessions: 1) an "Executive" session for ONEP senior management; 2) a "General" session for interested ONEP staff and (subject to agreement with ONEP) for outside stakeholders.

**Task 9: Draft and Final Reports**

The Contractor shall prepare Draft and Final Reports for submission to ONEP. ONEP shall review the Draft Report and propose modifications or amendments (if any) for incorporation into the Final Report within 30 days of receiving the Draft Report.

The Contractor shall prepare and deliver to the Grantee and USTDA a substantive and comprehensive final report of all work performed under these Terms of Reference ("Final Report"). The Final Report shall be organized according to the above tasks, including all training materials, and shall include all deliverables and documents that have been provided to the Grantee. In particular, the Final Report shall describe the findings and recommendations and shall present the ONEP-GIS implementation plan. The Final Report shall give an account of problems that were encountered in the course of the Technical Assistance and of any problems that can reasonably be anticipated in the future, together with any corresponding recommendations.

In addition, the Final Report shall include an analysis of key host country development impacts as described in Task 7 above. The Contractor shall identify prospective U.S. sources of supply in the Final Report as submitted to USTDA, in accordance with Clause I (3) (e) of Annex II of the Grant Agreement.

In the event that the Final Report contains confidential information, or information not yet made public, the Contractor shall take appropriate steps, in consultation with ONEP, to ensure that sensitive information is marked confidential in the complete version of the Final Report delivered to USTDA, consistent with the requirements of Clause I (2) (a) of Annex II.

The Final Report shall be prepared and delivered to USTDA in accordance with Clause I of Annex II of the Grant Agreement. The Contractor shall provide the Grantee with 6 copies of the final report in both English and in French on CD-ROM and in hard copy formats.

Notes:

- (1) The Contractor is responsible for compliance with U.S. export licensing requirements, if applicable, in the performance of the Terms of Reference.
- (2) The Contractor and the Grantee shall be careful to ensure that the public version of the Final Report contains no security or confidential information.
- (3) The Grantee and USTDA shall have an irrevocable, worldwide, royalty-free, non-exclusive right to use and distribute the Final Report and all work product that is developed under these Terms of Reference.