STATEMENT OF WORK
for
COOLING TOWER REPLACEMENT PROJECT
AT
OFFICE BUILDING CHANCERY
MUSCAT, OMAN

PROJECT NO. XJ-OG-0127

June 4, 2012

U.S. DEPARTMENT OF STATE
1.0 INTRODUCTION

1.1 The U.S. Department of State (DOS) requires professional engineering and construction services to perform design and construction for the following:

- Replacement of two nominal 150 ton Marley Quadraflow cooling towers with two 125 ton Marley Quadraflow cooling towers at the Muscat Chancery Office Building (OBC),
- Replacement of concrete piers and support structural frames underneath the cooling towers, and
- Removal of two cooling tower enclosure walls (not perimeter compound walls) above grade. Construct new enclosure walls on grade beam to increase the cooling tower enclosure area to 14.0 m long by 5.5 m wide at same height as the original walls. The new walls shall be constructed of ornamental brick with minimum 30% free area with a top coping stone. Relocate metal gate and hardware to similar position on the new west wall.

2.0 PROJECT BACKGROUND

2.1 The Chancery Office Building (OBC) was served by the present cooling towers. A Marine House (MSGQ), now under construction, will be added to this existing load. The chillers, cooling towers, and the chilled and condenser water pumps were originally and cooling towers were originally sized for 150 ton load. In 2002, the original chillers were replaced with 120 ton chillers because only one chiller had operated at any time since the building was constructed. At this time, the cooling tower fill which had severely deteriorated due to environmental conditions, was replaced with a thicker fill by the local Marley rep. In 2008 as part of the Environmental Security Project, a heat wheel was added and the building envelope was tightened resulting in a significant drop in the OBC cooling requirement. With the reduction, the chillers will be more than capable of providing 2/3 of the building load with only one chiller or cooling tower operating.

2.2 The chilled water pumps are Aurora horizontal split case pumps that have water packing seals and standard efficiency motors. The pumps are dedicated to each chiller.

2.3 The central plant is required to operate continuously. Both the chillers and the cooling tower are controlled by the Trane Tracer building automation system to operate in a lead-lag mode of operation.

3.0 PROJECT DESCRIPTION

3.1 For the Project the Contractor shall prepare a design/build proposal for the project, and upon award, shall perform the installation/construction work.

3.2 Cooling Tower Schedule for new equipment: Designation: CT-1 & CT-2; Condenser Water Flow: 19 L/s (301 GPM); Entering/Leaving Water Temperature: 35.0°C/29.45°C
(95.0°F/85.0°F); outdoor ambient wet-bulb: 29.2 °C (84.5°F); Electrical: 380V, 3 ph., 50 Hz; Motor power required: 10 kW (7.5 HP).

4.0 CRITERIA:

4.1 Codes and Standards: The Contractor shall perform the demolition and installation in accordance with the following codes and standards:


B. International Building Codes – 2009 including OBO Code Supplement – 2012 requirements. These are available from the Post FM.

4.2 OBO Specifications: The Contractor shall perform work in compliance with OBO Masterspec specifications. These are also available from the Post FM.

5.0 GENERAL REQUIREMENTS

5.1 Project Cost: This project is a part of a major program undertaken by the Department of State using public funds. Consequently, design to a target construction contract cost estimate, adherence to delivery schedules, security classification, and handling guidance are mandatory performance parameters and cardinal indicators of the quality of work. Achievement of these performance parameters will be reflected in OBO's formal evaluation of the Contractor’s accomplishments under this construction contract.

5.2 Design Changes: All design changes initiated by either Post or OBO/PDCS/DE/ME will be presented to the Contractor by the Post FM. Prior to incorporating any change, the Contractor shall assess the impact on the established contract amount and provide that assessment to the FM. No changes may be incorporated by the Contractor without prior written approval from the Post FM. The Contractor will submit an updated estimate after any authorized adjustment to the design-to-budget amount.

5.3 The Contractor shall determine the price of materials, labor and equipment anticipated for all aspects of the construction project. The costs shall be itemized with separate columns for direct labor and direct materials. Indicate costs for general conditions, burdens and subcontractors. Contract costs shall be expressed in terms of U.S. dollars (indicate the local currency conversion rate).

5.4 Design/As-Built Drawing Format and CADD: Provide standard size CADD drawings for the work. All project documents shall be in "hard metric." All drawings, specifications, cost estimates, and other portions of submittals shall be prepared in English only.

5.5 Life Safety: The design shall take into account all applicable requirements of the Occupational Safety and Health Act of 1970, as amended, and the regulations promulgated
pursuant thereto. If at any time during the design of the facility it becomes apparent that a violation could exist as a result of the design, the Contractor shall notify the Post FM in writing requesting consultation to resolve the possible violation.

5.5 Building Codes: The relationship of U.S. and local codes and standards as they apply to design and construction in the host country shall be complied with by the Contractor. NFPA-70, the U.S. Electrical Code, provides a level of personnel and property safety which DOS must maintain in our overseas facilities.

5.6 Meetings: The Contractor shall prepare a detailed written record of all conferences and meetings with Post staff and representatives of OBO related to the Project. Confirmation of telephone conversations in which decisions affecting the project are made shall also be prepared in writing. Two (2) copies of these records shall be submitted to the Contracting Officer's Representative (COR) (Post FM) within five calendar (5) days of the event. The written format established by the Contractor for these records shall be subject to approval of the COR. Each record shall conclude with the following statement: "The matters reported in this document are considered by the (insert name of Contractor here) to be within the scope of this contract as presently priced, except for (Contractor to identify items or state "none") as further described below."

5.7 Proposal Manual: The Contractor shall provide the COR with a project proposal manual. This project manual shall provide regarding contract terms, project descriptions, equipment selections, and a detailed cost breakdown of the proposal. Shop drawings shall be provided for the structural design work and cooling towers.

5.8 Operating & Maintenance Manual: At completion of project, the Contractor shall provide Post Facility Maintenance Manager with two copies of the Operating & Maintenance Manual for the installed equipment.

6.0 SPECIAL REQUIREMENTS

6.1 Energy Conservation and Sustainable Design: This project is to be a model of energy efficiency.

6.2 Commissioning Tests: Post FM and OBO/PDCS/DE/ME – Mike Ballentine shall be notified three weeks prior to commissioning of the installed cooling towers in order for OBO to witness the testing of the cooling towers and for final project inspection.

6.3 Operations and Maintenance (O&M) Manual: The Contractor shall be responsible to see that the project work is constructed using materials, finishes, fixtures, equipment, and systems that provide operational dependability and are easy to maintain or replace with those most readily available supplies and services.
A. O&M Design Guidelines: Emphasis must be placed on the uniformity of parts and components to maximize interchangeability.

B. The O&M manual shall contain for each piece of equipment the following items: general equipment catalog, replacement parts list, and service manual.

6.3 Comprehensive Maintenance Program (CMP): The Contractor shall provide specific operations and maintenance data and information for inclusion in the Post Comprehensive Maintenance Program (CMP) by the USG for the installed equipment. This may include at Post’s option, a service contract for the installed equipment.

7.0 CONTRACT ADMINISTRATION

7.1 Contracting Officer (CO): The Contracting Office for this project shall be a representative of A/OPE.

7.2 Contracting Officer’s Representative (COR): The contract proposal, drawings, project manuals, O&M manuals, etc., shall be submitted to the Post Contracting Officer Representative (COR). OBO/PDCS/DE/ME – Mike Ballentine will be COR for OBO; the Muscat Facility Maintenance Manager, Mr. Joe Finnegan or as designated by Post will be the COR at the American Embassy.

7.3 Technical Representative (TC): Mr. Mike Ballentine (OBO/PDCS/DE/ME) is designated as the Technical Representative for this project. The Technical Representative is responsible for reviews of submittals, factory witness test of the chiller, and providing technical advice and substantive guidance to Post, inspection and such other purposes as deemed necessary under the contract.

7.4 Letters and Packages (or privately delivered mail) shall be addressed as follows:

U.S.A Embassy
ATTN: FM – Joe Finnegan
P.O. Box 202
Jamyat Al-Duwal Al-Arabia St. No 32
Shati Al-Qurum
Madinat Qaboos Muscat

7.5 All deliverables shall include project identification: “Cooling Tower Replacement Project.”

8.0 CONTRACT:

8.1 This is a firm fixed priced delivery order.

End of Statement of Work