STATEMENT OF WORK FOR
PREVENTIVE MAINTENANCE SERVICE CONTRACT

Chillers (Water and Air Cooled Equipment)
&
Associated Motor Starters/VFD's
&
Electronic Panels
&
Cooling Towers
&
Dry Cooler

United States Embassy
at Sofia, Bulgaria

05/05/2020, rev 6 from 10/4/2025

TABLE OF CONTENTS

Attachments:
Exhibit A – Statement of Work
Exhibit B – Statement of Work

1. DESCRIPTION

The American Embassy in Sofia requires preventive maintenance services for Chillers. These services shall result in all systems being serviced under this agreement being in good operational condition when activated. If this work is to be performed on systems accessing the PCC/CAA areas of the building. Please see section 6.2.3 for security requirements.

1.1. Type of Contract

This is a firm fixed price contract payable entirely in BGN. Prices for all Contract Line Item Numbers (CLIN) shall include proper disposal of toxic substances as per Item 8.4 where applicable. No additional sums will be payable for any escalation in the cost of materials, equipment or labor, or because of the contractor's failure to properly estimate or accurately predict the cost or difficulty of achieving the results required. The contract price will not be adjusted due to fluctuations in currency exchange rates.

1.2. Period of Performance

The contract will be for a period of one-year, with a maximum of four one-year optional periods of performance and will be expected to commence no later than 07.01.2025

2. PRICING

The rates below include all costs associated with providing preventive maintenance services in accordance with the attached scope of work, and the manufacturer's warranty including materials, labor, insurance (see FAR 52.228-4 and 52.228-5), overhead, profit and GST (if applicable).

2.1. Base Year. The Contractor shall provide the services shown below for the base period of the contract and continuing for a period of 12 months.

CLIN	Description	Quantity of Equipment	Type of services	No. of service	Unit price / service (BGN)	Total per year (BGN)

001	Water-Cooled YORK Screw Chillers manufactured by Johnson Controls Company, Model YRTATCTO550A , Output 700KW, and located in the Embassy Warehouse.	2	M	1		
002	Water Cooling Towers manufactured by Marley Inc.; Model: induced draft crosses & flow type cooling tower with two cells NC8304CL2 and located in the Embassy Warehouse.	2	M	1		
003	Dry Cooler manufactured by Young Touchstone – A Wabtec Company, located on the roof of the Embassy Warehouse	1	M	1		

004	Tech. check reports		M	1		
005	Air-Cooled YORK scroll chiller manufactured by Johnson Controls, model YCAL0087EB50, 84.7 kW	1	M	1		
	Total Base Year					

2.2. Option Year 1. The Contractor shall provide the services shown below for Option Year 1 of the contract, and continuing for a period of 12 months.**)**

CLIN	Description	Quantity of Equipment	Type of services	No. of service	Unit price / service (BGN)	Total per year (BGN)
001	Water-Cooled YORK Screw Chillers manufactured by Johnson Controls Company, Model YRTATCTO550A , Output 700KW, and located in the Embassy Warehouse.	2	M	1		

002	Water Cooling Towers manufactured by Marley Inc.; Model: induced draft crosses & flow type cooling tower with two cells NC8304CL2 and located in the Embassy Warehouse.	2	M	1		
003	Dry Cooler manufactured by Young Touchstone – A Wabtec Company, located on the roof of the Embassy Warehouse	1	M	1		
004	Tech. check reports		M	1		
005	Air-Cooled YORK scroll chiller manufactured by Johnson Controls, model YCAL0087EB50, 84.7 kW	1	M	1		
	Total Base Year					

2.3. Option Year 2. The Contractor shall provide the services shown below for Option Year 2 of the contract, and continuing for a period of 12 months.

CLIN	Description	Quantity of Equipment	Type of services	No. of service	Unit price / service (BGN)	Total per year (BGN)
001	Water-Cooled YORK Screw Chillers manufactured by Johnson Controls Company, Model YRTATCTO550A, Output 700KW, and located in the Embassy Warehouse.	2	M	1		
002	Water Cooling Towers manufactured by Marley Inc.; Model: induced draft crosses & flow type cooling tower with two cells NC8304CL2 and located in the Embassy Warehouse.	2	M	1		

003	Dry Cooler manufactured by Young Touchstone – A Wabtec Company, located on the roof of the Embassy Warehouse	1	M	1		
004	Tech. check reports		M	1		
005	Air-Cooled YORK scroll chiller manufactured by Johnson Controls, model YCAL0087EB50, Output 84.7 kW	1	M	1		
	Total Base Year					

2.4. Option Year 3. The Contractor shall provide the services shown below for Option Year 3 of the contract, and continuing for a period of 12 months

CLIN	Description	Quantity of Equipment	Type of services	No. of service	Unit price / service (BGN)	Total per year (BGN)
001	Water-Cooled YORK Screw Chillers manufactured by Johnson Controls	2	M	1		

	Company, Model YRTATCTO550A, Output 700KW, and located in the Embassy Warehouse.					
002	Water Cooling Towers manufactured by Marley Inc.; Model: induced draft crosses & flow type cooling tower with two cells NC8304CL2 and located in the Embassy Warehouse.	2	M	1		
003	Dry Cooler manufactured by Young Touchstone – A Wabtec Company, located on the roof of the Embassy Warehouse	1	M	1		
004	Tech. check reports		M	1		

005	Air-Cooled YORK scroll chiller manufactured by Johnson Controls, model YCAL0087EB50, Output 84.7 kW	1	M	1		
	Total Base Year					

2.5. Option Year 4. The Contractor shall provide the services shown below for Option Year 4 of the contract, and continuing for a period of 12 months

CLIN	Description	Quantity of Equipment	Type of services	No. of service	Unit price / service (BGN)	Total per year (BGN)
001	Water-Cooled YORK Screw Chillers manufactured by Johnson Controls Company, Model YRTATCTO550A , Output 700KW, and located in the Embassy Warehouse.	2	M	1		
002	Water Cooling Towers manufactured by	2	M	1		

	Marley Inc.; Model: induced draft crosses & flow type cooling tower with two cells NC8304CL2 and located in the Embassy Warehouse.					
003	Dry Cooler manufactured by Young Touchstone – A Wabtec Company, located on the roof of the Embassy Warehouse	1	M	1		
004	Tech. check reports		M	1		
005	Air-Cooled YORK scroll chiller manufactured by Johnson Controls, model YCAL0087EB50, 84.7 kW	1	M	1		
	Total Base Year					

2.6. Total for all years: Base Year BGN
Option Year 1 BGN

Option Year 2	BGN
Option Year 3	BGN
Option Year 4	BGN
TOTAL	BGN

2.7 Repair option. Repairs are NOT included under this agreement (see 7.1.3) and are to be done outside this contract. However, the Government desires current labor rates in the event that there is an issue discovered during the preventive maintenance of the specified equipment. Please provide your current labor rates in the Repair Option fields below. As stated in 7.1.3 any necessary repairs or parts will be submitted for approval and then billed against a separate PO. The Contractor is not approved to do any additional work without specific authorization from the Contracting Officer.

Repair Labor Rates
Base Year$/hr
Option Year 1 $/hr
Option Year 2 $/hr
Option Year 3 $/hr
Option Year 4 $/hr

3. NOTICE TO PROCEED

After Contract award and submission of acceptable insurance certificates and copies of all applicable licenses and permits, the Contracting Officer will issue a Notice to Proceed. The Notice to Proceed will establish a date (a minimum of ten (10) days from date of Contract award unless the Contractor agrees to an earlier date) on which performance shall start**.**

4. EQUIPMENT AND PERFORMANCE REQUIREMENTS

4.1. The Post Sofia requires the Contractor to maintain the following equipment in a safe, reliable and efficient operating condition. Please see equipment list included in Exhibit A for a more detailed description.

- (2) Water-Cooled YORK Screw Chillers manufactured by Johnson Controls Company, Model YRTATCTO550A , Output 700KW, and located in the Embassy Warehouse.

- (2) Water Cooling Towers manufactured by Marley Inc.; Model: induced draft crosses & flow type cooling tower with two cells NC8304CL2, and located in the Embassy Warehouse.
- (1) Air-Cooled YORK scroll chiller manufactured by Johnson Controls, model YCAL0087EB50, and located on the roof of the Chancery.
- Dry Cooler manufactured by Young Touchstone – A Wabtec Company, located on the roof of the Embassy Warehouse

4.2. The Contractor shall provide all necessary managerial, administrative and direct labor personnel, as well as all transportation, equipment, tools, supplies and materials required to perform inspection, maintenance, and component replacement as required to maintain the systems in accordance with this work statement. Under this Contract the Contractor shall provide:

- The services of trained and qualified technicians to inspect, adjust, and perform scheduled preventive maintenance.

4.3. Performance Standards

The chillers shall be clean and in good operating condition upon completion of the service. The preventive maintenance service shall result in the parts of the system serviced being in a condition to operate efficiently and effectively.

5. HOURS OF PERFORMANCE

5.1. The Contractor shall maintain work schedules. The schedules shall take into consideration the hours that the staff can effectively perform their services without placing a burden on the security personnel of the Post. The Contractor shall deliver standard services between the hours of 8:00AM and 4:30 PM Monday through Friday. No work shall be performed on US Government and local holidays. Below is a list of the holidays.

Date	Holiday	US/Local
Jan 01	New Year's Day	Am
Jan 16	Birthday of Martin Luther King, Jr.	Am
Feb 18	President's Day	Am
May 27	Memorial Day	Am
Jul 04	Independence Day	Am
Sep 02	Labor Day	Am
Oct 14	Columbus Day	Am
Nov 11	Veterans Day	Am

Nov 28	Thanksgiving Day	Am
Dec 25	Christmas	Am

6. ACCESS TO GOVERNMENT BUILDINGS AND STANDARDS OF CONDUCT

6.1 General. The Contractor shall designate a representative who shall supervise the Contractor's technicians and be the Contractor's liaison with the American Embassy Sofia, Bulgaria. The Contractor's employees shall be on-site only for contractual duties and not for any other business or purpose. Contractor employees will be given access to the equipment and equipment areas and will be escorted by Embassy personnel.

6.2 Personnel Security. The Government reserves the right to deny access to U.S.-owned and U.S.-operated facilities to any individual. The Contractor shall provide the names, biographic data and police clearance on all Contractor personnel who to be used on this Contract prior to their utilization. Submission of information shall be made within 30 days of award of contract. **No technician will be allowed on site without prior authorization. Note: this may include cleared personnel if advance notice of visit is not given at least one week before the scheduled visit.**

6.2.1 Vehicles. Contractor vehicles will not be permitted inside the embassy compound without prior approval. If vehicle access is necessary, submit contractor vehicle information (Make, Model, License Plate #) along with a written justification as to why access is necessary. This shall be submitted to the Facility Manager at least one (1) week prior to the visit.

6.2.2 Government shall issue identity cards to Contractor personnel, after they are approved. Contractor personnel shall display identity card(s) on the uniform at all times while providing services under this contract. These identity cards are the property of the US Government. The Contractor is responsible for their return at the end of the contract, when an employee leaves Contractor service, or at the **request** of the Government. The Government reserves the right to deny access to U.S.-owned and U.S.-operated facilities to any individual.
Government shall issue identity cards to Contractor personnel, after they are approved. Contractor personnel shall display identity card(s) on the uniform at all times while providing services under this contract. These identity cards are the property of the US Government. The Contractor is responsible for their return at the end of the contract, when an employee leaves Contractor service, or at the request of the Government. The Government reserves the right to deny access to U.S.-owned and U.S.-operated facilities to any individual.

6. 3 Security Clearances. All Work locations under this contractor that are designated as non-CAA areas may be performed by un-cleared American or local workers. However, all work done in CAA and PCC areas shall be performed by cleared American

Construction personnel as needed to complete the services. The Contractor shall work closely with the COR, the Post Facility Manager (FM) or the General Services Officer (GSO).

6.4 Standards of Conduct

6.4.1 General. The Contractor shall maintain satisfactory standards of employee competency, conduct, cleanliness, appearance, and integrity and shall be responsible for taking such disciplinary action with respect to employees as may be necessary. Each Contractor employee shall adhere to standards of conduct that reflect credit on themselves, their employer, and the United States Government. The Government reserves the right to direct the Contractor to remove an employee from the worksite for failure to comply with the standards of conduct. The Contractor shall immediately replace such an employee to maintain continuity of services at no additional cost to the Government.

6.4.3 Neglect of Duties. Neglect of duties is unacceptable. This includes sleeping while on duty, unreasonable delays or failures to carry out assigned tasks, conducting personal affairs during duty hours and refusing to render assistance or cooperate in upholding the integrity of the worksite security.

6.4.4 Disorderly Conduct. The Contractor shall not condone disorderly conduct, use of abusive or offensive language, quarreling, and intimidation by words, actions, or fighting. Also included is participation in disruptive activities that interfere with normal and efficient Government operations.

6.4.5 Intoxicants and Narcotics. The Contractor shall not allow its employees while on duty to possess, sell, consume, or be under the influence of intoxicants, drugs or substances which produce similar effects.

6.4.6 Criminal Actions. Contractor employees may be subject to criminal actions as allowed by law in certain circumstances. These circumstances include but are not limited to the following actions: falsification or unlawful concealment, removal, mutilation, or destruction of any official documents or records or concealment of material facts by willful omission from official documents or records; unauthorized use of Government property, theft, vandalism, or immoral conduct; unethical or improper use of official authority or credentials; security violations; organizing or participating in gambling in any form; and misuse of weapons.

6.4.7 Key Control. The Contractor **will not** be issued any keys. The keys will be checked out by a “Cleared American” escort on the day of service requirements.

6.4.8 Notice to the Government of Labor Disputes. The Contractor shall inform the COR of any actual or potential labor dispute that is delaying or threatening to delay the timely performance of this contract.

7. SCHEDULED PREVENTIVE MAINTENANCE

7.1. General

7.1.1. The Contractor shall perform preventive maintenance as outlined in Exhibit A - STATEMENT OF WORK. The objective of scheduled preventive maintenance is to eliminate system malfunction, breakdown and deterioration when units are activated/running.

7.1.2. The Contractor shall inventory, supply and replace expendable parts (eg, filters, belts, hoses, gaskets) that have become worn due to wear and tear. The Contractor shall maintain a supply of expendable and common parts on site so that these are readily available for normal maintenance to include: hoses, belts, oil, chemicals, coolant, filters (Air, Fuel, Oil), grease, sealant, thermostat, fuses; in addition to the appropriate tools, testing equipment, safety shoes and apparel for technicians, personal protective equipment (hands, hearing, eye protection), MSDS, cleaning material and oil spill containment kits. The contractor shall inventory the supply after each visit and order replacement supplies and have them delivered on site. Maintenance materials shall be unused and are to be industry standard and intended for the task to be performed. Parts shall be OEM approved. Refrigerants shall meet the AHRI Standard 700-2015 or most recent AHRI Standards.

7.1.3. Refrigerants, parts and maintenance materials delivered to the post are to be new and unused. Reclaimed refrigerants are not to be delivered to posts. Reclaimed refrigerants within post compounds are to be retained and stored and may be used if not contaminated. Refrigerants shall be stored in containers clearly indicating the refrigerant type.

7.1.4. Exclusion. This contract does NOT include repair of equipment and replacement of hardware (e.g. bearings, pistons, piston rings, crankshaft, gears.) **Hardware replacements will be separately priced out by the Contractor for the Government's approval and acceptance.** The Government has the option to accept or reject the Contractor's quote for parts and reserves the right to obtain similar spare parts from other competitive sources. If required by the Government, the Contractor shall utilize Government-purchased spare parts, if awarded the work. Such repairs/replacements will be accomplished by a separate purchase order. However, this exclusion does not apply if the repair is to correct damage caused by Contractor negligence.

7.1.5. Replacement/repair of any electronic or electrical parts shall be approved by the COR prior to installation of the part. If the Contractor proceeds to replace any electronic or electrical parts without COR approval, the Contractor shall de-install the parts at no cost to the Government.

7.1.6. Stocking of recommended repair parts is at the discretion of the Facility Manager and is dependent upon the nearest location of the Equipment manufacturer, distributor or dealer. A recommended spare parts list shall be obtained by the contractor from the manufacturer or distributor and provided to the Facility Manager to procure.

7.1.7. Parts/materials/tools procurement and delivery for the CAA/PCC areas shall be at the discretion of the Regional Security Officer (RSO).

7.2 Checklist Approval

The Contractor shall submit to the COR a schedule and description of preventive maintenance tasks which the Contractor plans to perform. The Contractor shall prepare this schedule and task description in a checklist format for the COR's approval prior to contract work commencement.

7.2.1. The Contractor shall provide trained technicians to perform the service at frequencies stated in Exhibit A and on the equipment called out in this SOW. The technician shall sign off on every item of the checklist and leave a copy of this signed checklist with the COR or the COR's designate after each maintenance visit.

7.2.2. It is the responsibility of the Contractor to perform all manufacturers' recommended preventive maintenance including preventive maintenance recommended by the manufacturers' technical manuals for the respective equipment.

7.2.3 Additionally, the maintenance contractor shall obtain and keep at the post O&M binders provided by the manufacturers. These binders shall be placed in a location accessible to post personnel to review as needed.

8. PERSONNEL, TOOLS, CONSUMABLE MATERIALS AND SUPPLIES

The Contractor shall provide trained technicians with the appropriate tools and testing equipment for scheduled maintenance, safety inspection, and safety testing as required by this Contract. The Contractor shall provide all of the necessary materials and supplies to maintain, service, inspect and test all the systems to be maintained.

8.1 Contractor furnished materials include but are not limited to appropriate tools, testing equipment, safety shoes and apparel for technicians, hands, hearing and eye protection, MSDS, cleaning material and oil spill containment kit. Expendable/consumable items (e.g. hoses, belts, oil, chemicals, coolant, filters (Air, Fuel, Oil), generator starting batteries, grease, sealant, thermostat, fuse), shall be maintained in the onsite inventory. See 7.1.2.

8.2 Repairs are not included in this contract. See 7.1.3. Exclusions.

8.3 Disposal of used oil, fuel, battery and other toxic substances. The Contractor is responsible for proper disposal of toxic/hazardous substances. All material shall be disposed of according to Government and Local law. After proper disposal the contractor must show proof of authorized disposal of these toxic/hazardous substances.

9. SOFTWARE, LICENSES AND PASSWORDS

Copies of any and all software and licenses needed to control or to adjust the communications module shall be given to the post upon completion of the work.

10. DELIVERABLES

Provide a typewritten report to Post Facilities Manager containing following:

a) System information (make, model, all devices types)
b) Pass/Fail of each feature and type of component tested. If a device fails, note device type, address and location within Post
c) Any comments on system (or device) condition pertaining to service life and dependability.
d) Full printout of test from system printer
e) Testing of exhaust gas by Gas Analyzer

The following items shall be delivered under this contract:

Description	QTY	Delivery Date	Deliver to
Names, biographic data, police clearance on Contractor personnel (#6.2)	1	30 days after contract award	COR
Certificate of Insurance (#11.2)	1	30 days after contract award	CO
PM Checklist signed by Contractor's employee (#7.2.1)	1	After completion of each maintenance service	COR
Invoice (#15)	1	After completion of each maintenance service	COR

11. INSURANCE REQUIREMENTS

11.1 Personal Injury, Property Loss or Damage (Liability). The Contractor assumes absolute responsibility and liability for any and all personal injuries or death and property damage or losses suffered due to negligence of the Contractor's personnel in the performance of this Contract

The Contractor's assumption of absolute liability is independent of any insurance policies.

11.2 Insurance. The Contractor, at its own expense, shall provide and maintain during the entire period of performance of this Contract, whatever insurance is legally necessary. The **Contractor shall carry the following minimum insurance:**

Public Liability Insurance

Property damage: $
Cumulative: $

Workers' Compensation and Employer's Liability

11.3 Worker's Compensation Insurance. The Contractor agrees to provide all employees with worker's compensation benefits as required under local laws (see FAR 52.228-4 "Worker's Compensation and War-Hazard Insurance Overseas").

12. LOCAL LAW REGISTRATION

If the local law or decree requires that one or both parties to the contract register the contract with the designated authorities to insure compliance with this law or decree, the entire burden of this registration shall rest upon the Contractor. Any local or other taxes which may be assessed against the Contract shall be payable by the Contractor without Government reimbursement.

13. QUALITY ASSURANCE PLAN (QAP).

13.1 Plan. This plan is designed to provide an effective surveillance method to promote effective Contractor performance. The QAP provides a method for the Contracting Officer's Representative (COR) to monitor Contractor performance, advise the Contractor of unsatisfactory performance, and notify the Contracting Officer of continued unsatisfactory performance. The Contractor, not the Government, is responsible for management and quality control to meet the terms of the Contract. The role of the Government is to conduct quality assurance to ensure that Contract standards are achieved.

Performance Objective	SOW Para	Performance Threshold
Services. Performs all services set forth in the Statement of Work (SOW)	1 thru 12 & Exhibit A	All required services are performed and no more than one (1) customer complaint is received per month

13.2 Surveillance. The COR will receive and document all complaints from Government personnel regarding the services provided. If appropriate, the COR will send the complaints to the Contractor for corrective action.

13.3 Standard. The performance standard is that the Government receives no more than one (1) customer complaint per month. The COR shall notify the Contracting Officer of the complaints so that the Contracting Officer may take appropriate action to enforce the inspection clause (FAR 52.212-4, Contract Terms and Conditions-Commercial Items), if any of the services exceed the standard.

13.4. Procedures.

13.4.1 If any Government personnel observe unacceptable services, either incomplete work or required services not being performed, they will immediately contact the COR.

13.4.2 The COR will complete appropriate documentation to record the complaint.

13.4.3 If the COR determines the complaint is invalid, the COR will advise the complainant. The COR will retain the annotated copy of the written complaint for his/her files.

13.4.4 If the COR determines the complaint is valid, the COR will inform the Contractor and give the Contractor additional time to correct the defect, if additional time is available. The COR shall determine how much time is reasonable.

13.4.5 The COR shall, as a minimum, orally notify the Contractor of any valid complaints.

13.4.6 If the Contractor disagrees with the complaint after investigation of the site and challenges the validity of the complaint, the Contractor shall notify the COR. The COR will review the matter to determine the validity of the complaint.
13.4.7 The COR will consider complaints as resolved unless notified otherwise by the complainant.

13.4.8. Repeat customer complaints are not permitted for any services. If a repeat customer complaint is received for the same deficiency during the service period, the COR will contact the Contracting Officer for appropriate action under the Inspection clause.

14. TRANSITIONS/CONTACTS

Within 30 days after contract award, the Contracting Officer may ask the contractor to develop a plan for preparing the contractor to assume all responsibilities for preventive maintenance services. The plan shall establish the projected period for completion of all clearances of contractor personnel, and the projected start date for performance of all services required under this contract. The plan shall assign priority to the selection of all supervisors to be used under the contract.

14.1 On site contact. The following are the designated contact personnel between the US Embassy and the Contractor
COR
Georgi Penev – Facility Engineer
PenevGP@state.gov

The Post Control Officer (PCO) will be the contractor's point of contact at the U.S. Embassy, Sofia, Bulgaria. All questions concerning coordination of service activities while at post shall be directed to the Post Control Officer, with weekly reporting to the COR:
PCO
Pavel Chergov-Post Control Officer (PCO)
ChergovPP@state.gov

15. SUBMISSION OF INVOICES

The Contractor shall submit an invoice after each preventive maintenance service has been performed. Invoices must be accompanied by a signed copy of the Maintenance Checklist for the work performed including parts replacement and break down calls, if any. No invoice for preventive maintenance services will be considered for payment unless accompanied by the relevant documentation.

The Contractor should expect payment 30 days after completion of service or 30 days after receipt of invoice at the Embassy's payment office, whichever is later. Invoices shall be sent to:

US Embassy Sofia,
16 Kozyak str.
Sofia 1408
Bulgaria

EXHIBIT A

Statement of Work

I. GENERAL INFORMATION:

The United States Embassy in Sofia requires professional services and contractor cost proposals to perform preventive maintenance services of the facility's Chillers (Water Cooled, Air Cooled, Modular, etc.).

II. PROJECT REQUIREMENTS:

DESCRIPTION OF EQUIPMENT *:

**Please see attachment at the end of this sheet for more details*

Water-Cooled YORK Screw Chillers manufactured by Johnson Controls Company, Model YRTATCTO550A, Output 700KW, and located in the Embassy Warehouse.
Air-Cooled YORK scroll chiller manufactured by Johnson Controls, model YCAL0087EB50, and located on the roof of the Chancery.
Dry Cooler manufactured by Young Touchstone – A Wabtec Company, located on the roof of the Embassy Warehouse

III. GENERAL REQUIREMENTS:

The Contractor under this SOW shall be responsible for labor, tools, and materials required to carry out all preventive maintenance as outlined in this SOW. The technician shall sign off on every task specified in the Statement of Work and will provide a typewritten copy of their report to the COR or the COR's designate within five business days of each maintenance visit.
The Government has the following manuals:
Water-Cooled YORK Screw Chillers Manual
Water Cooling Towers Manual
Dry Cooler Manual
Air-Cooled YORK scroll chiller Manual

IV. SCOPE OF WORK - - CHILLERS MAINTENANCE

Contractor shall provide all materials, supervision, labor, tools and equipment to perform preventive maintenance. All personnel working in the vicinity shall wear and /or use safety protection while all work is performed. Any questions or injuries **shall** be brought to the attention of the Post Occupation Safety and Health Officer (POSHO) immediately. Material Safety Data Sheets (MSDS) shall be provided by the Contractor for all HAZMAT materials. Copies shall be provided to the COR for approval.

The Contractor shall inventory, supply and replace expendable parts (e.g., filters, belts, hoses, gaskets) that have become worn down due to wear and tear. The Contractor shall maintain a supply of expendable and common parts on site so that these are readily available for normal maintenance to include: hoses, belts, oil, chemicals, coolant, filters (Air, Fuel, Oil), grease, sealant, thermostat, fuses; in addition to the appropriate tools, testing equipment, safety shoes and apparel for technicians, personal protective equipment (hands, hearing, eye protection), MSDS, cleaning material and oil spill containment kits. The contractor should inventory the supply after each visit and order replacement supplies and have them delivered on site. Maintenance materials shall be unused and are to be industry standard and intended for the task to be performed. Parts are to be OEM approved. Refrigerants are to meet the AHRI_Standard_700-2015 or most recent AHRI Standards.

Refrigerants, parts and maintenance materials delivered to the post are to be new and unused. Reclaimed refrigerants are not to be delivered to posts. Reclaimed refrigerants within post compounds are to be retained and stored and may be used if not contaminated. Refrigerants shall be stored in containers clearly indicating the refrigerant type.

Note to Statement of Work writer (this shall be done by another subcontractor and it has not been part of the current contract):

Water Treatment Considerations

A proper water treatment program, administered under the supervision of a competent water treatment specialist, is an essential part of routine maintenance to ensure the safe operation and longevity of chilled water system equipment, as well as other system components. A water treatment program must control the following situations:

- *Corrosion*
- *Scale Formation*
- *Biological Fouling*

Refer to the BME template for HVAC Water Treatment Systems for water quality parameters.

SAFETY AND SPECIAL INSTRUCTIONS:

1. Follow site safety procedures and supervisor's instructions.
2. Schedule outage with operating personnel.
3. Use extreme caution when climbing access ladders.
4. Perform applicable lockout/tag out steps of site safety procedures.
5. Lockout and disconnect the main power before tightening the main supply lugs in order to avoid the hazard of electrical shock, which could result in serious personal injury or death.
6. Record and report equipment damage or deficiencies.
7. Review and follow the manufacturer's O&M instructions.
8. Record results in the equipment history log.
9. Allow only qualified personnel to do maintenance work on this equipment.
10. Record results in the equipment history log.
11. Check manufacturer's specifications for the maximum number of plugged tubes.
12. Allow only qualified personnel to do maintenance work on this equipment.

CHILLERS

MAINTENANCE PROCEDURES:

Air Cooled Chiller:

Semi-Annually

1. Check unit for proper operation, excessive noise or vibration.
2. Run system diagnostics test.
3. Check oil level in oil separator sight glass. Add oil as necessary.
4. Check liquid line sight glass, oil, and refrigerant pressures.
5. Record system operating temperatures and pressures in the checklist.
6. Check programmable operating set points and safety cutouts. Assure they are correct for the application.
7. Verify motor amperage load limit.
8. Thoroughly clean evaporator and condenser tubes.
9. Inspect plumbing and valves for leaks, adjust, as necessary.
10. Check compressor and evaporator heater operation.

11. Check superheat on the evaporator and the economizer feed to the compressor.
12. Check condenser sub-cooling. Check for dirt in the panel. Check door gasket for sealing integrity.
13. Clean chiller and surrounding area.
14. Fill out maintenance checklist and report deficiencies.

Annually

1. Disconnect power source and lock out. Check electrical wiring and connections; tighten loose connections.
2. Perform all check items in the Semi-Annual schedule.
3. Perform analysis on oil and filter. Change if necessary. Check compressor oil pump and seals. Check oil heater and thermostat. Check all strainers, valves, etc.
4. Conduct vibration analysis of motor & assembly: Check all alignments to specifications. Check all seals.
5. Lubricate shaft bearings and motor bearings as required.
6. Check superheat and sub-cooling temperatures.
7. Check contactors, sensors, and mechanical safety limits.
8. Check the chiller for leaks. Add refrigerant if low. Record amounts and address leakage problems.
9. Thoroughly clean intake side condenser coils, fans, and intake screens.
10. Perform any additional maintenance tasks as recommended in the manufacture's operation and maintenance manuals.
11. Perform operational test and return to service.
12. Remove debris from work-site.
13. Fill out maintenance checklist and report deficiencies.

Water Cooled Chiller:

Semi-Annually

1. Check unit for proper operation.
2. Check oil level; add oil as necessary.
3. Check oil temperature.
4. Check dehydrator or purge system; remove water if observed in sight.
5. Run system control tests.
6. Check refrigerant charge/level, add as necessary.
7. Check compressor for excessive noise/vibration.
8. Check sensor and mechanical safety limits; replace as necessary.
9. Clean area around equipment.

10. Document all maintenance and cleaning procedures.

Annually

1. Disconnect power source and lock out. Check electrical wiring and connections; tighten loose connections.
2. Perform all check items in the Semi-Annual schedule.
3. Clean dehydrator float valve.
4. Perform spectrochemical analysis of compressor oil; replace oil as necessary.
5. Replace oil filters and add oil as necessary.
6. Inspect cooler and condenser tubes for leaks; clean screens as necessary.
7. For dedicated PCC chillers the glycol level of the chilled water is to be checked and adjusted to the percentage required by OBO Engineering Dept.
8. Inspect utility vessel vent piping and safety relief valve; replace as necessary.
9. Inspect/clean the economizer, gas line damper valve and actuator arm.
10. Run an insulation test on the centrifugal motor.
11. Clean area around equipment.
12. Document all maintenance and cleaning procedures.

Every 2 years

1. Eddie current test from certified personnel

Scroll Chiller:

Monthly

1. Measure and record the evaporator superheat.
2. Measure and record the system sub-cooling.
3. Manually rotate the condenser fans to ensure that there is proper clearance on the fan shroud openings.

Annually

1. Disconnect power source and lock out. Check electrical wiring and connections; tighten loose connections.
2. Complete all monthly maintenance checks.
3. Check the oil level and refrigerant charge.
4. Have a qualified laboratory perform a compressor oil analysis to determine system moisture content and acid level.
5. Leak test the chiller, check operating and safety controls, and inspect electrical components for proper operation.

6. Inspect all piping components for leaks and damage. Clean all water strainers
7. Clean and repaint any components that show corrosion.
8. Clean the condenser coils.
9. Clean the condenser fans. Check the fan assemblies for proper clearance in the fan shroud openings and for motor shaft misalignment or abnormal end-play, vibration and noise.

Modular Chiller: [3]

Annually

1. Disconnect power source and lock out. Check electrical wiring and connections; tighten loose connections.
2. Inspect all electrical connections to check that they are not damaged and terminals are tight. Inspect all contactors for pitting and corrosion replace as necessary.
3. Inspect all cabinet screws nuts and bolts, fan motor mount bolts, fan blade set screws, shell and tube evaporator mounting, end cap bolts and connection bolts, brazed plate evaporator mounting bolts as well as compressor and pump mounting bolts for tightness as well as anti-vibration and isolator pads.
4. Check all fuses to make sure that they are sized correctly with proper amp rating.
5. Check all refrigerant pressures and inspect compressor in operation – look for signs of overheating, oil leaks or refrigerant leaks.
6. Conduct "sniffer" leak check of entire refrigerant piping system. Inspect compressor terminals when powered down for pitting, corrosion and loose connections.
7. Check that pressure switches and thermostats have correct cut-in and cut-out settings.
8. Check that the oil level is visible in each compressor and not discolored or bubbled. Take oil sample and analyze for destructive acids, corrosive materials and metal deposits.
9. Check that the pump(s) overload settings match the nameplate(s) and that they work properly.
10. Ensure that the condensing unit is clean and clear of surrounding debris and that panels are clear.
11. Check and record the compressor amperage draws and voltage.
12. Check and record the fan motor amp draws and voltage. Make sure of proper rotation and lubricate if required.
13. Check and record amp draw of the pumps and voltage. Check for signs of leakage at pump seal and suction and discharge connections.
14. Record G.P.M. water flow and compare to design specifications.
15. Check the glycol level of the chilled water.
16. Check that there is a sufficient Glycol level in feeder tank and check for proper operation.

17. Tighten all Rota-Lock nuts at the Compressors, Receivers and accumulators. Torque is per manufacturer's recommendations.
18. Inspect all control capillary tubing to ensure that the lines are separated and not vibrating against each other or any part of the frame or housing.
19. Inspect all other refrigeration lines for secure mountings. Take corrective measures necessary to prevent piping from rubbing the frame etc.
20. Inspect all insulation on piping and control sensors. Repair and replace as necessary. Inspect entire plumbing system for leaks and clean any strainers on the system. Replace as necessary.
21. Check crank case heaters to verify proper operation. Keep spares in stock.
22. Take a refrigerant sample and analyze for moisture, acid, and rust.
23. Check operating pressures and temperatures and evaluate whether the system has a full refrigerant charge.
24. Review logged alarms and look for repeat trends.
25. Document the preventive maintenance task that have been completed and submit to the Government.

Motor Starter /Variable Frequency Drive (5 HP to Less Than 100 HP):

MAINTENANCE PROCEDURES:

Annually:

1. Vacuum dust and dirt from heat sink fins
2. Check ventilation fans for proper operation and clean as needed.
3. Check line voltage, motor & output phase balance
4. Complete RCM Procedure CM-0002 (Qualitative Infrared Testing).
5. Visually inspect for broken parts, contact arcing, or any evidence of overheating.
6. Check motor nameplate for current rating and controller manufacturer's recommended heater size (report discrepancy to supervisor).
7. Check line and load connections for tightness (check manufacturer's instructions for torque specifications).
8. Check heater mounting screws for tightness.
9. Check all control wiring connections for tightness.
10. On units equipped with motor reversing capacity, check mechanical interlock.
11. On units equipped with two-stage starting, check dash pots and timing controls for proper operation. Adjust as required.
12. On units equipped with variable speed starters:
    a. Record the VFD parameter settings using MCT-10

b. Confirm the VFD doors and covers are in place and properly closed.
c. Check tightness of connections to resistor bank.
d. Check resistor coils and plates for cracking, broken wires, mounting and signs of overheating. Clean as required.
e. Check tightness of connections to drum controller.
f. Check contacts of drum controller for arcing and overheating. Apply a thin film of lubricant to drum controller contacts and to rotating surfaces.

13. Check starter contact connections by applying a thin film of black contact grease to line and load stabs, operate contacts and check surface contact.
14. Lubricate all moving parts with proper lubricant.
15. Clean interior of cabinet.
16. Clean exterior of cabinet.
17. Energize circuit and check operation of starter and any pilot lights. Replace as required.

Panel, Electronic Controls:

Annually

1. Clean panel interior.
2. Verify functionality of supported devices.
3. Clean ventilation filter and fan (if applicable).
4. Record and report equipment damage or deficiencies.
5. Record results in the equipment history log

Bi-Annually

1. Replace battery where applicable.

EXHIBIT B

Statement of Work

I. GENERAL INFORMATION:

The United States Embassy in Sofia requires professional services and contractor cost proposals to perform preventive maintenance services of the facility's Cooling Towers

II. PROJECT REQUIREMENTS:

DESCRIPTION OF EQUIPMENT *:

**Please see attachment at the end of this sheet for more details*

Water Cooling Towers manufactured by Marley Inc.; Model: induced draft crosses & flow type cooling tower with two cells NC8304CL2 and located in the Embassy Warehouse.

III. GENERAL REQUIREMENTS:

The Contractor under this SOW shall be responsible for labor, tools, and materials required to carry out all preventive maintenance as outlined in this SOW. The technician shall sign off on every task specified in the Statement of Work and will provide a typewritten copy of their report to the COR or the COR's designate within five business days of each maintenance visit.
The Government has the following manuals:

Water Cooling Towers Manual

IV. SCOPE OF WORK - - Water Cooling Towers MAINTENANCE

Contractor shall provide all materials, supervision, labor, tools and equipment to perform preventive maintenance. All personnel working in the vicinity shall wear and /or use safety protection while all work is performed. Any questions or injuries **shall** be

brought to the attention of the Post Occupation Safety and Health Officer (POSHO) immediately. Material Safety Data Sheets (MSDS) shall be provided by the Contractor for all HAZMAT materials. Copies shall be provided to the COR for approval.

The Contractor shall inventory, supply and replace expendable parts that have become worn down due to wear and tear. The Contractor shall maintain a supply of expendable and common parts on site so that these are readily available for normal maintenance. The contractor should inventory the supply after each visit and order replacement supplies and have them delivered on site. Maintenance materials shall be unused and are to be industry standard and intended for the task to be performed. Parts are to be OEM approved.

Note to Statement of Work writer (this shall be done by another subcontractor and it has not been part of the current contract):

Water Treatment Considerations

A proper water treatment program, administered under the supervision of a competent water treatment specialist, is an essential part of routine maintenance to ensure the safe operation and longevity of chilled water system equipment, as well as other system components. A water treatment program must control the following situations:

- *Corrosion*
- *Scale Formation*
- *Biological Fouling*

Refer to the BME template for HVAC Water Treatment Systems for water quality parameters.

SAFETY AND SPECIAL INSTRUCTIONS:

2. Follow site safety procedures and supervisor's instructions.
13. Schedule outage with operating personnel.
14. Use extreme caution when climbing access ladders.
15. Perform applicable lockout/tag out steps of site safety procedures.
16. Lockout and disconnect the main power before tightening the main supply lugs in order to avoid the hazard of electrical shock, which could result in serious personal injury or death.
17. Record and report equipment damage or deficiencies.
18. Review and follow the manufacturer's O&M instructions.
19. Record results in the equipment history log.

20. Allow only qualified personnel to do maintenance work on this equipment.
21. Record results in the equipment history log.
22. Check manufacturer's specifications for the maximum number of plugged tubes.
23. Allow only qualified personnel to do maintenance work on this equipment.

Cooling Towers:

	Maintenance service	Monthly	Seasonal Startup
1	Inspect general condition & operation	x	
	Observe operation of:		
2	Mechanical motor,fan & drive mechanism	x	
3	Makeup valve	x	
4	Inspect for unusual noise or vibration	x	
	Inspect and clean:		
5	Air inlet	x	
6	PVC drift eliminators	x	
7	Distribution basin,nozzles & collection basin	x	
8	Fan motor exterior	x	
	Check:	x	
9	Collection water basin level	x	
10	Blowdown	x	
11	Check for loose fasteners including oil drain plug		x
12	Check for/repair oil leaks	x	
13	Check oil level	x	
14	Change oil		5-years
15	Make sure vent is open		x
16	Check driveshaft or coupling alignment		x
17	Check for loose driveshaft or coupling fasteners		x
18	Check driveshaft or flex element for unusual wear		x

	Fan:		
19	Check and tighten blade and hub fasteners		x
20	Check fan blade pitch and tip clearence		x
21	Check fan cylinder for loose fasteners		x
	Motor:		
22	Lubricate (grease) as required)		as requested
23	Check mounting bolts for tightness		x
	Basin heaters:		
24	Check for proper operation of temp/low water level sensor		x
25	Inspect/clean buildup of conaminant from sensor		x
	Structure:		
26	Inspect/tighten all fasteners		x
27	Inspect and touch up all metall surfaces		x

Equipment	Manufacturer	Model	Serial Number	Specifications	Location
Water-Cooled YORK Screw Chillers Output 700KW	Johnson Controls	YRTATCTO550 A			Embassy Warehouse
Water Cooling Towers	Marley Inc	Model: induced draft crosses & flow type cooling tower with two cells NC8304CL2			Embassy Warehouse
Dry Cooler	Young Touchstone - A Wabtec Company				Embassy Warehouse Roof
Air cooled YORK scroll chiller output 84.7 kW	Johnson Controls	Model YCAL0087EB50			Chancery Roof

END OF STATEMENT OF WOR