

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT		1. CONTRACT ID CODE		PAGE OF PAGES 1	
2. AMENDMENT/MODIFICATION NO. A002		3. EFFECTIVE DATE February 25, 2020		4. REQUISITION/PURCHASE REQ. NO. PR8916401	
5. PROJECT NO. (If applicable) 19PK4020Q5021		6. ISSUED BY Contracting Officer Department of State American Consulate General Karachi.		7. ADMINISTERED BY (If other than Item 6) CODE	
8. NAME AND ADDRESS OF CONTRACTOR (NO., street,city,county,State,and ZIP Code) Offerors		9a. AMENDMENT OF SOLICITATION PR8916401		9b. DATED (SEE ITEM 11) February 25, 2020	
		10a. MODIFICATION OF CONTRACT/ORDER NO. 002		10b. DATED (SEE ITEM 13)	
11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS					
<p><input type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers <input checked="" type="checkbox"/> is extended, <input type="checkbox"/> is not extended</p> <p>Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment;(b) By acknowledging receipt of this amendment on each copy of the offer submitted; or(c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers.</p> <p>FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment and is received prior to the opening hour and date specified.</p>					
12. ACCOUNTING AND APPROPRIATION DATA (If required)					
13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.					
A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.					
B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b)					
C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:					
X D. OTHER (Specify type of modification and authority)					
E. IMPORTANT: Contractor <input checked="" type="checkbox"/> is not, <input type="checkbox"/> is required to sign this document and return <u>01</u> copies to the issuing office.					
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)					
The purpose of this amendment is as follow,					
1- To amend contractor bid submission date to March 05, 2020 at 1400hr.					
2- Revised SOW attached.					
3- Safety clauses attached .					
Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.					
15A. NAME AND TITLE OF SIGNER (Type or print)			16A. NAME OF CONTRACTING OFFICER		
			Sandra A Castillo		
15B. NAME OF CONTRACTOR/OFFEROR		15C. DATE SIGNED	16B. UNITED STATES OF AMERICA		16C. DATE SIGNED
BY _____ (Signature of person authorized to sign)			BY _____ (Signature of Contracting Officer)		

Amendment # 002

Solicitation No: PR8916401 – 19PK4020Q5021- KHI-FM-BME Medium Voltage Network PM Services according to the SOW at NCC, U.S. Consulate General, Karachi

Preventive Maintenance Contract

Scope of Work

For

Medium Voltage Network

United States Consulate General

Karachi

2019

SECTION 1 - THE SCHEDULE

1.0 DESCRIPTION

The American Consulate General Karachi requires preventive maintenance services on the facility's main service electrical Medium Voltage Network (as per equipment list attached). These services shall result in all systems being serviced under this agreement being in good operational condition when activated.

1.1. TYPE OF CONTRACT

This is a firm fixed price contract payable entirely in USD. Prices for all Contract Line Item Numbers (CLIN) shall include proper disposal of toxic substances as per Item 8.3 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.

2.0 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.

CLIN	Description	Type of services	No. of service	Unit price / service (\$)	Total per year (\$)
001	Preventive Maintenance for 11 KV Equipment (Electrical Distribution Switchgear) as per Exhibit A (Including Travel & Lodging if any)	Annual Preventive Maintenance	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	Type of services	No. of service	Unit price / service (\$)	Total per year (\$)
101	Preventive Maintenance for 11 KV Equipment (Electrical Distribution Switchgear) as per Exhibit A (Including Travel & Lodging if any)	Annual Preventive Maintenance	1		
	Total Option Year 1				

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	Type of services	No. of service	Unit price / service (\$)	Total per year (\$)
201	Preventive Maintenance for 11 KV Equipment (Electrical Distribution Switchgear) as per Exhibit A (Including Travel & Lodging if any)	Annual Preventive Maintenance	1		
	Total Option Year 2				

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	Type of services	No. of service	Unit price / service (\$)	Total per year (\$)
301	Preventive Maintenance for 11 KV Equipment (Electrical Distribution Switchgear) as per Exhibit A (Including Travel & Lodging if any)	Annual Preventive Maintenance	1		
Total Option Year 3					

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	Type of services	No. of service	Unit price / service (\$)	Total per year (\$)
101	Preventive Maintenance for 11 KV Equipment (Electrical Distribution Switchgear) as per Exhibit A (Including Travel & Lodging if any)	Annual Preventive Maintenance	1		
Total Option Year 4					

2.6. Total for all years:

Base Year	\$ _____
Option Year 1	\$ _____
Option Year 2	\$ _____
Option Year 3	\$ _____

Option Year 4	\$ _____
TOTAL	\$ _____

2.7 Repair option. Repairs are NOT included under this agreement (see 7.1.3) and are to be done outside this contract. However, we would like to have 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 approval.

Repair Labor Rates

Base Year	\$ _____
Option Year 1	\$ _____
Option Year 2	\$ _____
Option Year 3	\$ _____
Option Year 4	\$ _____
TOTAL	\$ _____

3.0 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.

DESCRIPTION/SPECIFICATION/WORK STATEMENT

4.0 EQUIPMENT AND PERFORMANCE REQUIREMENTS

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

- 1) Medium Voltage (11000V) Network (as per equipment list attached)

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

It is expected that all aspect in this SOW will be completed. Work will result in the system being in good working condition upon reactivation. All deliverables shall be completed on time under this agreement.

5.0 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 [0800] and [1700] Monday through Friday. No work shall be performed on US Government and local holidays. Below is a list of the holidays.

HOLIDAY	DATE	DAY	TYPE
New Year's Day	January 1	Wednesday	U.S.
Martin Luther King Jr. Birthday	January 20	Monday	U.S.
Kashmir Day	February 5	Wednesday	Pakistan
Washington's Birthday	February 17	Monday	U.S.
Pakistan Day	March 23	Monday	Pakistan
Labor Day	May 1	Friday	Pakistan
Memorial Day	May 25	Monday	U.S.
Eid ul Fitr*	May 25-27	Monday - Wednesday	Pakistan
Independence Day	July 3**	Friday	U.S.
Eid ul Azha*	July 31- August 2	Friday-Sunday	Pakistan
Pakistan Independence Day	August 14	Friday	Pakistan
9th and 10th Moharram*	August 28-29	Friday- Saturday	Pakistan
Labor Day	September 7	Monday	U.S.
Columbus Day	October 12	Monday	U.S.
Veteran's Day	November 11	Wednesday	U.S.
Thanksgiving Day	November 26	Thursday	U.S.
Christmas Day	December 25	Friday	U.S.

* Holidays based on the lunar calendar are subject to the appearance of the moon and may vary from the scheduled dates. Exact dates will be determined and announced based on the decision of the Pakistani Government.

** July 4, the legal public holiday, falls on a Saturday

6.0 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. The Contractor's employees shall be on-site only for contractual duties and not for any other business or purpose. Contractor employees shall have 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 shall be used on this Contract prior to their utilization. Submission of information shall be made within 5 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 you need to have vehicle access please submit your vehicle information (Make, Model, License Plate #) along with a written justification as to why access is necessary. This should be submitted to the Facility Manager at least one (1) week prior to the visit.

6.2.1 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.

Choose Red for non-CAA, blue for CAA

6.3 Security Clearances. All Work 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.

6.4.2 Uniforms and Personal Equipment. The Contractor's employees shall wear clean, neat and complete uniforms when on duty. All employees shall wear uniforms approved by the Contracting

Officer's Representative (COR). The Contractor shall provide, to each employee and supervisor, uniforms and personal equipment. The Contractor shall be responsible for the cost of purchasing, cleaning, pressing, and repair of the uniforms.

6.4.3 Neglect of Duties. Neglect of duties shall not be condoned. 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 from Post 1 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.

7.0 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 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.

7.1.3. Exclusion. This contract does NOT include repair of equipment and replacement of hardware (e.g. bearings, pistons, piston rings, crankshaft, and 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.

7.1.4. Replacement/repair of any electronic or electrical parts must 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.

7.2 Checklist Approval

The Contractor shall submit to the COR a schedule and description of preventive maintenance tasks which the Contractor plans to provide. The contractor shall customize a work sheet to match the equipment or use a factory supplied one outlining the sequence of events and tasks to be performed. The Contractor shall prepare this schedule, work sheet, 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 the maintenance visit.

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

8.0 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 will include but 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), will be maintained in the onsite inventory. See 7.1.2.

8.2 Repairs. Repairs are not included in this contract. See Item 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.

9.0 Test and inspection field report: The contractor shall provide one copy of a typed summary report within 30 days of site work statement completion. The report must be written in the English language. At a minimum the report must include:

- Provide a narrative summary site report to include all findings, repairs or corrective measures, completed inspection/testing checklists.
- Provide a detailed report noting any noted discrepancy; include photos of the problem and a narrative summary of the corrective action required. The repair action will be contracted separately.
- Provide a Bill of Materials (BOM) as necessary for any required repair parts for future corrective action or repair. The BOM must note component name, part #, vendor or source, approximate lead time, suggested retail price.
- Provide a separate Bill of Materials (BOM) as necessary for any recommended spare parts for system. This can include applicable electrical safety PPE that post does not have onsite.
- Detail report covering all aspects of equipment upgrading, system modification, new part installation in all locations.
- Provide a “marked-up” as-build drawing as necessary to indicate any modifications or differences found during inspection.
- In the final report list any Locally Employed Staff that assisted in this planned maintenance action. This is not a training requirement, but rather to document the personnel involved in the work.

10. DELIVERABLES

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	10 days after contract award	COR
Certificate of Insurance	1	15days after contract award	COR
Checklist and work sheet (7.2)	1	Prior to commencement of work	COR
Checklist signed by Contractor’s employee (#7.2.1)	1	After completion of each maintenance service	COR
Test and Inspection Field Report (#9.0)	1	30 days after each completion of service	COR
Invoice	1	After completion of each maintenance service	COR

11.0 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

Bodily Injury	\$200 per occurrence	\$500	Cumulative
Property Damage	\$200 per occurrence	\$500	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").

12.0 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.

13.0 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	PWS Para	Performance Threshold
<u>Services.</u> Performs all services set forth in the performance work statement (PWS)	1	All required services are performed and job completion report will be obtained from COR

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 contractors have to obtain job completion report from COR. 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 should 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 will 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 10 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

-Facility Manager: [Michael L. Betts, BettsML@state.gov](mailto:BettsML@state.gov), +9221-35275416

-Technical Specialist: Farrukh Ahmed Khan, KhanFA1@State.gov +9221-35275391

Exhibit A -- STATEMENT OF WORK

I. GENERAL INFORMATION:

The United States Consulate General Karachi requires professional services and contractor cost proposals to perform preventive maintenance services on the Facility's Medium Voltage Network

II. PROJECT REQUIREMENTS:

- 1) Medium Voltage Network

III. GENERAL REQUIREMENTS:

The Contractor under this SOW will be responsible for labor, tools, and materials required to carry out all preventive maintenance as outlined in this SOW. Embassy staff has service manuals for all Electrical Switchgear on site.

IV. SCOPE OF WORK – MEDIUM VOLTAGE NETWORK PREVENTIVE MAINTENANCE

Contractor shall provide all materials, supervision, labor, tools and equipment to perform preventive maintenance of MV network (as per attached list) .This must include, but not limited to, Transformers, VCBs, Protective Relays, MV AVRs and Load break switches.

All personnel working in the vicinity shall wear and /or use safety protection while all work is performed. Strict adherence to NFPA70-E and applicable OSHA standards must be maintained at all times. Regular safety meetings shall be held among on-site contractor personnel and LES staff assisting. Any questions or injuries **shall** be brought to the attention of the Post Occupation Safety and Health Officer (POSHO). Material Safety Data Sheets (MSDS) shall be provided by the Contractor for all HAZMAT materials. Copies will be provided to the COR for approval. **The system shall be grounded out with approved ground clusters properly rated for the task as part of the LOTO requirement.**

Contractor – Must understand and comply with 15 FAM 957.7 Electrical Safe Work Practice Requirements (CT: OBO-83; NFPA 05-01-2019). This is a Post requirement to have an established electrical safety program.

Prior to beginning any site work the contractor must submit to the embassy FM an isolation Standard Operating Procedure (SOP) and schedule to reflect the planned work and sequence. The contractor must obtain written approval from the embassy Facility Manager noting the planned servicing schedule, and all required generator transfers, tie-breaker switching, or switchgear outages.

If any discrepancies are found with the generator system that are not covered under this scope of work then the contractor must provide the following:

1. Detailed report noting the discrepancy found.
2. Bill of Materials (BOM) to include component name, quantity, part #, and price for any repair material required and material lead time.
3. Price quote for repair labor.

The work to be done, but not limited to

Task Description

A. Step-One, Visual Inspection:

- 1) Visual and Mechanical Inspection to insure the proper operation of all factory and vender installed meters, breakers, remote power monitoring equipment associated with the switch gear.
- 2) Inspect physical, electrical, and mechanical condition including evidence of moisture or corona.
- 3) Inspect that all filters are in place, and the vents are clear.
- 4) Inspect that the working space is maintained in front of all the electrical gear per the National Electrical Code (NEC) requirements.
- 5) Inspect that the electrical room is free from foreign articles not associated with the room.

B. Step-Two, Verify:

- 1) Compare the installed metering measurements with voltage and power readings from a True RMS meter. Make calibration corrections as necessary to ensure accurate voltage and power readings.
- 2) Verify the switchgear circuit breakers sizing match the drawings.
- 3) Verify the proper labeling of all the breakers in the switchgear.
- 4) Verify that the Post as-build drawings (electrical one-line) match the switchgear distribution. Make "Red Ink" corrections on a paper copy as necessary. Inform the FM of any discrepancies or changes to the drawings.
- 5) Verify that the required NFPA70-E safety equipment is available and in good condition for local staff to use.
- 6) Refer to the manufactures recommendations for additional maintenance requirements.

C. Step-Three, Test/Clean/Correct:

- 1) Inspect anchorage, alignment, grounding for the equipment.
- 2) Test the system earth ground.
- 3) Perform infrared testing on all conductor connections, bus terminations. Only record hot spots on digital format for review.
- 4) Before shutdown insure that all components are operational. Record ones that are not at this time. Make the FM aware of all components that are not functioning prior to shut down.
- 5) Schedule power outage of equipment for cleaning. Coordinate any required outage with post. (Outage may require off hours work).
- 6) As applicable perform function tests on "rack-out" breakers, test trip units and settings. Replace any faulty battery, fuse, or switch.
- 7) Perform proper Lock-out/Tag-out and ensure the system is de-energized before removing panel covers and exposing any electrical bus or cabling. Under no circumstances should the equipment be energized during the maintenance operation.
- 8) Clean each compartment. Check for damage, excessive wear, or corrosion
- 9) Spot check and correct any loose components or connections.
- 10) Torque loose connections identified during the infrared test or during inspection.
- 11) Confirm correct operation and sequencing of electrical and mechanical interlock systems.

- 12) Use appropriate dielectric lubrication on moving current-carrying parts and on moving and sliding surfaces.
- 13) Correct any faulty, damaged, discolored, and worn components using site spares.
- 14) Exercise all active components. This includes racking the breakers out than back in.
- 15) Inspect mechanical indicating devices for correct operation.
- 16) Inspect all power control transformers for physical damage, cracked insulation, broken leads, tightness of connections, defective wiring, proper overload protection, and over all general wiring.
- 17) After re-energizing the equipment ensure that all components are up and functioning properly.
- 18) Refer to the manufactures suggested recommendations for additional maintenance requirements.
- 19) Clean or replace any air filters present.
- 20) Make calibration corrections as necessary to ensure accurate voltage and power readings on permanently installed switchgear metering.
- 21) For additional reference, NETA MTS will be followed for all equipment listed below in the equipment list.

Attachement - A (EQUIPMENT LIST)

Medium Voltage Equipment List.						
Equipment	Manufacturer	Model	Serial	QTY	Specification	Location
Load Current Interrupter (Gen#5)	SQUARE D USA	CAT;175GXMSJD100E	17-27145430-001	1	11kv, 600A, BIL 95Kv	Behind Utility Building# 1 NCC
Vacuum Ckt. Breaker (Incoming)	Siemens Pakistan	3AH5103-1, SIMOPRIME	PK 9185	1	12KV, 800A, 20KA, 50Hz	Utility Kiosk Sub-Station NCC
Vacuum Ckt. Breaker (Outgoing)	Siemens Pakistan	3AH5103-1, SIMOPRIME	PK 9186	1	12KV, 800A, 20KA, 50Hz	Utility Kiosk Sub-Station NCC
Vacuum Ckt. Breaker (bypass)	Siemens Pakistan	3AH5103-1, SIMOPRIME	PK 9184	1	12KV, 800A, 20KA, 50Hz	Utility Kiosk Sub-Station NCC
Protective Relay (Incoming)	Siemens Germany	7SJ6005-2EA00-0DA0/BB	BF1212534519	1	O/C, E/F, O/Sc INPUT IA/5A	Utility Kiosk Sub-Station NCC
Protective Relay (Outgoing)	Siemens Germany	7SJ6005-2EA00-0DA0/BB	BF1212534523	1	O/C, E/F, O/Sc INPUT IA/5A	Utility Kiosk Sub-Station NCC
Vacuum Ckt. Breaker	Enercon Engg. Inc	CAT No.EMVS ; SD	36392E	14	15KV, 1200A , 50Hz, BIL 95KV,	Utility Building # 1
Protective Relay	GE USA	735-5-5-L-0		7	O/C, E/F, O/Sc INPUT IA/5A	Utility Building # 1
Protective Relay	GE USA	489-P5-H1-A20		5	O/C, E/F, O/Sc INPUT IA/5A	Utility Building # 1
Load Break switch with VFI	COOPER POWER	CAT; KVF16FVB	CP570906784	1	3-Phase, 15Kv, 200A, BIL 95KV	Sub-Station # 1 NCC
Load Break switch with VFI	COOPER POWER	CAT; KVF16FVB	CP570906783	1	3-Phase, 15Kv, 200A, BIL 95KV	Sub-Station # 2 NCC
Load Break switch with VFI	COOPER POWER	CAT; KVF16FVB	CP570906782	1	3-Phase, 15Kv, 200A, BIL 95KV	Sub-Station # 3 NCC
Load Break switch with VFI	COOPER POWER	CAT; KVF16FVB	CP570906781	1	3-Phase, 15Kv, 200A, BIL 95KV	Sub-Station # 4 NCC
Load Break switch with VFI	COOPER POWER	CAT; KVF16FV	CP570916055	1	3-Phase, 15Kv, 200A, BIL 95KV	Sub-Station # 5 NCC
Load Break switch with VFI	COOPER POWER	CAT; KVF16FV	CP570916054	1	3-Phase, 15Kv, 200A, BIL 95KV	Sub-Station # 6 NCC
Transformer # 1	COOPER POWER	CAT; 0000BV10KXHA	CP0950002745	1	300KVA, 11KV/416V, PAD MOUNT	Sub-Station # 1 NCC
Transformer # 2	COOPER POWER	CAT; 0000BA65KXLA	CP0959000608	1	2000/2300KVA, 11KV/416V, PAD MOUNT	Sub-Station # 2 NCC
Transformer # 3	COOPER POWER	CAT; 0000BV10KXHA	CP0950002744	1	300KVA, 11KV/416V, PAD MOUNT	Sub-Station # 3 NCC
Transformer # 4	COOPER POWER	CAT; 0000BV13KXJA	CP0950002747	1	1000/1150KVA, 11KV/416V, PAD MOUNT	Sub-Station # 4 NCC
Transformer # 5	COOPER POWER	CAT; 0001WP11XBTA	CP1650007633	1	500KVA, 11KV/416V, PAD MOUNT	Sub-Station # 5 NCC
Transformer # 6	COOPER POWER	CAT; 0001WP13XBWA	CP1650007634	1	1000KVA, 11KV/416V, PAD MOUNT	Sub-Station # 6 NCC
Transformer # 1A	COOPER POWER	CAT; 0000BV13KXJA	CP0950002746	1	1000/1150KVA, 11KV/416V, PAD MOUNT	Sub-Station # 1 NCC
Automatic Voltage Regulator	Siemens Engg; Inc	JFR	5509935-1	1	165KVA, 11KV, 150A, BIL 95KV 1-Phase	Utility Kiosk Sub-Station NCC
Automatic Voltage Regulator	Siemens Engg; Inc	JFR	5509935-2	1	165KVA, 11KV, 150A, BIL 95KV 1-Phase	Utility Kiosk Sub-Station NCC
Automatic Voltage Regulator	Siemens Engg; Inc	JFR	5509935-3	1	165KVA, 11KV, 150A, BIL 95KV 1-Phase	Utility Kiosk Sub-Station NCC

15 FAM 957.7 Electrical Safe Work Practice Requirements

(CT:OBO-83; 05-01-2019)

- a. The latest edition of the National Fire Protection Association's manual, NFPA 70E, Standard for Electrical Safety in the Workplace, is the Department of State standard for safe electrical work practices. This is in addition to the applicable requirements set forth in 29 CFR 1910 and 29 CFR 1926.*
- b. Posts must implement these requirements. Assistance can be found on the SHEM SharePoint site under Safe Electrical Work Practices Program and Controls (Safe Work Practices). Other Department organizations and contractors conducting electrical work at posts must meet these same standards. As a minimum this program must address the following key requirements:*
 - (1) Establish, document, implement, and enforce a work de-energized policy;*
 - (2) Establish, document, implement, and enforce an effective Lock Out/Tag Out (LOTO) policy including written operating procedures to safely isolate electrical circuits and switchgear;*
 - (3) Establish an Energized Work Permit control system when the POSHO deems it is infeasible to de-energize circuits (Energized Work Permit);*
 - (4) Provide appropriate personal protective equipment, tools and meters for all qualified technicians performing electrical work; and*
 - (5) Provide and document training for locally employed (LE) staff to ensure their qualification to perform electrical work safely.*
- c. Information to assist posts in meeting these requirements is contained in chapters one (1) and two (2) of NFPA 70E.*