

<b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>			1. CONTRACT ID CODE	Page 1 of 9
2. AMENDMENT/MODIFICATION NO. A001	3. EFFECTIVE DATE 11/24/2015	4. REQUISITION/PURCHASE REQ. NO. S-IN650-16-Q-0010	5. PROJECT NO. (If applicable)	
6. ISSUED BY	CODE		7. ADMINISTERED BY (If other than Item 6)	CODE
8. NAME AND ADDRESS OF CONTRACTOR (NO., street, city, county, State, and ZIP Code)			<input checked="" type="checkbox"/> 9a. AMENDMENT OF SOLICITATION NO. <b>S-IN650-16-Q-0010</b>	
			9b. DATED (SEE ITEM 11) <b>November 17, 2015</b>	
			10a. MODIFICATION OF CONTRACT/ORDER NO.	
			10b. DATED (SEE ITEM 13)	
<b>11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS</b>				
<p>X The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers <input type="checkbox"/> is extended, <input checked="" type="checkbox"/> is not extended. 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 <input type="checkbox"/> 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><b>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.</b> 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)				
<b>13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.</b>				
—	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: 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:			
—	D. OTHER (Specify type of modification and authority)			
E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input type="checkbox"/> is required to sign this document and return <input type="checkbox"/> copies to the issuing office.				
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)				
<p><b>The solicitation is amended to incorporate changes in scope of work. Refer to revised scope of work "Attachment # 3". No other changes.</b></p>				
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 Kris Arvind	
15B. NAME OF CONTRACTOR/OFFEROR		15C. DATE SIGNED	16B. UNITED STATES OF AMERICA, BY  (Signature of Contracting Officer)	16C. DATE SIGNED November 24, 2015
BY _____ (Signature of person authorized to sign)				

## **ATTACHMENT # 3 – REVISED SPECIFICATIONS/STATEMENT OF WORK**

### **STATEMENT OF WORKS FOR REPLACING THE OLTC TRANSFORMER OF THE CHANCERY BUILDING**

#### **1.0 Brief Description of Work:**

The United States Embassy, New Delhi has requirement for replacing a 1500 KVA OLTC distribution transformer with the same capacity. The objective of this project is to study the existing single line diagram of the building electrical system, supply, install and commission the replacement transformer and on load tap changer with manual tap changing options. The project involves, design, supply and installation of new dry type OLTC transformer for the chancery building to replace the existing oil cooled OLTC transformer that is so antiquated that parts are no longer available for maintenance.

#### **2.0 General Points**

- a. Contractors are advised to go thru the attached SLD of the electrical distribution system of the chancery building, detailed statement of works and specifications. Contractor shall furnish all the materials, equipment, labor, and tools to execute the project as per scope, specifications and to the satisfaction of the COR.
- b. The contractor is advised to conduct re-check and re- measure the dimensions provided in the general statement of works and drawings during the walk thru.
- c. Contractor shall provide a detailed time schedule of activities involved in the project within ten working days of the award of contract.
- d. The contractor shall deploy a full time engineer/supervisor at site during the installation.
- e. The total duration of the project shall be five months (150 calendar days) inclusive of the supply of the equipment and other materials required for this job and installation and commissioning.
- f. The site installation and commissioning shall be done in 15 days.
- g. The contractor shall submit all the test certificates and related documents of the equipment.
- h. Provide and implement all safety measures in the construction area, taking into consideration of the needs/functions of the offices in the vicinity of the work area.
- i. Contractor shall hand over all the design details, as built drawings, test certificates and operational procedures to the embassy representative upon the completion of the project.
- j. All other logistical requirements pertaining to the transportation and movement of materials shall be of contractor's scope.
- k. Embassy will provide assistance for temporary power requirements for the power tools used by the contractor during the commencement of the work.
- l. The contractor must notify the COR, in writing, of any possible power shutdown requirements, at least five days in advance.

#### **3.0 Detailed Statement of works:**

The contractor shall supply and install new Air Natural cooled OLTC transformer as per the detailed specifications below;

Rating:	1500 KVA
Service:	Indoor

Type:	Dry type
Cooling:	AN (Air Natural)
Application:	Distribution transformer
Voltage Ratio:	11/0.433 KV
Frequency:	50 Hz
Winding Temperatures Rise@50 <sup>0</sup> C Ambient	90 <sup>0</sup> C
Winding Material:	99.9 % Electrolytic Copper
Number of Phases:	3
Vector Group reference:	Dyn 11
Terminal Arrangement:	HV: Cable Box LV: Bus Duct Flange
Tap Changer:	On Load Tap Changer
Tap Range and Steps:	+10% to -15% in steps of 1.25 %, 16 steps
Efficiency:	98% as per ECBC
Regulation at full load@0.8 PF	4.5%
Short Circuit withstanding capacity	2 seconds
Enclosure Protection class	IP-23(Indoor)
Insulation Class:	F
Insulation level kVp/kV rms	
HV	60/20
LV	3
Accessories:	Temperature sensors in each phase and controller Lifting Lugs Rating and Diagram Plate Grounding terminations Bi- directional rollers

### **The Codes and Standards:**

IEC 60076-11:	Dry-type transformers.
I.S. 2026 Parts I to V:	Power Transformers.
I.S. 11171:	Dry type Power Transformers.
I.S. 3043:	Code of Practice for Earthing.
I.S 6600:	Loading guide of transformers Indian Electricity Rules.

All the work of unloading and moving the transformer should be carried out and supervised by specialized personnel and should be carried out in accordance with all cares that such as significant weight requires, following all applicable safety rules and using all indicated points of support.

The dimension of the existing transformer room where the new equipment to be installed is 20 ft x 16.5 ft.

The contractor shall disconnect the primary and secondary cables of the existing oil cooled transformer, de-commission and remove it from the existing foundation. The contractor shall obtain the power shutdowns and temporary from the city authorities before the start of the work. The new OLTC transformer and its installation shall comply with the IEC60076-11, 12.

The OLTC transformer shall be equipped with winding temperature sensors in each phase windings and a digital temperature control relay capable of providing audible warning and tripping of the upstream HV Vacuum breaker upon temperature raise beyond the set values. The control relay shall be capable to adjust the temperature set values to the manufactures recommended levels. The installer shall furnish and do the cabling, terminations and testing of the tripping circuit between the new transformer and the HV VCB (Vacuum Circuit Breaker). The contractor shall provide the LV/ HV cables required as per the new equipment. The power cable between the HV OCB and the LT switch gear will be the contractor's scope.

The contractor shall arrange a factory inspection for the embassy technical team for witnessing the factory testing of the equipment before the delivery.

Prior to energizing the transformer, the following pre-commission tests must be performed and the narrative summary of the tests must be submitted.

1. Transformer ratio test and magnetizing current measurement to ensure constant output voltage on LV side in all tap positions.
2. Insulation resistance test to measure the insulation resistance between windings and windings to ground.
3. Magnetic Balance test to verify the winding condition.
4. Load balance test to confirm the balancing current in all three phases when the transformer is fully loaded.
5. Vector Group test to verify the polarity and phase relationship of HV and LV connections.

The transformer should be powered up only after checking the following items;

Make sure the name plate ratings are in accordance with the ratings foreseen for the place of installation.

Make sure all connections to cables or bus bars are properly connected and well positioned; Make sure that all connections at the tap change panel are firmly tightened and at the same position in the three phases.

Make sure the grounding mesh is correctly connected to the bolt provided for this purpose. In addition, make sure the grounding mesh has been correctly executed at the right place foreseen in the project and shown in the drawing.

In case of transformer is fitted with a thermal protective device, check the connections of the circuit, making sure that the voltage is in accordance and that the alarm and shut-off contacts are connected to their corresponding loops.

Make sure there are no materials, equipment or any other impurities laid on the transformer, between the coils or obstructing the ventilation in the cooling channels.

Check the insulation resistance by making measurements between the LV and HV windings and from the windings to the ground.

Voltage shall be applied while the transformer is set to no load, and such voltage shall be measured at the secondary winding to check for the corresponding output ratings.

The load should be applied progressively until the rated power.

#### Recommended Makes / Brands:

Crompton Greeves/ ABB/Volt Amps/Raychem RPG/Schneider Areva

**4.0 WORK STANDARDS.** The contractor shall be responsible for providing the workers proper tools and test equipments to accomplish each segment of this work statement. The entire installation work must be carried out by professionally qualified and certified persons. The craftsmanship shall be professional and maintain the Indian standards or U.S standards with necessary fire and life safety precautions wherever required.

#### **5.0 SYSTEM WARRANTIES:**

Material Manufacturer's Warranty: New material shall be installed in such a manner that the system manufacturer shall furnish a written warranty agreeing to replace or repair defective materials, deterioration of materials and other failure of the materials to perform within warranty period. Warranty period is 2 years after date of written final acceptance.

Contractor's Workmanship Warranty: Furnish a written warranty agreeing to repair or replace defective installation and workmanship causing cracks developments, deterioration of materials and other failures of the installed system, sealants, multilayers system, painting, coatings and related work on this project, to perform within the warranty period. Warranty period is 2 years after date of the written final acceptance.

## **6.0 GENERAL TERMS AND CONDITIONS**

This is a firm fixed price turnkey job for the entire work and amount quoted shall include all work described in scope of work and drawings. The lump sum price quoted shall be fixed and no adjustments will be entertained for any escalation in labor and material cost after signing the contract.

Contractor's staff and sub-contractors are subject to such restriction for entry and exit as required by the Embassy's security requirement.

Contractor will properly protect the site, while work is in progress. Any damage that occurs to the building, equipment, furnishings or landscaping due to the negligence of contractor will be repaired or replaced matching to existing at contractor's expense

Any deviation from the original contract/scope of work shall be informed to COR. No additional work will be carried out without prior approval.

All material shall be checked and approved by COR prior to installation. Material to be used in the project shall be as per manufacturer recommendations.

## **7.0 RESPONSIBILITIES OF CONTRACTOR**

Contractor shall be responsible for procuring, supplying, transportation, and providing all labor, materials, tools and plant and equipment etc., required for completion of the work in all respects and as per the scope of the contract.

All expenses towards mobilization at site and demobilization including bringing in equipment, workforce and materials, profit and overheads, dismantling the equipment, clearing the site etc. should be included in the rates quoted by the contractor. No separate payment on such expenses shall be entertained.

The Contractor shall identify and appoint a Project Manager who should be qualified and have experience in the field of similar projects for the management of this Contract. Project Manager shall always be present on the site. He/She shall be able to speak and write the English language.

The contractor should arrange for the site visit of the professional in his field from the manufacturer of materials used in this project.

Contractor shall inform COR at least two days in advance and get the COR approval before proceeding with shut down or disruption to any active services throughout the project duration.

## **8.0 SPECIFICATIONS**

Work under this Contract shall be carried out strictly in accordance with specifications and general condition of contract.

Any ambiguity / confusion found in the SOW shall be immediately informed to the COR.

## **9.0 AREA**

Contractor shall verify/measure concrete area at site and bring to the notice of the Contracting Officer Representative (COR) all discrepancies or deviations noticed. Decision of the (COR) shall be final and binding on the contractor.

## **10.0 DEBRIS REMOVAL**

Contractor shall take all necessary precaution / protection and obtain approval from local authorities for disposal of debris. Debris shall be disposed of in a manner that is in compliance with all local requirements.

## **11.0 SITE CLEARANCE AND CLEANUP**

The Contractor shall daily clear away all debris and excesses materials accumulated at the site and dispose it away from the Embassy premises and maintain a neat site conditions.

On completion of all works, Contractor shall remove all surplus materials and leave the site in a broom clean condition, failing which the same shall be done at Contractor's cost.

## **12.0 WORKMANSHIP**

Workers working on the site shall be skilled in their job and have experience in same type of job.

## **13.0 WORKING HOURS**

Working hours shall be 10 hours a day, Monday to Sunday.

## **14.0 ACCESS PERMISSION FOR VEHICLE ENTRANCE**

Vehicle Entrance - The Contractor shall inform and provide in writing transportation details (vehicle registration number, drivers name and date of delivery) to the COR at least 24 hours in advance for material deliveries.

## **15.0 INFORMATION TO COR**

Contractor shall inform the COR (before starting any demolition work) if any damage is found on the work site should be immediately informed to COR etc. Anything informed once the work is in progress will not be entertained and will have to be replaced matching to existing at contractors own cost.

## **16.0 STORAGE AREA:**

The Embassy will provide a storage area for the contractors use on the Compound. Contractor shall barricade the construction work area and designated storage area as per following details:

- Provide and install galvanized 24 gauge metal corrugated sheets with proper metal supports for barricading purpose. Height of the barricade should be 8 feet from the existing floor level.
- All the material, for the purpose of the barricade, shall be in good condition. Rusted and damaged material will not be allowed for use.

## **17.0 ELECTRICAL AND WATER CONNECTION**

Embassy will provide electrical and water connection at one point. Contractor shall arrange all material and labor for further distribution.

## **18.0 WARNING SIGNS**

Contractor shall provide and install 3'-0" high free standing heavy duty wooden/metal stands with necessary painted signs e.g traffic diversion, Construction is in progress etc. All signs will be neatly painted with red color.

## **19.0 LIGHTS**

Contractor shall provide and install adequate lighting on the barricading.

## **20.0 SAFETY COMPLIANCE WITH INDIAN AND U.S. GOVERNMENT STANDARDS**

Contractor is responsible for Personal Protective Equipment (PPE) for employees. Workers shall wear sturdy shoes or boots (flip-flops are not approved). PPE shall include, hardhats, hearing, breathing, and eye protection as required.

All electrical tools shall be equipped with plugs, cords shall have no bare wires, and the switching mechanism shall be operable.

Workers shall comply with Indian and American safety standards.

Contractor is responsible and shall continue management and implementation of a safety and health program throughout construction.

The Contracting Officer and the Post Occupational Safety and Health Officer [OSHA] reserve the right to suspend work when and where Contractor's safety and health program is considered to be operating in an inadequate or non-complying manner.

## **21.0 NOISE**

Purpose. To inform contractors of their responsibilities to their employees and post's community with respect to construction generated noise pollution. Post may impose additional time limitations on particular projects expected to make noise.

Contractors are required to:

- Identify noisy equipment and noisy operations and plan their work to provide maximal noise protection to employees and the community.
- Schedule noisy operations during off hours if possible. Noisy construction or demolition can be performed only during the hours of 7:00 am through 7:00 pm on weekdays, and the generated noise cannot exceed 80 dB except for pile driving.
- Provide a plan for how a contractor will comply with these regulations to the POSHO in advance of the project.
- Erect barriers to isolate occupied space from noisy operations when required.
- Implement a hearing conservation program when employees are exposed to 80 dB or more in an 8 hour day. These programs include annual audiometric testing and require hearing protection devices, such as earplugs.
- Implement engineering or administrative noise controls when exposure exceeds 85 db. Engineering controls include redesigning the space to reduce machinery noise, replacing machinery with quieter equipment, enclosing the noise source or enclosing the noise receiver. Administrative controls include mandating the length of time an employee can be exposed to a particular noise source.

## **22.0 PERSONAL PROTECTIVE EQUIPMENT**

Purpose. To inform contractors of their responsibilities under post's personal protective equipment standard while performing work at the Post. Use for all post managed construction projects:

Contractors are required to comply with the following provisions:

- Protective equipment for eyes, face, head, and extremities, protective clothing, respiratory devices, and protective shields and barriers, shall be used wherever it is necessary by reason of hazards of processes or environment, chemical hazards, radiological hazards, or mechanical irritants encountered in a manner capable of causing injury or impairment in the function of any part of the body through absorption, inhalation or physical contact.
- Each affected employee shall use appropriate eye or face protection when exposed to eye or face hazards from flying particles, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, or potentially injurious light radiation.
- Each affected employee shall use appropriate respiratory protection when potentially exposed to air contaminated with harmful dusts, fogs, fumes, mists, gases, smokes, sprays, or vapors and when such hazards cannot be reduced or eliminated by effective engineering controls.
- Each affected employee shall wear protective helmets when working in areas where there is a potential for injury to the head from falling objects. Protective helmets shall also be worn to reduce electrical shock hazards when near exposed electrical conductors which could contact the head.

- Each affected employee shall wear protective footwear when working in areas where there is a danger of foot injuries due to falling and rolling objects, or objects piercing the sole, and where such employee's feet are exposed to electrical hazards.
- Each affected employee shall wear protective ear wear whenever noise exposures equal or exceed an 8-hour time-weighted average sound level (TWA) of 80 decibels and when engineering controls cannot reduce or eliminate the hazard.
- Each affected employee shall wear protective gloves when working in areas where hands are exposed to hazards such as those from skin absorption of harmful substances; severe cuts or lacerations; severe abrasions; punctures; chemical burns; thermal burns; and harmful temperature extremes.