PERFORMANCE WORK STATEMENT (PWS)

DEPARTMENT OF VETERANS AFFAIRS
Austin Information Technology Center (AITC)

CIRCUIT BREAKER REPLACEMENT

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1.0 DESCRIPTION OF SERVICES

1.1 BACKGROUND INFORMATION

Most of the existing switchboards with circuit breakers were manufactured and installed in 1987. The switchboard housing and busbar are generally in good condition. However, many of the circuit breakers and trip units inside of the switchboards are outdated and unable to provide the best coordination and safety for AITC data center and building current power requirements. The older switchboards were also purchased without metering devices. New electronic trip units provide metering at the circuit breaker so daily load readings can be monitored. In addition, new circuit breakers and trip units will provide an improved operation that will reduce arc flash hazard which improve safety for employee and equipment.

1.2 GENERAL INFORMATION:

VA AITC requires contractor services to provide (16) replacement low voltage circuit breakers of equal or greater continuous current rating and interrupting capability (see Table-2 Existing Breaker Information). The (16) direct replacement circuit breaker shall be fully compatible (both mechanically and electrically) with the existing switchgear cubicles, with identical primary and secondary connections. Circuit breakers shall be selected for the existing fixed mounted type using GE Power Breaker II with Entelliguard TU trip Units. Any cubicle requiring modification shall be identified with bid.

See attachment- (A) Circuit Breakers Listing.

2.0 PERFORMANCE DETAILS

This is a firm, fixed price lump sum effort. Overtime or travel expenses shall be included. Vendor shall provide alternate bid costs for optional features associated with the trip unit (see Table-1 Trip Unit Features).

Upon award, Contractor shall submit required information for unescorted access for essential personnel. Access is limited to immediate project area only. Contractor shall provide VA-AITC project manager with full names and driver's license information of all contract employees requiring access. Specific instructions for submitting personnel information shall be provided upon contract award.

2.1 PERFORMANCE PERIOD

The period of performance shall be, vendor shall schedule having customer approved shop drawings and breakers order and delivered within ten (10) weeks after contract award. Afterwards, contractor shall install breakers within eight (8) weeks. Entire project shall be completed eighteen (18) weeks after contract award.

Any work at the Government site that will be scheduled shall be approved and coordinated by the Contracting Officer Representative (COR)**.**
The following Federal holidays are observed by VA and may affect the contractor's ability to contact VA employees during the on-site period of performance:

New Years Day	January 1st
Martin Luther King's Birthday	3rd Monday in January
President's Day	3rd Monday in February
Memorial Day	Last Monday in May
Independence Day	July 4th
Labor Day	1st Monday in September
Columbus Day	2nd Monday in October
Veteran's Day	November 11th
Thanksgiving Day	4th Thursday in November
Christmas Day	December 25th

Normal business hours are 0700 – 1700 Monday through Friday. No services shall be performed outside of normal business hours without prior approval by COR.

2.2 PLACE OF PERFORMANCE

Tasks under this PWS shall be performed in VA facilities located at 1615 Woodward Street, Austin, Texas 78772.

Travel is not authorized for this contract. No travel expenses shall be reimbursed.

3.0 SPECIFIC TASKS AND DELIVERABLES

The period of performance shall be, vendor shall schedule having customer approved shop drawings and breakers order and delivered within ten (10) weeks after contract award. Afterwards, contractor shall install breakers within eight (8) weeks. Entire project shall be completed eighteen (18) weeks after contract award. Power outages must be scheduled around VA available weekend times and dates.

- Before installation, contractor shall provide customer a set of drawings depicting how to integrate into existing switchboards and panels.
- Each circuit breaker shall be load tested prior to delivery.
- Production tests shall be made in accordance with ANSI C37.50 clause 6.0 and ANSI/IEEE C37.20.1, clause 6.3 and record copy provided to customer.
- The purchaser shall have the right to inspect at the factory all equipment covered by these specifications, at any time during manufacture and assembly, and shall have the right to be present during any tests made on the equipment.
- The vendor, upon request, shall furnish the purchaser with advance notice of final assembly and testing.

- The supplier shall have in place a dedicated Quality Assurance Department that is separate from production.

Contractor shall assume full responsibility and liability for compliance with all applicable codes, standards, and regulations pertaining to the health and safety of personnel during execution of the work, and shall hold the Government harmless for any action on the Contractor's part, or that of the Contractor's employees or subcontractors, that results in illness, injury, or death. The Contractor shall have written safety and health programs in compliance with 29 CFR Part 1910.

Installation

- Qualified installation technicians shall be provided by the vendor.
- Technicians certification is required with the bid.
- The replacement breaker manufacturer shall verify functional operation of all circuit breaker interlocks, cell interfaces and levering assembly in a cell structure in the replicated cell at the factory and again verify the same at each cell location for which the replacement breaker is installed.
- The technician shall also set all trip unit settings on each replacement circuit breaker as required for each circuit breaker being replaced under this project. The government shall furnish the technician with a recent coordination study for this purpose.

3.1 DELIVERABLES:

- All items acquired during this contract belong to Department of Veterans Affairs. Unless otherwise directed, deliverables shall be submitted to the Project Manager or their designee.
- Provide documentation of new circuit breakers installation, commissioning and testing.
- Vendor shall submit schematic diagrams and nameplate information to the Customer within (30) days of date of purchase order. Vendor shall submit the following ACAD reproducible drawings for approval:

  a) Schematic control diagrams of the direct replacement circuit breaker.
  b) Verification of nameplate designations as submitted by purchaser.
  c) Cubicle modifications drawings: Panel cutout, trim plate, mounting detail, breaker installation.

- Instruction books, certified tests reports, complete parts list, and recommended spare parts lists shall be furnished with the direct replacement circuit breaker.

- Review of Deliverables: The Customer shall complete their review of submittals within two (2) working days from completion of task order requirement.

3.2 INSPECTION and ACCEPTANCE

The Project Manager with the assistance of the Contracting Officer shall be responsible for inspecting and accepting services in accordance with the Performance Objectives for the Task Order and Federal Acquisition Regulation clauses 52.246-2 and 52.246-4.

4.0 GENERAL REQUIREMENTS

1. The replacement circuit breaker shall be suitable for use in the existing circuit breaker cubicle and have been fully tested in accordance with ANSI/IEEE C37.13 and Tables 1& 2 of ANSI C37.16. Only circuit breakers that have passed appropriate ANSI design tests shall be used in the direct replacement. Acceptable circuit breaker manufacturers are GE.
2. Main current-carrying parts, insulators, supports, and housings of the existing circuit breaker cubicle shall have sufficient mechanical strength to withstand, without incurring damage, the effect of rated short-circuit currents of switchgear/switchboard and the protection devices/loads.
3. Manufacturer of the new Low Voltage Replacement Circuit Breaker shall be currently engaged in the design and manufacturing of the LV Circuit Breakers and Electronic Trip Units.
4. Manufacturer of the new Low Voltage Replacement Circuit Breaker shall own and operate an Engineering Service Organization.
5. Manufacturer and installers shall be able to demonstrate experience in replacement breaker design for a minimum of five (5) years.
6. Manufacturer and installers shall have replacement circuit breaker in service for a minimum of five (5) years.
7. The manufacture shall be the original manufacture of the circuit breaker element being applied to the replacement circuit breaker.

CIRCUIT BREAKER

1. Unless otherwise specified, the new circuit breakers shall be rated in accordance with the latest issues of ANSI/IEEE C-37.13 and Tables 1&2 od ANSI C37.16.
2. Each circuit breaker mechanisms shall be equipped with the following:
   a) Main contact position indicator or target
   b) Manual tripping and closing devices
   c) Spring charged and discharged indicator or target.
3. Trip Units
   a) Circuit breaker trip system shall be electronic trip unit Entelliguard TU trip Unit.

b) All trip units shall be removable to allow for field upgrades.

c) Trip Units shall incorporate “True RMS Sensing”, and have LED long-time pickup indications.

d) Trip unit functions shall consist of adjustable long-time pickup and delay, optional short-time pickup and delay, instantaneous and optional ground-fault pickup and delay.

e) Adjustable long-time pickup (Ir) and delay shall be available in an adjustable rating plug that is UL Listed as field-replaceable. Adjustable rating plug shall allow for nine long-time pickup settings from 0.4 to 1 times the sensor plug (In). Other adjustable rating plugs shall be available for more precise settings to match the application. Long-time delay settings shall be in nine bands from 0.5–24 seconds at six times Ir.

f) Short-time pickup shall allow for nine settings from 1.5 to 10 times Ir. Short-time delay shall be in nine bands from 0.1–0.4 I 2 t ON and 0–0.4 I 2 t OFF.

g) Instantaneous settings on the trip units with LSI protection shall be available in nine bands from 2 to 15 times In. The Instantaneous setting shall also have an OFF setting when short-time pick-up is provided.

h) All trip units shall have the capability for the adjustments to be set and read locally. Optional trip units shall have the capability to electronically adjust the settings locally to fine increments below the switch settings. Fine increments for pickup adjustments are to be one ampere. Fine increments for delay adjustments are to be one second.

i) Trip unit shall provide local trip indication and capability to indicate local and remote reason for trip, i.e., overload, short circuit or ground fault.

j) Ground-fault protection shall be available for solidly grounded three-phase, three- wire or three-phase, four-wire systems. Trip unit shall be capable of the following types of ground-fault protection: residual, source ground return, and modified differential. Ground-fault sensing systems may be changed in the field.

k) Ground-fault settings for circuit breaker sensor sizes 1200 A or below shall be in nine bands from 0.2 to 1.0 times In. The ground-fault settings for circuit breakers above 1200 A shall be nine bands from 500 to 1200 A.

l) Neutral current transformers shall be available for four-wire systems.

n) Trip units shall be available to provide additional protection by offering adjustable inverse definite minimum time lag (IDMTL). IDMTL provides optimized coordination by the adjustment of the slope of the long-time delay protection.

o) Trip units shall be available to provide real time metering. Metering functions include current, voltage, power and frequency.

p) Trip units shall be available to provide harmonic analysis and waveform capture.

8. The following table indicates the standard and optional (Alternate Bid items) features of the Trip Units. Vendor shall provide Alternate Bid costs for items listed below as “O”.

Table-1 (Trip Unit features)

Features (Trip Units)	
True RMS Sensing	X
LI	X
LSI	X
LSIG/Ground –Fault Trip	o
Ground Fault Alarm (no trip)	X
Ground Fault Trip and Programming Alarm	o
Adjustable Rating Plugs	X
LED - Long-time Pickup	X
LED - Trip indication	X
Digital Ammeter	X
Phase loading Bar Graph	X
Zone Selective Interlocking	X
Communications	o
LCD Dot Matrix Display	
Advanced User Interface	
Protective Relay Functions	
Thermal Imaging	
Neutral Protection	
Contact Wear Indication	
Temperature Indication	
Incremental Fine Tuning of Settings	
Selectable Long-time Delay Bands	
Power Measurement	o
Waveform Capture	
Data Logging	o

X=Standard **o=Option (Alternate Bid Option)**

9. The circuit breakers shall be design and production tested according to ANSI C37.50, ANSI/IEEE C37.20.1, and C37.51. Certified test reports on the identical circuit breakers may be submitted for acceptance in lieu of performing design tests.

10. The following ANSI C37.50 design tests on the circuit breaker, mounted within the existing cubicle shall be performed:

a) Dielectric Tests – clause 3.5

b) Rated Continuous Current-Carrying Test - clause 3.6 c) Mechanical Endurance Test – clause 3.8.4

d) Short-time Current Test – clause 3.9.10

e) Momentary Peak Withstand Test – similar to MV test but at the values specified for LVCB

11. Certified test results may be submitted for acceptance in lieu of performing tests 10a through 10e above only if the vender has performed similar direct replacements on the equipment listed in the purchase order.

12. The operating mechanisms shall be readily accessible for customer maintenance.

13. Reused and reconditional breakers and components will not be acceptable. The replacement circuit breaker shall be a new construction.

CONTROL AND INDICATING DEVICES

1. Control relays, auxiliary contacts, and small mechanisms shall be enclosed, protected and accessible for maintenance.
2. All control relays, coils, motors, and mechanisms shall be new equipment.

4.1 CONTRACTOR PERSONNEL SECURITY REQUIREMENTS

Certificate of Insurance: The Contractor shall maintain all licenses and insurance coverage required to complete performance requirements. Insurance shall be provided by Contractor for any sub-contractors used during performance of services.

VA-AITC Security requirements: The VA-AITC has stringent security requirements on all facilities. Contractor shall adhere to VA security requirements at all times. All contractor resources shall present valid government-issued photo ID, such as driver's license or passport, upon each visit to VA-AITC. On-site contractor resources shall have no significant criminal history (class B misdemeanor or higher). Prior to being granted unescorted access, VA-AITC security will conduct a criminal history check, which requires information from an unexpired state driver's license or state issued identification for contractor resources. Laptops and tablet computers may be used by contractor resources, but equipment shall be inspected and scanned by VA-AITC security personnel before entering or leaving the building. Contractor shall contact VA-AITC representative at least 10 days prior to the training for instructions on submitting information for the required information and accessing the building.

All persons employed within the boundaries of the property or restricted-access areas shall comply with the security regulations in place at the site, including posted instructional signs. A copy of the AITC's security regulations will be made available to the contractor for an on-site review upon written request to the CO prior to the date of contract award. The AITC's security regulations may not be copied or removed from the site.

The contractor agrees on behalf of himself, all employees, and employees of all subcontractors to abide by the AITC's security regulations. The contractor is required to notify all contractor and subcontractor personnel of the security regulations in place at this site.

The contractor agrees to maintain the security and integrity of documents and drawings. They shall be clearly marked in accordance with AITC policy and may not be released or replicated without the written consent of the AITC. Any third party that they are released to (with the approval of the AITC) shall be bound by the same conditions. Any such items transmitted via the Internet may only be transmitted in an encrypted format using encryption methods approved by the Department of Commerce's National Institute for Standards and Technology (NIST).

The AITC reserves the right to exclude or remove from the site any employee of the contractor or subcontractor whom the Chief, Security Services deems incompetent, careless, insubordinate, unsafe, or otherwise objectionable. The CO shall be notified of any contractor or subcontractor personnel removed from the site.

Release of Information - The Contracting Officer will be the sole authorized official to release verbally or in writing, any data, draft deliverables, final deliverables, or any other written or printed materials pertaining to this task order. The contractor shall release no information.

Press releases, marketing material or any other printed or electronic documentation related to this project, shall not be publicized without the written approval of the Contracting Officer.

4.2 METHOD AND DISTRIBUTION OF DELIVERABLES

The Contractor shall deliver documentation in electronic format, unless otherwise directed in Section B of the solicitation/contract. Acceptable electronic media include: MS Word 2000/2003/2007, MS Excel 2000/2003/2007, MS PowerPoint 2000/2003/2007, MS Project 2000/2003/2007, MS Access 2000/2003/2007, MS Visio 2000/2002/2003/2007, AutoCAD 2002/2004/2007/2010, and Adobe Postscript Data Format (PDF).

4.3 PERFORMANCE METRICS

The table below defines the Performance Standards and Acceptable Performance Levels for Objectives associated with this effort.

Performance Objective	Performance Standard	Acceptable Performance Levels
1. Technical Needs	Shows understanding of requirements Efficient and effective in meeting requirements Meets technical needs and mission requirements Offers quality services/products	Acceptable/ Unacceptable
2. Project Milestones and Schedule	Quick response capability Products completed, reviewed, delivered in timely manner Notifies customer in advance of potential problems	Acceptable/ Unacceptable

4.3 FACILITY/RESOURCE PROVISIONS

The Contractor shall request other Government documentation deemed pertinent to the work accomplishment directly from the Government officials with whom the Contractor has contact. The Contractor shall consider the COR as the final source for needed Government documentation when the Contractor fails to secure the documents by other means. The Contractor is expected to use common knowledge and resourcefulness in securing all other reference materials, standard industry publications, and related materials that are pertinent to the work.

4.5 POINTS OF CONTACT

VA Program Manager:
Name:
Address: 1615 Woodward Street
Voice:
Email:

Contracting Officer's Representative:
Name:
Address:
Voice:
Email:

Contracting Officer:
Name: TBD
Address:
Voice
Email:

CIRCUIT BREAKER REPLACEMENT

Table-2 (Existing Breaker Information):

Priority	Names	Manuf	Model	Main Bus	Main CB	Voltage	Ph	Location	Comments	Fused Switch or Circuit Breaker	
	Main Distribution Switchboard (MDSB)	GE		4000A	4000A	480V	3	Rm 161			
1	MDSB-MAIN	GE	PowerBreak #TPSS9640D	4000A	4000A	480V	3	Rm 161	Serial#V37681, (CBR-05V) [Versa Trip Mod 2]	Circuit Beaker	
2	MDSB-OB-1	GE	High Pressure Contact Switch (HPC) #THPC3620B	2000A	2000A	480V	3	Rm 161	Cat# THPC3620B, (Names-SWDB DA, CBR07)	Fused Switch	
3	MDSB-OB-2	GE	PowerBreak #TPR6620B	2000A	2000A	480V	3	Rm 161	Serial#V09474, Select Trip Serial# V09474A, Ins-4X, Amp Setting - 1.0x (Names: CBR-04V)	Circuit Beaker	
4	MDSB-OB-5	GE	PowerBreak Cat# TPMMF768, Frame #TPMMF7	2500A	2500A	480V	3	Rm 161	Serial #245100	Circuit Beaker	
5	MDSB-OB-6	GE	PowerBreak #THP1616SS	1600A	1600A	480V	3	Rm 161	Serial# V84393, (Names: SWDB DB, CBR06)	Circuit Beaker	
	SWBD DB Switchboard	GE	AV5	1200A	No Main	480/277V	3	Rm 160E	Job#53441, 480/277,3/4W, Product Type AV5, Plant Code T726+, Cust. Mark SWBD-DB		
6	DB CB1	GE	PowerBreak, Cat#THP1610SS	1600A Frame	1000A	480/277V	3	Rm 160E	Serial #V83884	Circuit Beaker	
7	DB CB2	GE	PowerBreak, Cat#THP84SS	800A Frame	400A	480/277V	3	Rm 160E	Serial #V83150	Circuit Beaker	
8	DB CB3	GE	PowerBreak, Cat#THP84SS	800A Frame	400A	480/277V	3	Rm 160E	Serial #V83147	Circuit Beaker	
	SWBD DA Switchboard	GE	AV5	2000A	No Main	480/277V	3	Rm 160E	Job#53441, 480/277,3/4W, Product Type AV5, Plant Code T726+, Cust. Mark SWBD-DA		
9	DA CB2	GE	PowerBreak	800A Frame	400A	480/277V	3	Rm 160E	Serial #V83149	Circuit Beaker	
	Mechanical Main Switchboard (MMSB)	GE	AV-Line Switchboard	2500A		480/277	3	Rm 150, Mech Rm	Job #55351, Product Type AV2, 3p, 4W		
10	Mechanical Main Switchboard (MMSB)	GE	Power Break	2500A	2500A	480/277	3	Rm 150, Mech Rm	Cat# TP2525SS, SS#120228, (RMS-9 Microversa)	Circuit Beaker	
11	DPH	GE	Power Break	1600A	1200A	480/277	3	Rm 150, Mech Rm	Cat# TP1616SS, SS#120812, (RMS-9 Microversa)	Circuit Beaker	
12	DPH2	GE	Power Break	1600A	1600A	480/277	3	Rm 150, Mech Rm	Cat# TP1616SS, SS#120813, (RMS-9 Microversa)	Circuit Beaker	
13	DPH (Main)	GE	Power Break	1600A	1200A	480/277	3	Rm 116	Cat# TP1616SS, SS#122724	Circuit Beaker	
14	DPH2 (Main)	GE	Power Break	1600A	1200A	480/277	3	Rm 154C	Cat# TP1616SS, SS#120811	Circuit Beaker	
15	OMCB Switch #6	GE	High Pressure Contact Switch	1200	1200A	480V	3	Rm 161	Cat# THPC3412ET1	Fused Switch	
16	DPL2 (Main)	GE	High Pressure Contact Switch	1600	1600A	480V	3	Rm 161	Cat# THPR3616	Fused Switch	


08/02/2013