

Replace Warrior Center Transformers (T6067 and T6068B)

OPP#1143938

1 April 2024

This project is to replace two transformers, T6067 and T6068B, that have exceeded their expected service life, using existing manholes. T6067 is a dead front fed by PMS9-6067. T6067 feeds T6068B. T6067 is located on the hill next to the B6067 (warrior center) south side. T6068B is a live front in the small block building across the street from B6067 in front of the generator building. All electrical equipment information provided below must be field verified by the contractor prior to bid/procurement.

This project is located within the controlled area; therefore, escorts are required unless the contractors have line badges. 2CES Operations will be responsible for scheduling any/all controlled area escorts. A flight line driver's license is also required.

Electric shop is required to attend the pre-bid site visit for equipment and block wall enclosure access.

Power outage coordination will be required and shall also include airfield management, security forces and B6067 facility manager. Phase project for the shortest power outage possible.

This project includes the installation of new conductor between PMS9-6067 and T6067 and between T6067 and T6068B in existing duct bank/manhole system. However, the condition of the existing duct bank /manhole system is unknown. There could be a collapsed duct bank situation that would prevent the installation of new conductor. Perform/phase required work for shortest power outage and such that power will remain if modification for new duct bank is required. The contractor will pump the water out of the manholes.

- 1) Replace existing dead front transformer, T6067, with a new dead front 300kVA 12470/208/120volt delta wye feed through transformer spec'd and labeled as shown below. Measure existing pad to determine if new pad will be required. Install a new meter on Unistrut on a new pad protected by bollards or on the existing pad if space will allow. Do not install bollards in the pad. The new transformer and the new meter can be installed on the same pad if size will allow with required clearances. Do not install the meter on the transformer. Two paths are required into the new transformer compartments, one from each side. A ten-foot working clearance is required at the front of the transformer. Deliver removed transformer to the electrical equipment yard.
- 2) During the power outage to install T6067, verify ability to pull/replace existing conductor between T6067 and T6068B by installing new copper conductor in existing manhole / duct bank system to feed T6068B (and between T6067 and PMS9-6067), reconnect and test. If the duct bank is collapsed and wire cannot be pulled through. Schedule meeting to discuss options/mod to install new duct bank utilizing existing manholes.
- 3) Once verified replace existing T6068B, with a new dead front, feed through, 500kVA 12470Y/7200/480/277volt transformer using existing manholes as spec'd and labeled below. Two paths are required into the new transformer compartments, one from each side. Ensure 10-foot hot

stick working clearance in front of the transformer. Deliver removed transformer to the electrical equipment yard.

- 4) Provide actual conductor footage for accurate DD1354. Advise designer in writing of any/all discrepancies in the field that do not match map or single line diagrams.

Verify receipt of delivery of the removed transformers to the electrical equipment yard unless directed otherwise by the electric shop in writing.

Barksdale Standards:

Transformer specs:

60 hertz, 65 degree C rise, class OA

Insulation fluid: Non-PCB mineral oil

Primary voltage: 12,470 delta-95kV BIL

Primary bushings: (6) bushing wells with 200-amp bushings and (3) parking bushings and (3) insulated dead end caps

Taps: (2)2.5% above & below normal, non-load break tap changer

Fusing: Bay-o-net fuses

Switches: (1)4-position, on/off/loop feed thru, three phase gang-operated oil immersed load-break rated 300 amps

Impedance: manufacturer's standard per ANSI and NEMA

Paint color: Brown-federal spec 20117

Other features:

- (a) Stainless steel ground pad in HV and LV compartments
- (b) 20-inch-deep cabinet
- (c) High security cabinet per ANSI C57.12.28 with Penta head bolt
- (d) Anodized aluminum nameplate with non-PCB on nameplate
- (e) 1.0" fill plug
- (f) 1.0" drain plug in HV compartment
- (g) Removable neutral ground straps
- (h) Provisions for pressure/vacuum gauge
- (i) Pressure relief valve
- (j) Liquid level gauge
- (k) Dial type thermometer
- (l) 1.0" drain valve with sampler device in LV compartment
- (m) "Danger High Voltage" warning decals
- (n) Surge protection, (3)9/10kV heavy duty distribution class dead front arresters
- (o) Feed through design
- (p) Anodized aluminum plate with specs and wiring diagram.
- (q) Copper winding (preferred)

Secure transformer to the pad. No refurbished transformers allowed.

Label Transformers as follows:

Label will be located on the top right corner of the exterior of each transformer, on the street side with Engraved 1" letter, color coded to match feeder colors for background, with white letters:

Examples below shall be verified through the electric shop prior to procurement.

T6067
300kVA
dead front
12470 delta
208/120 volt

and
T6068B
500kVA
dead front
12470 delta
480Y/277 volt

Counterpoise connection:

There should be an existing counterpoise of 4/0 bare copper conductor 30" deep and 30" away from the pad with 4 - 3/4"x10' copper clad steel ground rods one on each corner cad welded to the conductor. Two paths are required into the new transformer compartments, one from each side.

High potential insulation resistance test is required for all new cable installations in accordance with IEEE standard 141-1976.

New meter shall be installed on Unistrut on a 4" thick pad near the transformer within bollard protection.

LOAD BREAK ELBOWS: 200-amp load break with test points and cold shrink cable accessory sealing kits designed to seal the jacket end of power cables where elbows or other cable accessories are installed. Both the sealing tube and mastic must be compatible with commonly used power cable jacketing and semi conductive materials.

Label new cable in Manholes:

New cable in manhole shall be securely supported from walls, fireproofed and labeled with metal tags stating: feeder number, wire size, wire type, destination/origination. Engraved 1/2" letters black background white letters. Example: Feeder 9, 4/0 AWG, CU, To/From T6068B/T6067 verify with electric shop prior to procurement.

CONDUCTORS: All conductors will be copper.

3 Phase Medium Voltage cable will be 3 each - 15 KV EPR Jacketed Concentric Neutral w/ 133% insulation and have a 1/3 Stranded Neutral.

Concrete pads: (if required)

Pads -3000 PSI 6" thick with a 1' footer. 1 3/4" chamfer on all edges. 1 foot clearance on all sides of the equipment that is going to be placed on the pad. No more than 3" above grad. 4"x5' RGS bollards filled with concrete placed 2' in the ground and painted brown according to Barksdale specs. Brown-federal spec 20117. One at each corner and all at equal height installed in the ground not in the concrete pad. Windows will be blocked out for conduit. After curing blocks removed and windows filled with gravel to 1" of the top and capped with mortar. Calk around all entrances and around mortar to prevent ants

from entering. All cable entrances will be protected by schedule 40 PVC or coated RGS to prevent contact with concrete.

Power outage: coordinate power outages TEN working days in advance through the general contractor. Outages may be required to be completed on weekends unless the Base Civil Engineer authorizes the work to be completed HOT. A digging permit will be required and is only good for 30-day period. Electrical work shall be performed by a licensed contractor experienced in high voltage.

Lay-down Area Temporary Fencing (if needed)

1. The Contractor shall furnish all labor, materials, and equipment necessary to provide secure and visually aesthetic temporary fencing for surrounding project equipment and material in lay-down areas.

Work shall include:

- a. Clearing area of all encumbrances to safe erection of fencing.
- b. Provide fence that is: metal tube frame; metal woven wire mesh (minimum 11 gauge); minimum 6 feet in height.
- c. Provide integral to fence visual blocking material, either slat weave or sheet goods.
- d. Erecting fence in such manner as to prevent loss of fencing or blocking due to inclement weather.
- e. At no time shall fence interfere with fire egress paths or fire equipment ingress, to include periods when gates are in operation.

Contractor shall submit cut sheets on all items for installation, prior to procurement, for approval by the C.E. Architect. Complete the design as indicated on drawings in accordance with UFC 1-200-01 General Building Requirements which includes the latest editions of the International Building Code and NFPA Life Safety Code, and Americans with Disabilities Act. All required work shall be accomplished in accordance with the Barksdale AFB Design Compatibility Guidelines (DCG). All colors and materials shall be selected by the Civil Engineer Architect in accordance with the DCG. Construction shall be conducted in a quality workmanlike manner. Contractor shall take any steps necessary to protect government and occupant property from damage caused by weather or other occurrence while work is in progress.

2. Upon notification of completion by the contractor a determination will be made as to the satisfactory completion and acceptance of the contract specification(s). Any segment of the operation that is not acceptable because of an unsightly or unprofessional appearance will be justification for rejection of the treatment. The contractor will incur all costs, both labor and materials, for reaccomplishment of any unacceptable work identified.

3. The contractor will be responsible for and incur any and all labor and material costs required to repair any damages to government facilities that occurred during and as result of repair work, replacement operations, or new work, under this contract. This damage will be identified as separate from the condition of the facilities as identified during the initial inspection. The damage will be identified, but not limited, to the following items.

- a. Government gas, water and electric transmission and distribution systems
- b. Occupant personal property

Additional Information

- a. The contractor will begin work not earlier than 7:00 am each workday. Work will not be performed later than 4:30 pm.
- b. Inspections will be conducted by the Contracting Officer and /or Contracting Officer's Representative and the Contractor's Manager.
- c. Any discrepancies should be noted and forwarded to the Architect.

Background Checks for Contractor Personnel Requiring Entry/Access to Barksdale AFB (Jan 2005) Security Forces will conduct a National Crime and Information Center (NCIC) background check on all contractor or subcontractor personnel prior to granting access to the installation.

CONSTRUCTION AND DEMOLITION DEBRIS REPORTS

The following requirement is listed in [Attachment 2](#), Environmental Requirements for Contractors Working on Barksdale Air Force Base. These reports are required to be submitted on an AF 3000 Material Submittal and should be incorporated into the AF66 Material Submittal Schedule at time of contract award. Final payment will not be released until C&D reports have been submitted and accepted by the Government. "Construction and Demolition (C&D) debris is generated as a result of construction, renovation, or demolition activities. Although C&D debris is usually considered a single waste stream, the composition actually varies with each activity and the type, size, and location of the structures involved. Disposing of C&D debris in landfills consumes enormous amounts of space and is both economically and environmentally costly. In accordance with [AFI 32-7042](#) and BAFB's [Integrated Solid Waste Management Plan](#) (ISWMP), ALL WEIGHTS OF C&D MATERIALS RECYCLED AND DISPOSED MUST BE REPORTED TO THE RECYCLE PROGRAM MANAGER."

CONTRACT COMPLETION INSPECTIONS

The contractor will schedule (preferably with 3 working days' notice) a pre-completion inspection to be held approximately 10 calendar days prior to the expiration of the contract. This inspection may result in a "punch list" indicating items to be furnished or work to be completed by the contractor or subcontractors in order to complete the work specified in the contract documents. This list may not be construed to be all inclusive. A copy of the list will be furnished to the contractor within 2 workdays for his use in completing the contractual work. If the pre-completion inspection results in no "punch list" and the work is complete, this inspection may be considered the "final" inspection as determined by the Contracting Officer. If required, the contractor will be responsible for scheduling the contract completion inspection (preferably with 3 working days' notice) to be held no later than the final day of contract performance. Should this inspection result in a "punchlist", the contractor will have 10 calendar days (after receipt of punchlist) to complete all punchlist items and notify the Contracting Officer of this. NO FINAL INVOICE SHALL BE PAID UNTIL ALL PUNCHLIST ITEMS ARE COMPLETED TO THE SATISFACTION OF THE CONTRACTING OFFICER. Should a contractor exceed the time allowed for these corrections, it may result in negative past performance which could affect future contract awards.

PERFORMANCE INFORMATION

NOTICE TO PROCEED will be issued within 15 calendar days after award of contract. Award date shall be established as the date of mailing or otherwise furnishing a properly executed award document to the successful offeror.

WORK SCHEDULE

Working hours for the contractor will normally be between the hours of 7:00 a.m. and 4:30 p.m. excluding Saturdays, Sundays, and Federal Holidays (New Year's Day, Birthday of Martin Luther King, Jr., Presidents Day, Memorial Day, Juneteenth, Independence Day, Labor Day, Columbus Day, Veteran's Day, Thanksgiving Day, and Christmas Day). If the contractor desires to work during periods other than

above, additional government inspection forces may be required. The contractor must notify the contracting officer three days in advance of his/her intention to work during other periods to allow assignment of additional inspection forces when the contracting officer determines they are reasonably available. If such force is reasonably available, the contracting officer may authorize the contractor to perform work during periods other than normal duty hours/days, however, if inspections are required to perform in excess of their normal duty hours/days solely for the benefit of the contractor, the actual cost of inspection at overtime rates will be charged to the contractor. These adjustments to the contract price may be made periodically as directed by the contracting officer.

DELIVERY TIME

The period of performance on this project will be 45 Calendar days from the Notice to Proceed (NTP) date.

-----END OF SOW-----