

PUBLIC NOTICE
INVITATION TO BID #1208

The City of Springfield Electric Department is accepting sealed bids for the following:

69 kV Substation Breaker for our Wartrace Substation

Specifications may be downloaded at www.springfieldtn.gov. For questions, please contact Steven Sax, Electric Director at 615-384-6770 or steve.sax@springfieldtn.gov. Sealed bids must be received in the Office of the City Recorder, 405 North Main Street, Springfield, TN 37172 by 2:00 pm local time on Thursday, July 7, 2022. Please note Bid #1208 on the outside of the sealed envelope. The City of Springfield reserves the right to reject any and all bids.

Lisa H. Crockett
City Recorder

POWER CIRCUIT BREAKERS PROCUREMENT BID #1208

WARTRACE SUBSTATION



**SPRINGFIELD ELECTRIC DEPARTMENT
Springfield, TN**

Presented by:
Patterson & Dewar Engineers, Inc.
Jack C. Wallace, III, PE
TN PE License # 116746

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REVISION HISTORY

Rev. No.	Date	Description
00	06/03/2022	Issued for bid

SECTION 1 – INVITATION TO BID

1.01 PARTIES TO CONTRACT

- A. Buyer: City of Springfield
405 North Main Street, Springfield, TN 37172
Attention: Steve Sax
Phone: (615) 384-6770 Email: Steve.Sax@springfieldtn.gov
- B. Engineer: Patterson & Dewar Engineers, Inc.
1531 Hunt Club Blvd, Suite 200, Gallatin, TN 37066
Attention: Jack Wallace, PE
Phone: (615) 527-7078 Email: jwallace@pdengineers.com

1.02 BID ITEM

- A. Buyer invites Bidder (Seller) to submit quotation for furnishing and delivering one 69kV power circuit breaker for Wartrace Substation (Goods).
- B. Design, manufacture, assemble, and factory test Goods in accordance with attached technical specifications and current industry standards. Deliver Goods F.O.B. to Point of Destination. Buyer will furnish a construction contractor under a separate contract to perform foundation and site work construction for which the Goods under this Contract are being furnished.

1.03 POINT OF DESTINATION

Wartrace Substation: Intersection of Bill Jones Industrial Dr. & Kelton Jackson Rd, Springfield, TN 37172.

1.04 BID SUBMITTAL

- A. Bids will be accepted until **2:00 pm on July 7, 2022**. Electronic submittal of proposals is prohibited. Submit one hard copy of bid to:

City of Springfield
405 North Main Street, Springfield, TN 37172
Attention: Lisa Crockett, *City Recorder*
- B. Seller's proposal shall be clearly marked as "**Bid 1208 for Wartrace Substation Breaker**" on the exterior of the mailing package.
- C. Seller shall submit proposal that will remain valid for a period of sixty (60) days after the date set for opening of bids.
- D. No bid security will be required to accompany bids.

1.05 DELIVERY AND PRICING

- A. Deliver Goods to Point of Destination within **150 CALENDAR DAYS** of award of purchase order.
 - 1. Bids should include Seller's best delivery date that is as close as possible to the requested delivery date.
- B. Quoted prices shall be FOB Destination at the substation site. Freight shall be allowed and pre-paid. Seller has the responsibility of Goods during shipment. Title to the Goods and risk of loss or damage shall remain with Seller until the Goods are delivered in acceptable condition at the substation site.
- C. Buyer will issue a purchase order to Seller upon award.

1.06 INSTRUCTIONS TO BIDDERS

- A. Engineer will answer all matters pertaining to the project, including but not limited to, answering technical questions of prospective bidders, bid evaluation and recommendation, review and approval of fabrication drawings and similar documents, and approval of invoices prior to payment by Buyer.
- B. Seller shall provide all information requested in this RFP. Seller shall take care to complete all portions of the Bid documents and to provide all required submittals. Failure to comply may result in the rejection of the bid.
- C. Exceptions and Deviations
 - 1. Seller shall clearly state all exceptions to this specification. Unless specifically stated otherwise, Seller shall furnish equipment, material and services in exact accordance with this specification, and any modifications to equipment, material and services necessary to comply with this specification shall be made by the Seller at no additional cost to Buyer.
 - 2. If Seller recommends any changes or deviations from the documents, Seller shall describe the change fully and furnish complete information so that Buyer can make a decision based upon the alternative information provided. If these specifications call for material, equipment or manufacturing procedures different from the manufacturer's standard, Seller shall clearly identify all deviations or substitutions in this bid. When possible, Seller should bid according to the specifications with the manufacturer's standard as an option.
 - 3. Buyer invites cost saving and schedule improving alternatives. **Seller shall first complete the Bid as issued by Buyer; Seller may then submit the alternatives referenced to the base proposal.**
- D. This project shall be subject to a liquidated-damages clause.
- E. Seller shall provide Certificate of Insurance that lists Buyer and Engineer as additional insureds.
- F. Equal shall mean a satisfactory equivalent as approved solely by Buyer.
- G. Buyer does not obligate itself to accept the lowest or any other bid and specifically reserves the right to reject any and all bids and to waive any informality in bids. Buyer reserves the right to award the contract to the best Bidder, as determined by the Buyer and Engineer.

SECTION 2 – GENERAL REQUIREMENTS

1.01 ACCEPTABLE MATERIAL AND EQUIPMENT

Seller's proposal shall be based on new equipment and materials only. No used equipment or materials are permitted. Identify any alternate item by trade name and number to enable Buyer to determine whether such alternate item is acceptable. Alternates must be approved in writing by Buyer prior to contract placement.

1.02 TESTS AND INSPECTION

- A. Goods are to be tested in accordance with latest edition or revision of ANSI, IEEE, ASCE, ASTM, NFPA, and NEMA standards.
- B. Prior to testing, Seller shall notify Buyer at least one week in advance so Buyer may have personnel at Seller's factory during testing. Seller shall furnish the results of the tests to Buyer. Inspection of material by Buyer's representative will not relieve Seller from responsibility for furnishing material to conform to the Specifications.
- C. Factory testing activities are limited to Tuesdays, Wednesdays, or Thursdays excluding observed holidays. Testing on any other day of the week is prohibited.

1.03 SHOP DRAWINGS AND SAMPLES SUBMITTAL PROCEDURES

- A. **Transmit submittals via email to Engineer with copy to Buyer.** Schedule submittals to expedite furnishing the Goods and coordinate submission of related items. Send to:
 1. Engineer's Representative: Valerie Crawford (vcrawford@pdengineers.com)
 2. Buyer's Representative: Steve Sax (steve.sax@springfieldtn.gov)
- B. Seller shall submit Shop Drawings and Samples for Engineer's review and approval as soon as possible after receipt of order.
- C. Submit the following quantities:
 1. Shop drawings - One electronic copy (in PDF format) including manufacturers' data, brochures, suppliers' information, testing reports, certifications, and manufacturer's installation and testing instructions
 2. Samples – Two of each item required for evaluation
- D. Identify variations from Contract Specification.
- E. Provide space on all drawings for Seller and Engineer review stamps.
- F. Revise and resubmit items as required. Identify changes made since previous submittal. Distribute copies of reviewed submittal items to concerned parties. Instruct parties to promptly report any inability to comply with provisions.

- G. Engineer will complete review in a timely manner and will return reviewed items to Seller with the following provided for each item submitted:

SUBMITTAL REVIEW BY ENGINEER	
PROJECT	
SUBMITTAL NO.	
Review of this shop drawing/submittal by Engineer is for general conformance with the requirements specified and compatibility with the design concept of the completed project. This review does not extend to means, methods, sequences, or procedures of construction (except where specifically called for in the specified requirements) or to issues of safety incident thereto. This review shall not relieve the contractor from its responsibility for full compliance with the requirements specified and to determine and verify the information contained therein. Provide final disposition of the comments made prior to issuance for fabrication or construction.	
ACTION:	
<input type="checkbox"/> Approved <input type="checkbox"/> Approved, but <u>make corrections noted</u> (no resubmittal required) <input type="checkbox"/> Revise and Resubmit (see comments) <input type="checkbox"/> None <input type="checkbox"/> Not Required - <input type="checkbox"/> Information Only	
REVIEWED BY:	Date:

Where:

“Approved” indicates submittal has been reviewed and appears to be in conformance with requirements of the Contract Documents. Proceed as shown on the submittal.

“Approved, but make corrections noted” indicates submittal appears to be in conformance with requirements of the Contract Documents. Incorporate the corrections noted and proceed as shown on the submittal. No resubmittal is required.

“Revise and Resubmit” indicates submittal does not appear to be in conformance with the Contract Documents. Engineer's comments will be noted on the submittal or in a separate, cross-referenced document. Re-check, make necessary revisions and resubmit.

“None – Not Required or Information Only” indicates that the submittal is not called for by the Contract Documents and that Engineer has not reviewed the material.

1.04 PROJECT RECORD DOCUMENTS

- A. Throughout the duration of the project, maintain one set of the following documents for record purposes. Record actual revisions made to the Goods.
1. Drawings
 2. Specifications
 3. Changes to the Contract Documents
 4. Reviewed Shop Drawings and Samples
- B. Include description of actual equipment and material furnished, including the following:
1. Manufacturer's name and equipment and material model and number
 2. Material and equipment substitutions or alternates utilized

C. As-built drawings

1. Prior to submitting to Engineer the claim for final invoice, transmit to Engineer via email PDF copies of final drawings, as well as electronic files in AutoCAD 2019 (or earlier) format.
2. Engineer requests that all final drawings be sent as soon as available (email is preferred). These are used for creating connection diagrams that are needed shortly after delivery of the unit(s).
3. After the equipment has been placed into satisfactory operation, revise drawings to reflect field changes, if any, made to the Goods and submit to Engineer copies of revised drawings for the Operations and Maintenance Manuals.

D. Operation, Maintenance and Installation Manuals

1. Upon shipment of Goods, **deliver to Buyer two printed copies and one electronic copy on USB-drive** of complete Operation, Maintenance and Installation Manuals. Manuals shall identify material, equipment, and system description and include, at minimum, the following information:
 - a. Directory, listing names, addresses, and telephone numbers of Engineer, Seller, subcontractors, and major component suppliers.
 - b. Operation, maintenance, and installation instructions. For each category, identify names, addresses, and telephone numbers of subcontractors and suppliers. Identify the following:
 - Significant design criteria
 - List of equipment
 - Parts list for each component
 - Operating instructions
 - Maintenance instructions
 - Maintenance instructions for special finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents
 - Installation instructions
 - Material Safety Data Sheets
 - c. Project documents and certificates, including the following:
 - Certified drawings, manufacturer-prepared technical literature material, and equipment data/catalog cuts of all miscellaneous material
 - Certified factory test results
 - Photocopies of warranties for Goods
 - Duplicate copies of warranty documents which are executed and transferable from subcontractors, suppliers, and manufacturers.

1.05 SHIPMENT

- A. Before shipping Goods, give 48-hrs notice via email to Buyer and Engineer. No shipments shall be accepted or received without authorization from Buyer.
- B. Seller shall be responsible for obtaining necessary permits, providing and verifying routing and, in general, making all the necessary arrangements for transporting the equipment provided to Buyer's destination.
- C. Buyer will accept shipments between 8:00a.m. and 3:00p.m. local time Monday through Thursday excluding observed holidays.
- D. Ship Goods only after receiving written acknowledgment by Buyer of receipt of certified test reports. Accompany each shipment with a packing list of articles included in the shipment. Mark parts for ease of field assembly

- E. Accompany each shipment with a packing list of articles included in the shipment. Mark parts for ease of field assembly.

1.06 TRANSPORTATION, PROTECTION, AND HANDLING

- A. Store and protect Goods in accordance with manufacturer's instructions, with seals and labels intact and legible. Store sensitive Goods in weather-tight, climate controlled enclosures.
- B. Furnish equipment and personnel to handle Goods by methods to prevent soiling, disfigurement, or damage.
- C. Transport and handle Goods in accordance with manufacturer's instructions.
- D. Cover Goods subject to deterioration with impervious sheet covering. Furnish ventilation to avoid condensation or potential degradation of Goods.
- E. Uncrate Goods and dispose of packing material properly.
- F. Assume responsibility for loss and damage including but not limited to breakage, corrosion, weather damage, and distortion until delivered to Buyer.
- G. Promptly inspect shipments to assure that Goods comply with requirements, quantities are correct, and Goods are undamaged.
- H. Arrange storage of Goods to permit access for inspection. Periodically inspect to assure Goods is undamaged and is maintained in acceptable conditions.

SECTION 3 – TERMS AND CONDITIONS

1.01 NOTIFICATION

Seller shall acknowledge in writing to the Buyer that the Buyer's Purchase Order has been received within 5 days ARO. The acknowledgement shall include the date that the Purchase Order or acceptance is received and the date that equipment delivery is expected.

1.02 ACCEPTANCE; ENTIRE AGREEMENT

Acceptance of this order by acknowledgement, shipment or other performance shall be expressly limited to the terms and conditions contained in this order. Any additional or different terms or conditions proposed by Seller are objected to and are hereby rejected. Upon acceptance, the terms contained in this order shall constitute the entire agreement between Seller and Buyer with respect to the subject matter of this agreement (hereinafter referred to as the "Agreement") and may not be modified, added to, or rescinded except by a written document signed by Seller and Buyer.

1.03 CHOICE OF LAW

The construction, interpretation and performance of this Agreement and all transactions under it shall be governed and resolved in accordance with the laws of the State of Tennessee.

1.04 TERMINOLOGY

The terms "shall" and "will" which appear in the Bid and specifications place an absolute obligation on Seller to do that which is designated and/or specified.

1.05 TAXES

Buyer is exempt from sales tax.

1.06 TIME OF PERFORMANCE

Time is of the essence of this Agreement. If tender of conforming goods is not made by the agreed delivery date, Buyer may treat such failure as a breach hereof and will have all remedies afforded to it by law including, but not limited to, the rights to cover.

1.07 ASSIGNMENT AND SETOFF

Seller shall not assign any right or interest under this Agreement nor delegate any work or other obligation to be performed or owned under this Agreement without the prior written consent of Buyer. Any attempted assignment or delegation in contravention of this provision shall be void. Buyer shall be entitled to set off any amounts owed by Seller to Buyer against any amounts payable to Seller.

1.08 PAYMENT TERMS

Upon the shipment of any material hereunder, Seller shall submit to Buyer a detailed invoice of the materials shipped. Within 30 days after delivery, Buyer shall make payment of no more than **90-percent** of total purchase price to Seller. Upon completion of field assembly and certification by Seller that the materials provided are complete and ready for external connections, Seller shall invoice the Purchaser for the remaining **10-percent**. Within 30 days after receiving invoice, Buyer shall make payment thereof to Seller.

1.09 REJECTED GOODS

Buyer shall give notice to Seller of any rejection of goods, and goods rejected will, at Seller's expense, be returned to Seller or otherwise disposed of as Seller may reasonably request. Payment for the goods prior to inspection and approval shall not constitute acceptance thereof. Neither Buyer's inspection nor its failure to inspect the goods delivered hereunder shall release Seller from its warranties and obligations under this Agreement.

1.10 INSURANCE

Seller shall obtain and maintain coverage from insurance companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue insurance policies for the required limits and coverages. Seller shall provide blanket contractual liability coverage, to the extent permitted by law, including but not limited to coverage of Seller's contractual indemnity obligations. The insurance and insurance limits required herein shall not be deemed as a limitation on Seller's liability under the indemnities granted to Buyer and other individuals and entities in this Agreement. The limits of liability for the insurance required shall provide coverage for not less than the following amounts (or greater where required by Laws and Regulations):

- Commercial General Liability: \$1,000,000
- Professional Liability: \$1,000,000

Seller's insurance policies shall include and list as additional insureds Buyer and Engineer. Seller shall deliver to Buyer certificates of insurance establishing that Seller has obtained and is maintaining the policies, coverages, and endorsements required by this Agreement.

1.11 WARRANTIES

Seller warrants that all materials, equipment, and work furnished pursuant to this contract comply in all respects with the contract; that they are free from latent and patent defects in design, materials and workmanship; that they are suitable and adequate for the purposes for which they were designed and for such other purposes, if any, as are specified in the contract; and that they will give efficient and satisfactory service under such conditions as may be specified, for a period of **five years** after its first operation or use by the Buyer, in actual service, or, if the contract provides for an acceptance test, for a period of **five years** after they have passed such test.

Seller shall, at its own expense, repair, replace, transport, and install any materials, equipment, or work or parts thereof, which prove defective or deficient during the warranty period.

This means that Seller will be responsible during the warranty period for the direct cost of (A) removing Goods or parts from service; (B) transporting said Goods or parts from substation site to manufacturer or repair facility and back to the substation site; and (C) reinstalling Goods or parts for service after completing the required acceptance testing. If, however, it is impractical for Buyer to wait for the manufacturer, Buyer may perform such work at Seller's expense.

Any materials, equipment, work, or parts thereof, which fail to meet the guarantees or other requirements of the contract may be rejected; provided, however that if correction of the defects or deficiencies can be made through minor alterations or replacements of minor parts, and Seller proceeds immediately to complete such alterations, or to furnish and install such new parts as are necessary to meet the guarantees or other requirements of the contract, then the materials, equipment, or work shall not be rejected on account of defects or deficiencies so corrected. Any correction of a defect or deficiency will be guaranteed for a period of one year after such correction is effected. The correction of defects or deficiencies shall not operate to extend the time for performance of the contract as specified thereunder or to waive any claim for damages resulting from delay in performance or from any other cause.

Buyer shall give Seller prompt notice of any breach of this warranty. Operation or use by Buyer of the materials, equipment or work, or any part thereof shall not constitute a waiver of any of Buyer's rights under this contract. Seller warrants that the materials, equipment or work furnished hereunder are free from any and all claims, demands, and encumbrances; and that Seller will defend the title thereto. The foregoing warranties or guarantees contained in this contract shall supersede any and all others.

1.12 IDENTIFICATION; RISK OF LOSS

Identification of the goods ordered herein shall occur at the moment this order is accepted by Seller. Risk of loss shall pass to the Buyer at the time that conforming goods to the Agreement are confirmed received at the Point of Destination.

1.13 LIQUIDATED DAMAGES

If Seller fails to deliver the Goods on or before the date mutually agreed, Buyer may choose to invoke a liquidated-damages charge of **\$500.00** for each calendar day that the Goods are delayed. Liquidated damages will be limited to ten percent of the amount of the contract. This charge will be assessed to Seller when the delay is caused by any reason other than an act of God, purchaser, embargo or other governmental act or authority regulation or request, fire, theft, accident, strike, war, or riot. The time of delivery shall include the time for drawing approval.

1.14 INFRINGEMENT

Seller shall indemnify Buyer and Buyer's customers for any and all loss, damage, expense, (including but not limited to attorney's fees) claims or liability arising out of any infringement or claim of infringement of any patent, trademark, copyright, trade secret or other proprietary interest based on the manufacture, installation, normal use, lease, or sale of any service of material furnished to Buyer under this Agreement. Buyer shall notify Seller promptly of any such claim or infringement and Seller shall, at its own cost, defend, compromise, or settle, any such action or actions to satisfy and discharge the same without any cost or expense whatsoever to the Buyer.

1.15 TERMINATION

Buyer may terminate this Agreement for default upon notice to Seller if: 1) Seller fails to comply with any of the terms and conditions of this Agreement, including failure to deliver goods or perform services required within the time specified in this Agreement; 2) at any time reasonable grounds for insecurity arise with respect to Seller's expected performance and Seller fails to furnish adequate assurance of due performance within ten (10) days after a written demand by Buyer for such adequate assurance; 3) Seller shall become insolvent or make an assignment for the benefit of creditors; or 4) Seller shall file a voluntary petition in bankruptcy or insolvency or shall be involuntarily petitioned into bankruptcy or insolvency.

Buyer may terminate this Agreement, in whole or in part, for its convenience, at any time by giving written notice to Seller, and Seller shall promptly comply with the directions contained in such notice. In such event, Buyer shall make payment to Seller for all costs incurred by Seller prior to such termination reasonably allocable to this Agreement under recognized accounting practices, less any scrap or salvage value.

1.16 LIENS

Seller shall promptly pay for all materials, supplies and labor employed by it in manufacturing the ordered goods to the end that such goods may be kept free from Materialmen's, Warehousemen's and Mechanics' liens. Seller shall promptly discharge any such liens arising from the performance of this Agreement.

1.17 INDEMNITY OF THE BUYER

Seller shall indemnify and hold Buyer and its officers, employees, and agents harmless from and against all suits or claims that may be based upon any alleged injury to or the death of any person or damage to property that may occur or that may be alleged to have occurred in the course of performance of this Agreement whether or not such claim is made by a third person, except when it shall be proved that the alleged injury was caused solely by a negligent act or omission of the Buyer. Seller shall, at its own cost and expense, pay all costs and expenses or such suit or claim, including attorney's fees in connection therewith, and if any judgement shall be rendered against the Buyer in any such action or actions Seller shall satisfy and discharge the same without cost or expense to Buyer.

1.18 COMPLIANCE WITH LAWS

Seller and all material furnished by Seller shall fully comply with all federal, state, and local laws, ordinances, regulations, orders and codes, including identification and procurement of required permits, certificates, approvals and inspections in performance hereunder. Any provision required to be included in this Agreement by any such law, rule or regulation shall be deemed to be included herein. Seller also certifies that it does not engage in and requires that its subcontractor's (if any) employees or agents not engage in, any form of discrimination based on race, color, religion, sex or national origin. Seller agrees to indemnify Buyer for any loss or damage that may be sustained by reason of any failure to do so.

1.19 PATENTS

Seller shall at its own expense defend any suit instituted by any party against Buyer so far as it is based on the claim that any apparatus or part thereof furnished under this contract or Buyer's use of such apparatus or part for the purpose for which it was designed or for such purposes, if any, specified in this contract constitutes infringement of any United States patent.

Buyer shall give to Seller immediate notice in writing of the institution of such suit, and shall permit Seller, through its counsel, to defend the same, and shall give all requisite authority and all needed and available information and assistance to enable Seller to do so. Seller shall pay all damages and costs finally awarded therein against Buyer by reason of such infringement, however Seller shall not be liable under any compromise made without its consent.

If in any such suit said apparatus or part or such use thereof by Buyer is held to constitute infringement and such use is enjoined, Seller shall at its own expense procure for Buyer forthwith the right to use or continue using the said apparatus or part; provided, however, that subject to Buyer's approval Seller may at its sole expense replace said apparatus or part with non-infringing apparatus or parts, or modify it so that it becomes non-infringing.

1.20 CLAIMS BY THIRD PARTIES

Seller shall, at its own expense, assure the defense of and save harmless Buyer from all claims for materials furnished or work done; shall promptly discharge the same and not suffer any mechanics or other liens to remain outstanding against any of the property. Satisfactory evidence must be presented that all persons who have done work or furnished materials have been fully paid. If Seller fails to comply with its obligations as above, Buyer may take such steps as it may deem appropriate to discharge such liens or claims and may withhold from any moneys due Seller such amount as may be necessary to satisfy and discharge the same and any expense incident thereto.

1.21 LABELING

All goods and materials to be supplied by Seller under this Agreement shall be labeled in accordance with the requirements of the Federal Occupational Safety and Health Act Hazard Communication Standard and/or applicable State law or standard of similar effect. Seller shall immediately send to the Buyer, referencing this purchase order number, all required written safety information materials including without limitation, Material Safety Data Sheets, required under said standards.

1.22 NON-WAIVER

No course of dealing or failure of either party to strictly enforce any term, right or condition of this Agreement shall be construed as a waiver of such term, right, or condition

SECTION 4 – SPECIFICATION FOR 69KV POWER CIRCUIT BREAKER**1.01 GENERAL**

- A. This specification covers substation class high voltage circuit breakers, and it details electrical, mechanical and safety features as well as characteristics of outdoor 60 hertz automatic circuit breakers, with 3.0 cycles (or less) interrupting time.
- B. Seller shall furnish high voltage, alternating current, 3-pole, single throw, free standing, dead tank, outdoor circuit breakers rated for operation on a nominal 69 kV system. The power circuit breaker will be used to interrupt faults on the primary power transformers in outdoor substations and will be connected to a nominal 69 kV system.
- C. Power circuit breakers used on the nominal 69 kV system must be able withstand operating voltages up to 72.5 kV.
- D. Supporting frame, stand or base: Of sufficient height so all circuit breaker live parts satisfy IEEE 1427 minimum clearance to ground requirements. Maximum height for normal operation or maintenance procedures shall be 12 feet.

1.02 APPLICABLE STANDARDS

- A. Seller shall furnish equipment that will comply with all latest applicable standards and regulations of the Occupational Safety and Health Administration (OSHA), ANSI, IEEE and NEMA concerning the design of power circuit breakers. It should be further understood that these standards represent the minimum requirements.
- B. The circuit breakers and supporting structures shall be designed per the applicable requirements of IEEE 693.
- C. Assemble, adjust and complete manufacturer's standard production tests in accordance with ANSI C37.09.

1.03 RATINGS

- A. Operating Voltage: 69 kV
- B. Maximum voltage: 72.5 kV
- C. BIL: 350 kV minimum
- D. Continuous Current: 1200 Amperes
- E. Rated short time current carrying (3 sec): 31.5 kA, rms, minimum
- F. Max. interrupting rating: 31.5 kA minimum
- G. Interrupting time (cycles): 3 cycles @ 60 Hz
- H. Reclosing duty cycle C37 standard class
- I. Closing and latching capability: 82 kA, peak, minimum
- J. Withstand test voltage:
 - 1. Low frequency, 60 second dry: 160 kV, rms
 - 2. Impulse, full wave: 350 kV, rms

The breaker shall be so designed that it will meet or exceed the appropriate values for outdoor circuit breakers in the ANSI "Schedule of Required Load Current Switching Capability and Life for AC High-Voltage Circuit Breakers."

Seller shall certify that the design shall be such that the nameplate rating shall be maintained during the expected life of this type equipment under normal operating and maintenance conditions.

1.04 SUBMITTALS

Submit the following:

- A. Product data: Catalogs and cut sheets
- B. Shop Drawings:
 - 1. Outline diagram illustrating general arrangement, base details, anchor bolt details, weight and overall dimensions, with location of center of gravity on outline, circuit breaker impact loading, and all external power requirements for accessories and operation, including minimum trip voltage, maximum control voltage, tripping current, charging motor starting current, and charging motor nominal running current
 - 2. Circuit breaker control schematic
 - 3. Secondary current schematic
 - 4. Bushing data, including dimensions for bushing removal
 - 5. Bushing current transformers:
 - a. Excitation and ratio correction factor curves for each secondary ratio
 - b. Resistance of current transformer secondary and connecting leads for each ratio
 - c. Actual current ratio and turn ratio for each tap
 - d. Mechanical and thermal short time (one second) ratings
 - 6. Nameplate data, including all current transformer taps
 - 7. Terminal block connections
 - 8. Physical drawings illustrating equipment arrangement, terminal block locations, cable entrance, and panel layout
 - 9. Wiring diagrams (tabular format is not acceptable)
 - 10. Travel record curves
 - 11. Ground pad outline
 - 12. Notes and symbols
 - 13. Bill of material
- C. Test reports in written and electronic format
- D. Operation, maintenance and installation manuals

1.05 INTERRUPTERS - SF₆ SYSTEM

The interrupters shall utilize an SF₆ gas system. The breaker shall have an SF₆ gas monitoring system designed such that an alarm is generated if the pressure drops to a level where intervention is required. At this pressure, the breaker should still be capable of normal operation. However, if the gas pressure drops to a level where safe operation of the breaker cannot be assured, then a second alarm shall be generated, and the breaker prevented from operating. This alarm relay system shall have a minimum of two normally open and two normally closed contacts for each alarm level, all wired to terminal blocks for customer use.

1.06 CONTROL VOLTAGES

- A. Closing: 125 VDC
- B. Tripping: 125 VDC
- C. Motor: 125 VDC
- D. Heater: 120 VAC

1.07 MECHANISM AND CONTROLS

- A. The circuit breaker mechanism shall be designed such that it opens and closes all three-phase poles simultaneously.
- B. Circuit breaker shall be equipped with a mechanically and electrically trip free mechanism provided with an anti-pump scheme. Mechanism shall be motor-spring type mounted in a mechanism housing. Provisions for manual tripping/closing and other standard equipment shall be located within this housing. Motors for motor-spring mechanism drive shall be 125 VDC. Other equipment to be supplied is as follows:
 1. Two 125 VDC trip coils, each in electrically separate circuits. Each trip circuit shall be wired such that Buyer can monitor the integrity of the trip coils with the breaker both in the open and closed positions.
 2. One closing relay, electrically trip-free with seal-in contact.
 3. One latch checking switch (a.k.a. "close spring is not fully charged" alarm or motor-override alarm) with spare contacts wired to terminal blocks for monitoring.
 4. A mechanism position indicator, visible from outside the housing.
 5. Other necessary terminal blocks and wiring. All terminals within the mechanism housing shall be identified/labeled. Terminals for connection to circuits external to the circuit breaker shall be identified and marked as to function e.g., 120 VAC, 125 VDC, etc.
 6. Breaker shall be equipped with an external manual trip lever painted red for significance.
 7. Two ten-stage (or more) auxiliary switches, completely wired to terminal blocks in the control cabinet.
 8. Guarded heaters shall be provided for both the control and mechanism compartments. The heaters shall be 120 VAC and shall be thermostatically controlled. The heaters shall be properly sized for temperatures expected at the location of Buyer and furnished with thermostat for heater control.
 9. An SF₆ pressure gauge, density switch and fill connection shall be provided in the mechanism cabinet. Alarms for SF₆ pressure shall be provided as previously described.
 10. Three-way port isolation valve for testing alarm and lockout ports of the gas monitoring device.
 11. Mechanical operations counter.
 12. Control cabinet shall have one 120 VAC, 100W-rated light socket with switch and bulb guard, and one 120 VAC, 15A, GFI duplex receptacle. Provide and install one 100-watt equivalent LED light bulb per breaker.
- C. Mechanism housing shall be weatherproof.
- D. Control wiring shall be minimum #14 AWG SIS.
- E. All wiring should be properly supported. Glue type stick-on wiring supports are NOT ACCEPTABLE. All wiring shall be labeled at termination ends indicating opposite end connection point (destination). All terminal blocks shall be given unique labels.

1.08 BUSHINGS

- A. All bushings shall be of the NEMA standard 69 kV class, 350 kV BIL and equipped with external terminal and terminal connector.
- B. Stud connectors shall be supplied by Seller and shall be of the standard stud to 4-hole pad type (tinned).
- C. The bushing color shall be light gray ANSI No. 70.
- D. Bushing creepage shall be per IEEE standard.
- E. Type of bushing: Porcelain or composite

1.09 BUSHING CURRENT TRANSFORMERS

- A. Equip bushings 1, 3 and 5 with two multi-ratio, five tap, bushing current transformers with distributed windings.
 - Relay accuracy class C400
 - Ratio (amperes) 1200/5
- B. Equip bushings 2, 4 and 6 with two multi-ratio, five tap, bushing current transformers with distributed windings.
 - Relay accuracy class C400
 - Ratio (amperes) 1200/5
- C. All leads from the bushing current transformers shall be terminated on 6-point shorting terminal blocks in the relay/mechanism cabinet or in the relay cabinet if separate from the mechanism cabinet. Thumb screws and shorting bar must be included.
- D. CT wiring shall be minimum #12 AWG SIS.

1.10 CONSTRUCTION

- A. Preferred construction is unpainted aluminum or stainless steel.
- B. Physical characteristics:
 - 1. Type: Outdoor, 3 pole
 - 2. Interrupting medium: SF₆
 - 3. Type of mounting: Substation Frame
- C. Enclosure:
 - 1. Type: Dead tank mounted on a common supporting framework
 - 2. Design to withstand stresses generated at maximum interrupting rating
- D. All sheet metal shall be of suitable quality and thickness to provide rigid enclosures and cabinets with smooth surfaces.
- E. Bolts, cap screws, nuts, unpainted metal, etc. exposed to the weather shall be made of non-corrosive stainless-steel material.
- F. All mechanism and relay cabinets shall have hinged doors with a three-point, handle-operated, latch and shall be fully gasketed with non-sticking material. All doors shall be full sized such that a person can fit through each.
- G. All enclosures and cabinets shall be waterproof and dust-tight. All filters shall be removable, washable and of sufficient density to prevent dust from entering the enclosure.
- H. All mechanism and relay cabinets shall have at least one minimum 8" x 14" control conduit entrance area located below the terminal blocks.
- I. The minimum height from the base line of the breaker to the lowest energized part of the breaker shall satisfy IEEE 1427.
- J. Provide four copper-faced or stainless-steel grounding pads with two 1/2" x 13" tapped holes on 1-3/4" centers; two welded to the breaker frame on diagonally opposite corners, one on the mechanism cabinet (if applicable), and one on the control cabinet. Grounding pad on the control cabinet shall be directly connected (with #10 AWG wire) to any grounding bar located inside the cabinet.
- K. Any painted parts of the breaker shall be thoroughly cleaned, primed and painted before final assembly. The color of the finish paint shall be Outdoor Light Gray, ANSI No. 70. Inside of cabinets shall be white.
- L. Lifting eyes or hooks shall be provided and arranged so that slings will not damage bushings.

- M. The control cabinet shall be mounted approximately 3.5' above foundation (to bottom of cabinet).
- N. Breaker shall be equipped with adjustable legs.
- O. Permanent 3" x 3" terminal labels shall be installed on the enclosure at the base of each bushing. The labels shall be visible to personnel standing on the ground. Do not affix to the bushing.

1.11 AUXILLIARY EQUIPMENT

- A. Each control cabinet shall be equipped with a 2-pole, fused knife switch or a low voltage circuit breaker for connecting and disconnecting the following circuits:
 - 1. Mechanism closing circuit
 - 2. Heater circuits
 - 3. Each tripping circuit
 - a. **Note: The trip coil shall be "slugged" and not be fused.**
 - 4. 120 VAC convenience outlet and lighting.
- B. The breaker control shall be supplied with an auxiliary switch with ten stages or more following the breaker interrupting contacts. Ten spare poles are to be supplied and wired to terminal blocks, five "a" and five "b".
- C. Each wire going to the control panel shall go through a pole on a terminal block and if a hinged panel is used the terminal block shall be located on a stationary frame. All wiring shall be labeled at termination ends indicating opposite end connection point (destination).
- D. All equipment shall be mounted, wired and ready for operation.
- E. All devices and terminal blocks shall be well labeled per the device name given on the drawings.
- F. Furnish two (one for each coil) trip and one close battery voltage monitoring relay, 125 VDC input, Device 74, Potter & Brumfield, and one AC monitoring relay 120 VAC input, Potter & Brumfield.
- G. Furnish one 120 VAC 15A 2-pole 3-wire ground fault circuit interrupter outlet.
- H. Furnish the following switches for each device
 - 1. One circuit breaker control switch with escutcheon engraved "TRIP-CLOSE," pistol-grip, Device 01, Electroswitch Series 24
 - 2. One maintenance switch with escutcheon engraved "Normal-Maintenance" oval grip, Device 43, Electroswitch Series 24
 - 3. One green indicating light, circuit breaker open indicator, with clear cap GE type ET-16 (LED) or LEDtronics type RPLH16
 - 4. Two red indicating lights, circuit breaker closed indicator/trip coil monitors, with clear cap GE type ET-16 (LED) or LEDtronics type RPLH16

1.12 TEST SWITCH & PK BLOCK

NOT USED

1.13 STANDARD EXTERNAL ACCESSORIES

No accessories are required for this order.

1.14 RELAY, AMMETERS AND TRANSDUCERS

No relays are required for this order.

1.15 NAMEPLATES

- A. Furnish for each control switch, fuse group, and other devices
- B. Material: Laminated plastic with white letters on black background
- C. Attach nameplates with screws.
- D. Wording: Inscription and sizes determined by Seller and subject to review by Buyer
- E. Nameplate schedule shall be per attached Exhibit A

1.16 SERVICE

Seller should include in the base quotation charges for use of Seller's service engineer, equipment, etc., to conduct on-site assembly and testing of breaker, if required. This includes such things as gas installation, contact alignment check, bushing installation, adjustments, etc. If such services are not required, Seller shall so state in the proposal. Otherwise, it will be assumed that they are included in the bid.

1.17 SF₆ TOOLS

- A. Seller shall include in the base quotation all necessary SF₆ tools, fixtures and fittings required to fill the breaker – specifically including but not limited to an SF₆ regulator, hoses, bleeder valve and adapters. The SF₆ gas shall be supplied by Seller.
- B. A letter shall be provided by the manufacturer transferring the ownership for all SF₆ gas containers to the Buyer.

SECTION 5 – BID FORM

1.01 BIDDER

This Bid is hereby submitted by: _____ (Seller)

1.02 BID PRICE

Seller shall perform Work for the following price(s):

Item Required	Lump Sum Price, Including Spare Parts
One 69kV 1,200A 31.5kA power circuit breaker, including the following spare parts: <ul style="list-style-type: none"> • One primary bushing • One complete set of gaskets • One close coil • One trip coil • One spring rewind motor • Two red LED indicator lamps and lens caps • Two green LED indicator lamps and lens caps 	

Manufacturer's part numbers for the spare parts shall be provided with the bid. Quoted prices shall be FOB to the Point of Destination. Seller has the responsibility of Goods during shipment. Freight shall be allowed and pre-paid.

1.03 DELIVERY

Buyer requests drawings within **8 weeks** and delivery of Goods within **150 Calendar Days** of receipt of purchase order. Seller proposes to the following delivery schedule:

Delivery	
Drawings (ARO)	Goods

1.04 WARRANTY

Buyer requests 5-year warranty on Goods, which shall be included in the Total Price. If Seller includes alternate warranty period in Total Price, Seller shall state here the additional cost to provide a 5-year warranty. Seller proposes to the following warranty:

Seller's Proposed Warranty Period	Adder for 5-Year Warranty

1.05 PAYMENT TERMS FOR EVALUATION PURPOSES

Buyer requests payment terms of 90/10, Net 30 days, per Section 3 – Terms and Conditions. Seller's proposal shall state whether these terms are accepted or whether the proposal is based on alternate payment terms. For bid evaluation purposes, if Seller proposes alternate payment terms, the time value of money (3%) calculation will be factored into the evaluated cost of Goods.

A. Does Seller accept the terms as stated Section 3? (**circle answer**) **YES NO**

B. Seller's proposed payment terms: _____.



1.06 DETAILS OF GOODS: 69KV POWER CIRCUIT BREAKER

- A. Name of manufacturer: _____
- B. Method of shipment: _____
- C. Location of manufacturing facility: _____
- D. Circuit Breaker type and interrupting medium: _____
- E. Maximum number of operations at maximum rated short circuit current before maintenance is required: _____
- F. Recommended maintenance required and recommended maintenance intervals: _____
- G. Breaker opening time _____
- H. Breaker closing time _____
- I. Circuit Breaker weights:
 - 1. Net weight of Breaker _____ Pounds
 - 2. Shipping weight of Breaker, less bushings and loose parts _____ Pounds
- J. List spare parts that are NOT included in the total bid price, but are recommended by manufacturer, with net prices shown FOB site.

1.07 LIST OF EXCEPTIONS AND CLARIFICATIONS

(Attach additional sheets as necessary)

1.08 ACKNOWLEDGEMENTS

- A. By submitting this proposal, Seller:
 - 1. Acknowledges receipt of addenda as follows: _____
 - 2. Acknowledges terms of liquidated damages.

1.09 SELLER'S ATTACHMENTS TO BID

- A. Provide outline drawing of circuit breaker.
- B. Provide certification of insurance with proposed limits.



69kV Power Circuit Breakers Procurement
Springfield Electric Department
Wartrace Substation

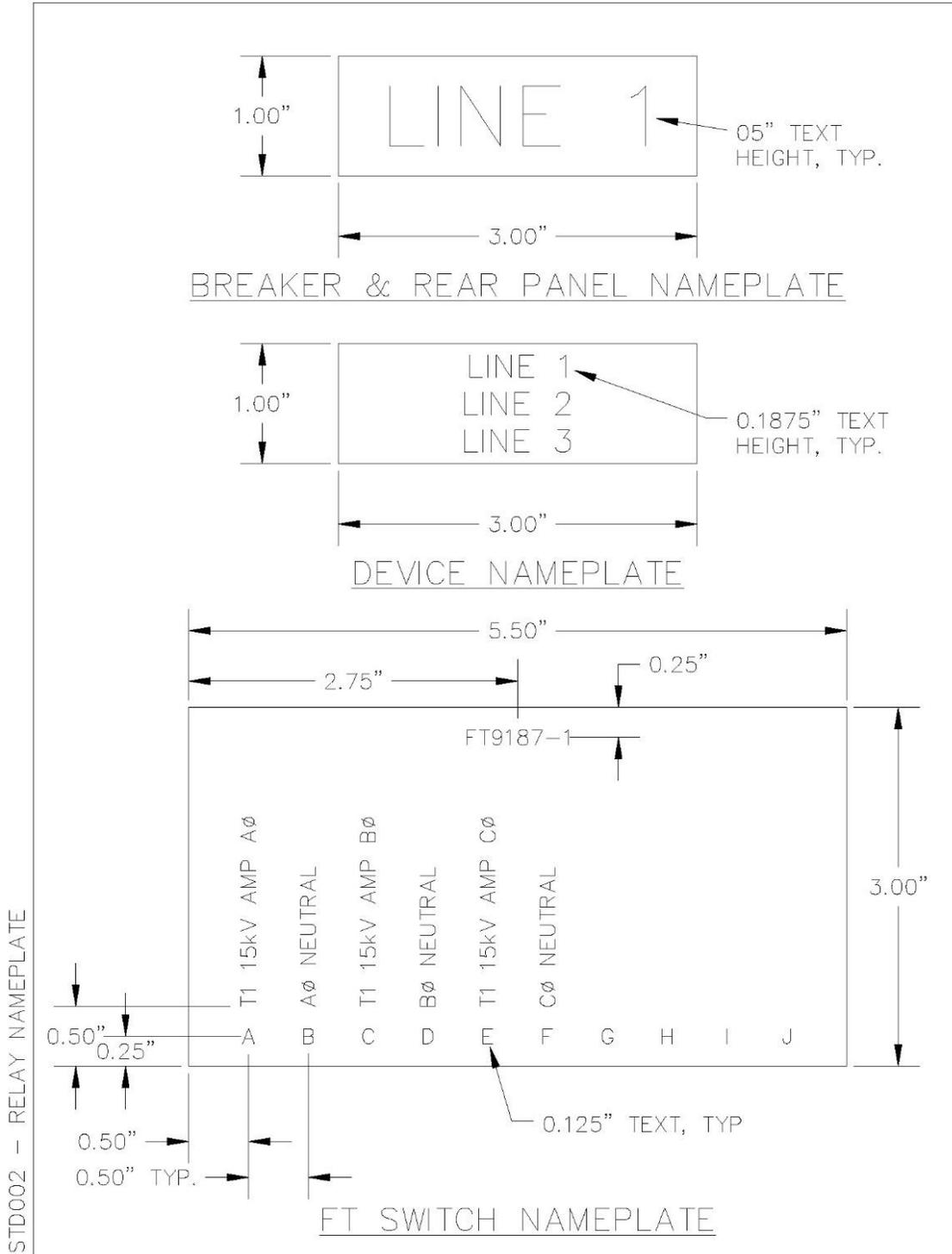
Contract No: 8645-P5
Date: June 3, 2022
Rev.: 00

1.10 BIDDER (SELLER) INFORMATION

Company	
Contact	
Address	
Phone/Email	
Issue PO to	

THE CITY OF SPRINGFIELD RESERVES THE RIGHT TO REJECT ANY AND ALL BIDS.

EXHIBIT A - STANDARD NAMEPLATE



IRAN DIVESTMENT ACT NOTICE

Tenn. Code Ann. § 12-12-106 requires the chief procurement officer to publish, using credible information freely available to the public, a list of persons it determines engage in investment activities in Iran, as described in § 12-12-105.

For these purposes, the State intends to use the attached list of “Entities determined to be non-responsive bidders/offers pursuant to the New York State Iran Divestment Act of 2012.”

While inclusion on this list would make a person ineligible to contract with the state of Tennessee, if a person ceases its engagement in investment activities in Iran, it may be removed from the list.

If you feel as though you have been erroneously included on this list please contact the Central Procurement Office at CPO.Website@tn.gov.

List Date: August 24, 2021

Source: <https://www.ogs.ny.gov/iran-divestment-act-2012>

1. Ak Makina, Ltd.
2. Amona
3. Bank Markazi Iran (Central Bank of Iran)
4. Bank Mellat
5. Bank Melli Iran
6. Bank Saderat Iran
7. Bank Sepah
8. Bank Tejarat
9. China Precision Machinery Import- Export Corporation (CPMIEC)
10. ChinaOil (China National United Oil Corporation)
11. China National Offshore Oil Corporation (CNOOC)
12. China National Petroleum Corporation (CNPC)
13. Indian Oil Corporation
14. Kingdream PLC
15. Naftiran Intertrade Co. (NICO)
16. National Iranian Tanker Co. (NITC)
17. Oil and Natural Gas Corporation (ONGC)
18. Oil India, Ltd.
19. Persia International Bank
20. Petroleos de Venezuela (PDVSA Petróleo, SA)
21. PetroChina Co., Ltd.
22. Petronet LNG, Ltd.
23. Sameh Afzar Tajak Co. (SATCO)
24. Shandong FIN CNC Machine Co., Ltd.
25. Sinohydro Co., Ltd.
26. Sinopec Corp. (China Petroleum & Chemical Corporation)
27. SKS Ventures
28. SK Energy Co., Ltd.
29. Som Petrol AS
30. Unipet (China International United Petroleum & Chemicals Co., Ltd.)
31. Zhuhai Zhenrong Co.

IRAN DIVESTMENT ACT

“By the submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief that each bidder is not a person included within the list created pursuant to § 12-12-106.”

Signature: _____

Date: _____

Title: _____