

**PUBLIC UTILITY DISTRICT 3
OF MASON COUNTY
SHELTON, WASHINGTON**

BID DOCUMENT NO. M3-2023

**INVITATION, INSTRUCTION TO BIDDERS,
BID & CONTRACT FORMS,
AND SPECIFICATIONS**

115kV POWER CIRCUIT BREAKER (PCB)

NOVEMBER 30, 2023

PART I - CALL FOR BIDS

NOTICE IS HEREBY GIVEN THAT THE BOARD OF COMMISSIONERS OF PUBLIC UTILITY DISTRICT 3 OF MASON COUNTY, WASHINGTON, does hereby invite sealed proposals for supplying **nine (9) 115kV, Power Circuit Breakers** as described and in accordance with Bid Document No. **M3-2023**, obtainable from the District upon request.

Proposals for this equipment must be sealed, marked Bid Document No. **M3-2023** and filed with Purchasing Manager Jennifer Renecker at the District's office in Shelton, Washington, by **3:00 p.m. Wednesday, January 24, 2024**. Bids received after the time fixed for receiving bids will not be considered or accepted. At the time and place named below such bids will be opened and read, and the Commissioners will proceed to canvass the bids, and may let a contract to the lowest responsible bidder or bidders of the specifications.

BIDDING DOCUMENTS

Bona fide Bidders may request bidding documents from the District's Purchasing Manager, Jennifer Renecker, 2621 E Johns Prairie Rd, P. O. Box 2148, Shelton, Washington (360) 426-8255, E-mail purchaser@masonpud3.org.

Bidding documents may also be found on MRSC Roster Bonfire electronic bidding portal at <https://mrscrosters.bonfirehub.com>. Free vendor registration is required to use this platform.

BID SECURITY AND BONDS

Each bid shall be accompanied by a certified check, bank cashier's check, or bid bond executed by a Washington State licensed surety company, in an amount not less than five percent (5%) of the amount bid. No bid will be considered unless accompanied by such a bond or security.

REJECTION OF BIDS

The Commissioners reserve the unqualified right in their sole and absolute discretion to waive any informalities and to reject any or all bids, and to accept the bid, which in their sole and absolute judgment will, under all circumstances, best serve the interest of the District.

Date: **November 30, 2023**

Publish: **November 30, 2023**

Bid Opening: **January 24, 2024, at 3:00 p.m.**

Bid Opening Location: **Virtual Bid Opening Via Microsoft Teams**

**PUBLIC UTILITY DISTRICT 3 OF MASON COUNTY
SHELTON, WASHINGTON**

**BID DOCUMENT M3-2023
115kV POWER CIRCUIT BREAKERS (PCB)**

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PART II - INSTRUCTIONS TO BIDDERS

IB-1 PREPARATION AND SUBMISSION OF BIDS

- 1.01 Each bid shall be made in duplicate on the forms provided for the Bidder's convenience. All copies shall be properly executed, all blank spaces filled in and interlineations, alterations, or erasures, if any occur, shall be initialed and formally explained over the signature of the Bidder. Violation of the requirement may be cause for rejection of the bid. In event of error in any arithmetical extension, the unit price will govern; and in case of errors in addition, the correct sum will govern.
- 1.02 Each bid shall be enclosed in a sealed envelope distinctly marked "Bid Proposal" and bearing the Bid Document number, title of the work as given, and the name and address of the Bidder, and shall be delivered according to the directions contained in the Invitation for Bids regarding address, date, and hour. If mailed, the bid should be addressed to **Public Utility District No. 3 of Mason County, P. O. Box 2148, Shelton, Washington 98584, Attention: Jennifer Renecker, Purchasing Manager**. For delivery in person, the Bidder may bring the quotation to the District's Operations Center at 2621 E Johns Prairie Road, Shelton, Washington.
- 1.03 Each bid shall give the full business address of the Bidder, including the street address, if it differs from the mailing address, and shall be signed with the Bidder's usual signature and dated. Bids by partnerships shall list the full names and addresses of all partners and shall be signed with the partnership name followed by the signatures of one or more of the general partners authorized to bind the partnership. Bids by corporations shall be signed with the legal name of the corporation followed by the signature and designation of the President, Vice-president, or other person or persons authorized to bind the corporation in this matter. The State of Incorporation shall be stated. The name of each signatory shall be typed or otherwise clearly imprinted below the signature. When requested by the District, satisfactory evidence of the authority of any signatory on behalf of a partnership or corporation shall be furnished.
- 1.04 Bids will be considered by item within the Bidding Schedule and award may be made on any item or combination of items at the option of the District.
- 1.05 It is the responsibility solely of the Bidder to see that the bid is submitted in proper form and in ample time. Any bid received after the stated closing time for receipt of bids will be marked as to date and time received and returned unopened.
- 1.06 The District reserves the right to extend the time for receiving and opening bids provided that notice of such extension is given prior to the opening of bids to each person or firm having requested a copy of the Bid Document.

IB-2 QUALIFICATION OF BIDDER

- 2.01 The District, in evaluating its requirements with regard to its financial obligations and power commitments to its customers, has determined that it must take every step prudent to ensure the prompt delivery, and expeditious repair and servicing of equipment described in the Bid Document. The District has determined that prompt delivery and expeditious repair and servicing of equipment can best be assured if Bidders regularly manufacture such equipment and replacement parts for such equipment and maintain readily available servicing establishments on the North American continent. Therefore, no Bidder shall be considered unless the equipment specified in the Bid Document and replacement parts for such equipment are regularly available within the continental limits of North America, and such Bidder or its subcontractors and/or its suppliers, maintain a readily available servicing establishment on the North American continent.
- 2.02 The Bidder must have designed, manufactured, and have in successful operation similar equipment. Evidence of the above may be, at the option of the District, required for use in evaluating the Bidder's proposal. If required, this evidence would be submitted in the form of a list of similar fabrications designed and manufactured in the Bidder's plant during the ten (10) years preceding the submission of bid, names of owners of such fabrications, together with sizes and installation dates. The Bidder may further be required to submit a statement of facts with respect to historical background, business and technical organization and financial references.

IB-3 EVALUATION OF BIDS

- 3.01 Bid evaluation will be considered by bid item and based on furnishing the apparatus complete with all appurtenances, in compliance with the Bid Document.
- 3.02 All elements or factors, whether specifically provided herein or not, which would affect the final cost to and the benefits to be derived by the District will be considered to determine the award of contract.
- 3.03 For the purpose of evaluating bids, consideration will be given to any and all expenses to be incurred by the District for engineering required for reviewing and approving manufacturer's designs and drawings, cost of expediting, inspecting, testing and all other costs to the District that may vary between manufacturers.
- 3.04 The District may accept alternative offers if fully explained. The Commissioners of Mason County Public Utility District No. 3 reserve the right in their sole and absolute judgment to reject any bids, including all alternative offers or bids, without further explanation, and to accept an alternative or bid which will, in their sole and absolute judgment, under all circumstances best serve the interest of the District. The Commission shall be the final authority with regard to whether a bid is responsive to the call for bids and as to whether a Bidder is a responsible Bidder under the conditions of this bid.

IB-4 EXAMINATION OF DOCUMENTS

4.01 Prospective Bidders who intend to submit proposals should examine with due care the complete Bid Document and any subsequent amendments or addenda thereto issued before bid opening and be informed fully with respect to all conditions which might in any way affect the performance of the work or the cost thereof. Neglecting to do so will be at the sole risk of the Bidder, and no relief can be given for error or omission. The Bid Document consists of:

Part I	Call for Bids
Part II	Instructions to Bidders
Part III	Specifications
Part IV	Contract Forms
Part V	General Conditions
Part VI	Special Conditions
Part VII	Bid Forms

4.02 Should the Bidder find discrepancies in or omissions from the Bid Document or should the intent or meaning appear to be obscure or ambiguous, the Bidder should at once forward to the District a written request for interpretation, clarification, or correction thereof before submitting a bid. The Bidder making such request will be solely responsible for its timely receipt. All such requests must be received not later than ten (10) days before closing time for receipt of bids. Replies will be made only in the form of addenda.

4.03 A Bidder may modify a bid by written request or telegraphic communication, provided that the request is received at the place of opening prior to the closing time for receipt of bids, and in the case of telegraphic communication, provided a written confirmation thereof over the signature of the Bidder is postmarked prior to the said closing time and received within three (3) days after the said closing time.

4.04 A copy of the Bid Document and Bid Forms will be supplied to each Bidder. All documents remain the property of the District and are to be returned if requested by the District.

IB-5 WITHDRAWAL OF BIDS

5.01 A Bidder may, without prejudice, withdraw a bid either personally or by telegraphic or written request, at any time prior to the scheduled closing time for receipt of bids. Bids must be firm for thirty (30) days after date set for receipt of bids or until the Contract is executed, whichever is earlier. Negligence or mistake on the part of the Bidder in preparing the bid confers no right for withdrawal of the bid after the closing time for receipt of bids.

IB-6 REJECTION OF BIDS

6.01 The right is reserved to reject any bid, or all bids and to waive any informality in bids received, as the interest of the District may dictate.

IB-7 BONDS AND INSURANCE CERTIFICATES

- 7.01 Each bid shall be accompanied by a certified check or cashier's check payable to the order of Public Utility District 3 of Mason County, Washington, for a sum not less than five percent (5%) of the amount of the total Bid, or accompanied by a Bid Bond in an amount not less than five percent (5%) of the amount of the Total For Bid with a corporate surety acceptable to the District and also licensed to do business in the state of Washington by conditioned that the Bidder will pay the District as liquidated damages the amount specified in the bond unless the Bidder enters into a Contract in accordance with the bid and supplies the Performance and Payment Bond and Certificates of Insurance if required at the time of the execution of the Contract.
- 7.02 The Bidder to whom the Contract award is made shall supply a Performance and Payment Bond, executed as surety by a corporation authorized to issue surety bonds in the state of Washington, in the form designated by the District in Part IV of the Document and with sureties satisfactory to the District, for one hundred percent (100%) of the Total for Bid. The entire cost of the Performance and Payment Bond shall be at the expense of the successful Bidder and the entire cost thereof shall be included in the bid prices for the various items of work. A sample form of the Performance and Payment Bond is included in the Contract Forms, Part IV.

IB-8 AWARD OF CONTRACT

- 8.01 In the award of the contract, all evaluation factors set forth under Evaluation of Bids, part IB-3, will be given full consideration in determining which is the most reasonable and responsible bid for the District to accept.
- 8.02 The successful Bidder will be notified in writing of the award of Contract within thirty (30) days after official opening of bids. Within ten (10) days after notice of award, the successful Bidder shall deliver to the District the Performance and Payment Bond, if required, together with the executed Contract. These documents will have been forwarded to the successful Bidder with such notification.

IB-9 PURCHASER'S MODIFICATION OF DOCUMENT

- 9.01 The District expressly reserves the right to modify any provision or part of the Document at any time prior to the date set for receipt of bids. Such revisions, if any, will be in the form of an addenda, which will be issued as set forth in IB-4 4.02 above.

PART III - SPECIFICATIONS

115kV, 1,200 AMPERE MINIMUM POWER CIRCUIT BREAKERS (PCB)

SPEC-1 GENERAL

- 1.01 These specifications cover the furnishing of quantity nine (9) 3-phase, 60Hz, 115kV, 1200-amp continuous, SF₆ gas-insulated power circuit breaker (PCB) equipment, materials, and accessories, as indicated in Specification Section 7 - Data Sheets of this Part. PCB's furnished shall be complete with all accessories ready for mounting, assembly, connection, and immediate service. The requirements of the individual Specification Data Sheets and electrical control scheme shall govern should conflicts occur between them and the written text of these specifications.

SPEC-2 STANDARDS

- 2.01 All equipment, components (including, but not limited to, all threaded fasteners), and materials provided under this specification shall conform to the applicable standards of ANSI, ASME, ASTM, IEEE, and NEMA. The PCB's shall be designed, fabricated, and tested in accordance with ANSI/IEEE C37 Series and the specifications herein.

SPEC-3 CONSTRUCTION DETAILS

- 3.01 PCB's shall be three-pole, single-throw, gang-operated, single-pressure puffer-type using SF₆ gas as the insulation and arc quenching medium.

The PCB design shall be dead-tank type. The PCB shall be equipped with current transformers (CT's) as specified in Spec 3.20 and 7.08 of this Part.

The PCB shall be capable of withstanding, without damage or internal flashover, 1.5 times nominal line-to-ground system voltage under one atmosphere of SF₆ gas pressure. Under this condition, the PCB is not required to open or close.

The following articles describe the general construction of the PCB.

3.02 CONTROL ENCLOSURE

- 3.02.1 The operating mechanism and necessary auxiliary and control devices shall be furnished in a weatherproof, dust-resistant enclosure (control cabinet) mounted on the PCB frame.

- 3.02.2 The PCB control cabinet shall provide the internal wiring for the breaker system and the interface between the Owner's control and power circuits to the PCB. The control cabinet shall allow sufficient space for termination of Owner-furnished control and power circuits.

- 3.02.3 Enclosure door will be hinged, secured with a three-point latching mechanism, door wind braces, and handles shall include provisions for padlocking. Hardware will be stainless steel or zinc-flake. A door pocket shall be provided on the inside of control cabinet of adequate size for

drawings (reduced size is acceptable) and instruction manual storage, with documents to be stored in heavy duty plastic zip-lock style bag.

3.02.4 Control and low voltage compartment bottom will have a removable Aluminum cover plate for control conduit entrance.

3.02.5 All control switches, push buttons, fuses, shorting-type terminal blocks, and other devices requiring Owner interface shall be mounted at a height and location to be easily accessible. Such devices shall be located less than five feet (1500 mm), but more than two feet (600 mm), above the top of foundation.

3.03 NAMEPLATES

Nameplates shall be furnished when specified in the detailed specification sections. Nameplates shall be made of stainless steel or aluminum. The lettering shall be not less than 3/16-inch square, bold engraved through the outside layer so that the letters are the color of the core.

3.04 COROSION PROTECTION AND PAINT

3.04.1 COROSION PROTECTION - All metallic surfaces subject to corrosion shall be protected by suitable coatings applied in the factory. Tanks, BCT covers, and end covers shall be unpainted aluminum. Surfaces which will be inaccessible after assembly shall be protected for the life of the equipment. The surfaces shall be cleaned and prepared in the factory. Except for electrical connection surfaces, all exterior circuit breaker metallic parts, including galvanized steel surfaces, support steel, raceway, etc., shall be protected from corrosion.

3.04.2 EXPOSED SURFACE PREPERATION - Exposed surfaces shall be finished smooth, thoroughly cleaned, and filled as necessary to provide a smooth uniform base for painting. Surfaces to be finish painted after installation, or requiring paint for corrosion protection until installation, shall be factory painted with one or more coats of paint as hereinafter specified.

3.04.3 PANEL SURFACE PREPERATION - Panel surfaces shall be prepared for painting by either pickling or blast cleaning. All welds shall be thoroughly cleaned to remove any weld flux, spatter, condensates, slag, or heat oxides. All rust, mill scale, grease spots, or other foreign material shall be completely removed. Blast cleaning and pickling shall comply with the Steel Structural Painting Council Specifications SSPC-SP6 and SSPC-SP8, respectively, as the minimum acceptable degree of cleaning.

3.04.4 PAINT (PRIMER) - Electrical equipment shall be prime painted with one spray-applied coat of rust-inhibitive alkyd primer, with a minimum 40 percent solids by volume, applied to a minimum dry film thickness of 2 mils. Primers shall be capable of withstanding a constant minimum temperature of 200°F and a non-continuous temperature of 250°F.

- 3.04.5 PAINT (FINISH) - Electrical equipment shall be finish painted over properly applied prime paint: two coats or more of high-gloss alkyd enamel, minimum 40 percent solids by volume, applied to a minimum dry film thickness of 1.5 mils per coat. Finish coatings shall be capable of withstanding a constant surface temperature of 200°F and a non-continuous temperature of 250°F. The exterior finish color for outdoor equipment shall be ANSI 70 Gray.
- 3.04.6 TOUCHUP - The Supplier shall furnish one pint of touch up paint per breaker. The touch up paint shall be of the same type and color as the factory-applied paint and shall be carefully packed to avoid damage during shipment. Complete painting instructions shall be furnished.

3.05 CONTROL POWER

- 3.05.1 Electrical power for control and instrumentation will be supplied by the Owner as set forth in Spec 7 of this Part. The Supplier shall provide any devices required for proper operation and protection of the equipment during electrical power supply and ambient temperature fluctuations described in the following paragraphs.
- 3.05.2 System control voltage shall be 125 volts DC nominal. All DC electrical control devices shall be designed for continuous operation on an ungrounded station battery. The Supplier shall guarantee satisfactory operation when the equipment is continuously energized at any voltage that varies from minus 10 percent to plus 10 percent from nominal voltage, with ambient temperatures as specified. Electrical devices served by this supply shall not impose any ground connections on it.
- 3.05.3 System operating voltage shall be 120 volts AC nominal, All AC electrical control devices shall, unless otherwise specified, be designed for continuous operation at any voltage from 102 to 132 volts AC. The dropout voltage shall be less than 75 volts for relays and 90 volts for contactors and starters. AC electrical control device operation shall not be affected by a complete loss of voltage for three cycles.
- 3.05.4 All devices shall be guaranteed to operate satisfactorily under voltage conditions specified in the above paragraphs and at a range of ambient temperatures from -30°C to +50°C outdoors.

3.06 WIRING

- 3.06.1 In general, all devices furnished under these specifications and requiring electrical connections shall be designed for wiring into electrical enclosures with terminal blocks. Terminal blocks shall be furnished for conductors requiring connection to circuits external to the specified equipment and where equipment parts replacement and maintenance will be facilitated.

- 3.06.2 Splices will not be permitted in control wiring or instrument leads.
- 3.06.3 All spare contacts on lockout relays and similar devices shall be wired to accessible terminal blocks for future external connection.
- 3.06.4 All wiring leaving an enclosure shall leave from terminal blocks and not from other devices in the enclosure.
- 3.06.5 Auxiliary equipment such as terminal blocks, auxiliary relays, or contactors shall be readily accessible. Auxiliary equipment shall be located in compartments, enclosures, or junction boxes in such arrangement that a serviceman will have direct access to the equipment without removal of barriers, cover plates, or wiring.
- 3.06.6 Terminal blocks for external connections shall be grouped in the instrument and control compartment for easy accessibility unrestricted by interference from structural members and instruments. Sufficient space shall be provided on each side of each terminal block to allow an orderly arrangement of all leads to be terminated on the block. Arrangement of circuits on terminal blocks shall be such that all connections for one circuit, plus any spare conductors, shall be on adjacent terminals. Blocks shall accept up to #10 AWG conductors.
- 3.06.7 A shorting-type terminal block shall be installed at an accessible location for each set of CT's supplied with the equipment furnished under these specifications. The shorting terminal block shall be the one nearest to the CT's. No other shorting-type terminal blocks are required unless specified otherwise. Blocks shall accept up to #10 AWG conductors.
- 3.06.8 All electrical cables shall be conservatively selected for the electrical and environmental conditions of the installations and shall be of the best construction for the service where unusual service conditions are encountered. Oil-resistant and proper temperature application cable shall be used throughout. Except where required to be otherwise to perform satisfactorily in the service, all electrical conductors shall be Class B, stranded copper, #12 AWG or larger. Mineral insulated (MI) cable is not acceptable.
- 3.06.9 Control panel and cabinet wiring shall be stranded copper conductor with flame-retardant, cross-linked polyethylene insulation rated for 600 volts and shall meet the requirements of UL 44 for Type SIS. The insulation shall also meet the requirements of ICEA S-66-524, Paragraph 7.8.3.1. Wire leads from the CT's to the control cabinets may be color coded MTW and must be a minimum of 10 AWG.
- 3.06.10 General service power and control cables integral to the equipment furnished, but not internal wiring of control cabinets or panels, shall be rated for the maximum service voltage, but not less than 600 volts. Power conductors and single conductor control cables shall have ethylene

propylene rubber insulation with a neoprene conductor jacket. Multi-conductor control cables shall have flame-resistant, cross-linked, polyethylene conductor insulation and an overall neoprene jacket or acceptable equal insulation systems, except that NEC Type SF-2 silicone rubber-insulated cable with braided glass jacket shall be used where ambient conditions cause conductor operating temperatures to exceed the temperature ratings of the general service cable insulation furnished.

- 3.06.11 Control conductor terminal connectors shall be compression-type connectors properly sized for the conductor and the terminal. The connectors shall be constructed of copper and shall be tin plated. The interior surface of the connector wire barrel shall be serrated. The exterior surface of the connector wire barrel shall be furnished with crimp guides.
- 3.06.12 Non-insulated terminal connectors are acceptable for conductors terminated on devices equipped with individual fitted covers, such as breaker control switches and lockout relays.
- 3.06.13 Pre-insulated ring-type terminal connectors shall be used on all current circuits. All other terminal connectors for conductors smaller than #8 AWG shall be pre-insulated ring-type.
- 3.06.14 Pre-insulated terminal connectors shall include a vinyl sleeve color coded to indicate conductor size. Pre-insulated terminal connectors shall include a metallic support sleeve bonded to the vinyl insulating sleeve and designed to grip the conductor insulation.
- 3.06.15 Ring-type connectors shall be manufactured to ANSI Standard UL 486A-486B. Spade-type connectors are not acceptable.
- 3.06.16 Each terminal block, terminal, conductor, relay, breaker, fuse block, and other auxiliary device shall be permanently labeled to coincide with the identification indicated on the drawings. All terminals provided for termination of external circuits shall be identified by inscribing circuit designations acceptable to the Engineer on the terminal block marking strips with black paint. All other wiring terminations shall be identified by printing on conductor identification sleeves. A conductor identification sleeve shall be provided on each end of each internal conductor. All wire terminations shall be identified by destination, device ID, and terminal number. Example: 2-D5-10 (Cell #2- Device ID D5 – terminal #10). Wire identification numbers may also be used but shall not take the place of the termination identification. Conductor identification sleeves shall be not less than ½-inch long. Conductor identification shall be permanent, unaffected by heat, solvents, or steam, and not easily dislodged. Adhesive labels are not acceptable.
- 3.06.17 The arrangement of connections on terminal blocks shall be acceptable to the Engineer.

3.06.18 All connections requiring disconnect plug and receptacle-type devices shall be provided with factory-terminated conductors on each plug and receptacle. Plugs and receptacles shall be factory wired into junction boxes containing terminal blocks for external connections. All conductors on the disconnect portion of plug-receptacle assemblies shall be in a common jacket.

3.06.19 All temporary wiring installed in the factory for equipment testing shall be removed prior to shipment of the equipment.

3.07 PIN AND SOCKET CONNECTORS

Pin and socket connectors shall have threaded couplings and crimp-type contacts and shall meet SAE-AS50151.

3.08 TERMINAL BLOCKS

Terminal blocks shall be furnished with white marking strips and, where permitted by the safety codes and standards, shall be without covers. The terminal block numbers shall be marked one (1) through twelve (12) and shall correspond to the terminal numbers. A minimum of 25% of the total terminal positions provided shall be spare, unused terminals for circuit modifications and for termination of all conductors in a multi-conductor control cable.

All terminal blocks shall be GE EB27 or equivalent pending approval of the District.

Fuses shall not be mounted on terminal blocks. Neither step-type terminal blocks nor angle mounting of terminal blocks will be acceptable.

Main terminal blocks for motor circuits shall be capable of receiving #6 AWG stranded conductor.

3.09 FUSE BLOCKS

Where fuse blocks rated 30 amperes/250 volts are required, they shall be modular type with Bakelite frame and reinforced retaining clips. Blocks shall meet ANSI/UL 4248-6.

3.10 FUSES

Fuses shall meet IEC 62368-1 and shall be on UL Listed Card JDYX E19180 or JDYX2 E19180 as required for equipment protection.

3.11 ELECTRICAL ACCESSORY DEVICES

Electrical accessory devices shall be furnished in accordance with the requirements stated herein, unless otherwise specified in the detailed specification sections.

3.11.1 CONTROL SWITCHES-Control switches shall be 600-volt, 20 ampere rated, multi-stage, rotary-type with a minimum of 10 contacts. Switches shall

have black, fixed, modern, pistol-grip-type handles and engraved black plastic escutcheon plates with targets. Switches shall be General Electric Type SB-1, Electro Switch Series 24, or suitable equivalent.

3.11.2 PUSH BUTTON AND SELECTOR SWITCHES - Push buttons and selector switches shall meet IEC 60947-5-1. Toggle switches shall meet MIL-DTL-3950.

3.11.3 INDICATING LIGHTS - Status indicating lights shall be UL 508 listed, push-to-test with long life red or green LED lamps, plastic lenses, and appropriately sized resistors.

3.12 ALARM CONTACTS

3.12.1 Alarm contacts for remote annunciation shall be suitable for operation at 125VDC. Alarm contacts shall be normally open contacts which close on alarm condition.

3.12.2 Alarms contacts provided shall include but not be limited to:

- Motor thermal overload alarm (49 relay)
- Motor trouble alarm (88 relay)
- AC to DC automatic transfer switch (83 relay)
- Spring charge failure alarm
- Loss of AC power to heaters/lights/GFCI receptacle (27 relay)

3.13 OPERATING MECHANISM

3.13.1 The operating mechanism shall be a spring-charged stored-energy system. The operating mechanism shall include all auxiliary devices and other accessories for the operating mechanism furnished. The mechanism shall be electrically trip free and shall include anti-pump auxiliary relays and devices.

3.13.2 The operating mechanism shall include an externally accessed "pull to trip" (69 switch) to allow for emergency opening of the PCB for an operator standing at the device.

3.13.3 The operating mechanism shall include a mechanical position indicator. The indicator shall provide a positive indication of the breaker position by direct mechanical coupling to the operating rod. The indicator shall consist of a suitable sign utilizing green with the word "OPEN" when in the open position and red with the word "CLOSED" when in the closed position.

3.13.4 The operating mechanism shall include dual, low-energy-type (below 10 amperes operating current) trip coils. The trip coils shall be electrically, mechanically, and magnetically independent. The trip coils shall be located such that heat or fire damage to one trip coil shall not preclude the proper operation of the other trip coil. The trip coils shall be suitable for parallel trip

coil operation. Loss of DC voltage to one trip coil shall not impair the operation of the other trip coil or the breaker close mechanism. The trip coils shall be wired to individual terminals to allow independent activation and testing.

- 3.13.5 The operating mechanism shall include an SF₆ pressure gauge and pressure switch with two alarm contacts which close to alarm low SF₆ gas pressure. A low-pressure cutout switch (with two alarm contacts) shall be provided to prevent initiating a close signal should the operating pressure be below the minimum required for a complete close-open operation. The low-pressure cutout device shall not prevent a complete close-open operation should pressure drop after the close-open operation is initiated.
- 3.13.6 The stored-energy operating mechanism shall operate according to the duty cycle stated in the Specification and Data Sheet Spec 7 of this Part without auxiliary power available. Each operating mechanism shall store sufficient energy for three close-open operations without replenishing the stored energy.
- 3.13.7 The stored-energy mechanism recharging time to full operating condition from a completely discharged condition shall not exceed one minute.
- 3.13.8 The stored-energy mechanism shall include a status indicator. The indicator shall consist of a suitable sign utilizing green with the word "DISCHARGED" when in a non-stored energy state and red with the word "CHARGED" when the mechanism is in a stored state energy state.
- 3.13.9 Each operating mechanism shall include spare auxiliary switch contacts for use by the Owner. The spare auxiliary switch contacts shall be mechanically linked to the mechanism operating rod and shall include at least twelve (12) "a" contacts and twelve (12) "b" contacts and shall be independent of each other.
- 3.13.10 Each breaker close control scheme shall include a field adjustable 0.1 to 2 second time delay pickup close relay, factory preset to provide a 20-cycle automatic reclose time (including breaker close time) after energization of the close circuit.
- 3.13.11 The close circuit shall be wired to provide external lockout and shall include one 52a and one 52b contact for relay panel devices.
- 3.13.12 Trip circuits shall be wired to provide one 52a and one 52b contact for relay panel devices.
- 3.13.13 The spring charging motor shall be of a universal 120VAC/125VDC type. A DC only with rectifier to handle AC supply shall not be accepted. AC shall be the primary source with DC as the backup. An automatic transfer switch/83 relay shall be provided with extra contacts on relay for SCADA status of AC motor.

3.14 AUXILIARY POWER

The Owner will furnish one auxiliary power supply to each PCB at the voltages specified in Specification and Data Sheets Spec 7 of this Part for each Item. If the Supplier chooses to furnish other auxiliary equipment designed to operate at a different voltage from the specified auxiliary power supply, Supplier shall furnish all equipment required to transform the voltage of auxiliary power to the design voltage of the equipment furnished. The Supplier shall provide suitable branch circuit protection.

3.15 AUXILIARY AND CONTROL POWER DISCONNECTS

3.15.1 Two-pole knife switches with fuses shall be supplied as power supply disconnects for each of the following circuits.

- 120VAC motor circuits.
- 120VAC heater circuits.
- 120VAC, GFCI, receptacle, and 120VAC lamp located within the control cabinet to be supplied via the same source.
- 125VDC motor circuits.
- 125VDC closing circuits.

3.15.2 Two-pole knife switches without fuses shall be supplied as power supply disconnects for each tripping circuit. Each tripping circuit shall be supplied via a separate 125VDC source.

3.16 SF₆ GAS SYSTEM

3.16.1 Temperature-compensated pressure switches (gas density switches) shall be provided to monitor the SF₆ gas density. A 10% drop in SF₆ gas density below normal operating density shall initiate a low SF₆ gas density alarm. A further 10% drop in density shall initiate a trip or block any further breaker operation as specified in the Specification and Data Sheets.

3.16.2 SF₆ gas required for initial field installation shall be furnished, per ASTM D2472, by the manufacturer from a U.S. supplier, in bottles using standard U.S. fittings.

3.16.3 A common gas system shall be provided. The SF₆ fill port shall be inside the control cabinet and be a DIL0-type self-sealing fitting with cap. The common gas system shall include a check-valve, shutoff-valve, and bleed-valve. All SF₆ tubing and connections shall be totally enclosed and protected from both the environment and from hazards which could cause the tubing to be crushed or otherwise damaged.

3.16.4 Density switches and pressure gauges shall be capable of being changed without depressurizing any unit pole.

3.16.5 Pressure gauge(s) shall be readable without opening any cabinet door.

- 3.16.6 All gas connections shall be made using o-ring, welded, or brazing. Any connection to lines such as, but not limited to T-connections shall be welded. Compression fittings using ferrules will not be acceptable.
- 3.16.7 The SF₆-to-air seals and gaskets shall prevent SF₆ gas leakage in excess of one percent per year of gas weight through the duration of the guarantee period. O-rings shall be used as the primary seal. Corrosive arc products, due to moisture infiltration, shall be prevented to the maximum extent possible through the use of desiccant moisture-absorbing chambers and an arc product filter. Grease will not be acceptable to protect flange surfaces from the ingress of moisture.

3.17 ARC CONTAINMENT CHAMBER

The arc containment chamber shall be designed to prevent mechanical failure and withstand pressure buildup if the breaker fails to interrupt full-rated fault current. The use of a pressure-relief device is acceptable, but not required and shall be so stated in the Proposal Data Part VII Section 4.

3.18 DUAL MONITORING AND CONTROL

Each PCB shall be furnished with dual alarm and control schemes which monitor the operating system and the SF₆ gas system, as applicable. The dual alarm and control schemes shall be mechanically and electrically independent with each alarm and control scheme wired into a separate trip-coil circuit.

3.19 SPACE HEATERS

- 3.19.1 Each enclosure furnished shall be provided with 120VAC, single-phase, space heater(s) to prevent condensation of moisture within the enclosure. Space heater capacity shall be as required to maintain the enclosure internal temperature above the dew point. Heaters shall be spaced away and thermally insulated from any devices or painted surfaces.
- 3.19.1 Space heaters shall be sized to provide adequate heating when energized at the applied voltage indicated on the Specification and Data Sheet Part VII Section 4. The Supplier shall provide all space heater wiring integral to the breaker and suitable branch-circuit protection.
- 3.19.2 Space heaters shall be controlled by an adjustable thermostat factory set to close (ON) at 70°F (21°C) and open (OFF) at 80°F (27°C).

3.20 CURRENT TRANSFORMERS (CT's)

- 3.20.1 CT's shall be bushing-type with fully distributed windings, five-lead, multi-ratio-type, unless indicated otherwise, in accordance with IEEE C57.13 and as set forth in Section 7.1.7 below for each corresponding Item. The PCB shall have provisions for easy field replacement of the CT's.

- 3.20.1 All secondary leads of each CT, including all taps of each transformer, shall be wired to shorting-type terminal blocks located in the PCB control cabinet. Each set of secondary winding taps shall terminate on a six-pole shorting block, with the sixth pole permanently connected to the shorting bar and to ground. Shorting blocks shall be GE EB27 or equivalent pending approval of the District.
- 3.20.2 Two (2) relay accuracy CT's shall be provided per bushing for a total quantity of twelve (12) per PCB meeting the specifications set forth in SPEC-7 7.08.
- 3.20.3 The Bid shall include an optional price adder for one (1) meter accuracy CT per bushing for a total quantity of six (6) per PCB meeting the specifications set forth in SPEC-7 7.08.

3.21 ASSEMBLY AND CONFIGURATION

- 3.21.1 Each PCB shall be factory assembled into integral shipping sections as complete as possible to minimize assembly requirements at the site. A structural steel frame common to all PCB components shall be furnished. The frame furnished shall maintain a 12'-0" (3,658 mm) minimum height from energized parts to groundline.
- 3.21.1 The assembly shall be complete, including bushings, if shipping clearances permit.

3.22 BUSHINGS

- 3.22.1 All bushings shall be rated in accordance with ANSI and NEMA standards and as specified in the Specification and Data Sheets. All bushings shall be SF₆ gas-filled gray porcelain.
- 3.22.2 Bushing terminals shall accept NEMA four-hole, spade-type, aluminum terminals with both sides of terminal suitable for electrical connections.
- 3.22.3 Any damage to porcelain, such as chips or cracks, shall result in the damaged item being replaced and not repaired at the supplier's expense.

3.23 AUXILIARY POWER AND CONTROL CIRCUITS

PCB auxiliary power, control, and alarm circuits shall be provided with terminal blocks for connection to external circuits. The terminal blocks shall have circuit identification and shall be located in the control cabinet to provide external circuit connections from a common raceway entrance.

SPEC-4 SPARE PARTS

The proposal shall include a list of manufacturer's recommended spare parts along with recommended quantities with pricing for each Item.

SPEC-5 FACTORY TESTS

- 5.01 Regardless of any statements in the standards to the contrary, each PCB shall be completely assembled at the factory. The assembled components, including bushings, shall be those which will be a permanent part of the PCB assembly. After each PCB is completely assembled, it shall be subjected to, and shall meet, all requirements of the production tests as listed and described in ANSI/IEEE C37.09.
- 5.02 Certified test results shall be delivered electronically in .pdf file format to both the District and the District's Design Agent no later than 10 days after completion of all factory tests. Test reports for each PCB shall be submitted and identified by serial number. See Section 15.

SPEC-6 PREPARATION OF PCB FOR SHIPMENT

- 6.01 PCB's shall be shipped fully assembled (bushings installed) and filled with 5 psig of SF6 minimum. Only the lower mounting frame shall be removed for shipment, requiring field assembly. PCB components shall be clean, dry, and sealed when shipped from the factory. Each component not shipped with SF6 gas shall contain a packaged moisture-absorbing chemical, as required, to keep it moisture free during shipment. Tanks, interrupters, support insulators, or other SF6 containers which are found to contain moisture when received at the job site shall be dried and moisture damage shall be repaired at the Supplier's expense.
- 6.02 Complete instructions outlining the Supplier's recommended procedures for inspection upon receipt at the construction site, moisture-free maintenance during storage, and preparation for SF6 filling shall accompany each PCB. These instructions shall be shipped inside the PCB control cabinet.
- 6.03 Lifting and loading, unloading and site assembly shall utilize lifting provisions on PCB frame and shall not permit lifting by means of the breaker tank or other gas filled components of the breaker.

SPEC-7 SPECIFICATION DATA SHEET

7.01 115kV GENERAL PURPOSE POWER CIRCUIT BREAKER (PCB)

High-voltage SF₆ PCB's shall comply with the Technical Specifications and shall be furnished in accordance with the following requirements:

7.02 LOCATION AND QUANTITY

Shipping Location	Quantity
Mason PUD 3 Operations Center 2621 E Johns Prairie Rd Shelton, WA 98584	9

7.03 RATINGS

Performance Criteria	Rating
Rated maximum voltage:	123 kV rms
Rated continuous current:	1,200 amps rms
Rated voltage range factor, K:	1.0
Rated low frequency withstand voltage (10 Sec. wet):	230 kV rms
Rated full-wave impulse withstand voltage:	550 kV crest
Rated chopped-wave impulse withstand voltages:	
Two microseconds minimum time to sparkover:	710 kV crest
Three microseconds minimum time to sparkover:	632 kV crest
Rated transient recovery voltage, as rated exponential-cosine envelope:	
Rated peak voltage of 1 minus cosine curve, E ₂ :	212.96 kV
Rated time to peak voltage of 1 minus cosine curve, T ₂ :	260 microseconds
Duty cycle: OCO-15s-CO	
Rated short-circuit current	40 kA amps rms
Related required capabilities:	
Maximum symmetrical interrupting capability:	40,000 amps rms
Short-time (3 second) current carrying capability:	40,000 amps rms
Closing and latching capability:	108,000 amps crest
Rated interrupting time:	3 cycles (60Hz basis)
Rated permissible tripping delay, Y:	1 second(s)
Rated reclosing time:	20 cycles (60Hz basis)
Adjustable reclosing range:	3-120 cycles (60Hz basis)

Each PCB shall be designed and constructed for operation on a three-phase, 60Hz, solidly grounded system, at an ambient temperature range of +122°F (50°C) to -22°F (-30°C) at an altitude below 3,300 feet (1000 meters).

7.04 TRIP LOGIC FOR LOW SF6 GAS OPERATING PRESSURE

Trip Logic: Block Trip and Close

7.05 BUSHING DATA

ANSI/IEEE 24: Table 1
 Basic impulse level: 550kV
 Minimum creepage distance: 2.01m/79 inches
 Color: ANSI 70 gray

7.06 NOMINAL STATION SERVICE POWER SUPPLY VOLTAGE

Auxiliary power: 120VAC, 60Hz, 1-phase, 3-wire
 Breaker closing: 125VDC
 Breaker tripping: 125VDC
 Spring charging motor: 120VAC (primary) / 125VDC (backup)

7.07 CONTROL POWER DISCONNECTS

Type: Two-pole knife switches with fuses except for tripping circuits where fuses shall not be employed.

7.08 CURRENT TRANSFORMER (CT) DATA

Relay Accuracy (Required)

<u>Bushing Location</u>	<u>Ampere Ratio</u>	Quantity in <u>Each Bushing</u>	<u>Total</u>	<u>Class</u>	<u>Thermal Rating</u>
1,2,3,4,5,6	MR1200:5	2	12	C800	2.0

Meter Accuracy (Optional Price Adder)

<u>Bushing Location</u>	<u>Ampere Ratio</u>	Quantity in <u>Each Bushing</u>	<u>Total</u>	<u>Class</u>	<u>Accuracy</u>
1,2,3,4,5,6	MR1200:5	1	6	B1.8	0.3

7.09 OUT-OF-PHASE SWITCHING CAPABILITIES

Each PCB shall be capable of 180 degree out-of-phase switching.

7.10 SEISMIC WITHSTAND CAPABILITIES

Seismic risk zone 3: International Building Code (IBC) & IEEE 693

7.11 ACCESSORIES

Standard accessories shall be provided with each PCB. Accessories shall include, but not necessarily be limited to the following:

- An auxiliary switch with 12 “a” and 12 “b” contacts, in addition to those required for control of PCB mechanism. All contacts shall be wired to terminal blocks. Contact surfaces shall be silver plated. Contacts shall be rated to break 10 amperes at 135VDC.
- Four spare contacts from each PCB 52X close relay.
- Cutoff and latch checking switches.
- One local/remote control switch wired for local/remote operation.
- One trip-close push button station wired for local PCB test operation. One push button for each trip coil.
- One maintenance closing and opening device shall be furnished for use with each PCB at each substation site.
- Position indicator visible from the outside of the control cabinet.
- Loss of voltage alarm relay on each auxiliary power and control power feed to the PCB: one for the auxiliary power, one for close control power, and one for each of the trip coil circuits.
- Operation counter to count open/close operations.
- One elapsed time meter for the stored energy mechanism motor.
- 120VAC lamp with door-operated switch in the control cabinet.
- One 120VAC, GFCI, straight blade, tamper resistant, single-phase receptacle (Hubbell Catalog No. GFR56262GYTR) shall be installed in each control cabinet, be accessible from outside the cabinet, and covered with a “while in use” weatherproof cover (Hubbell Catalog No. WP26M).
- A suitable nameplate, constructed of stainless steel or aluminum, showing all ratios, accuracy classes, and thermal ratings of the CT’s shall be affixed inside the control cabinet.
- Nameplates to identify switches, relays, and other auxiliary devices.
- One SF₆ gas sampling valve per vessel for use in moisture testing.
- One SF₆ gas fill kit.
- SF₆ gas system pressure gauge.
- Density switch for annunciation of low SF₆ gas density.
- Density switch with three independent contacts for annunciation of low SF₆ gas density cutoff.
- Bushing terminals shall accept NEMA four-hole, spade-type, aluminum terminals with both sides of terminal suitable for electrical connection.

- Grounding Pads: A minimum of Two (2) locations on the structural steel frame and one (1) location on the control cabinet shall be provided to accept NEMA two-hole tinned bronze, bolted-type terminals for attachment to the Owner's 250 kcmil to 4/0 AWG stranded copper ground cables. The grounding pads shall be at diagonally opposite locations on the frame.

SPEC-8 PREFERRED MANUFACTURER & MODEL

For the sake of uniformity with other like devices in the District's system, the District's preferred manufacturer and model is as follows:

Manufacturer	Model
General Electric (formerly Areva)	Type DT1-145

Bidders submitting manufacturers and models that are functionally equivalent to and meet or exceed the specifications of the above identified unit will be given consideration.

SPEC-9 SEISMIC DESIGN CRITERIA

The equipment and associated support system shall be designed to withstand the stresses caused by a vibratory ground motion with maximum accelerations of 0.4g in any horizontal direction. The vertical acceleration resulting from the ground motion shall be 67 percent of the horizontal acceleration and acting simultaneously with the horizontal acceleration in a direction which produces the most severe equipment stresses. The equipment shall continue to perform its intended function during and after such seismic stresses. The natural frequencies and damping of the equipment mounted in the service configuration, with all accessories installed, shall be determined and the dynamic response shall be considered in its design. Equipment and equipment support shall be designed to withstand seismic loads in combination with dead, live, and operating loads.

SPEC-10 SEISMIC WITHSTAND CAPABILITY

Seismic withstand capability shall be demonstrated either by analysis or test in accordance with one of the following methods described hereinafter. Any damping values used in the analytical methods greater than two percent of the critical damping shall be supported by test records as proof of the damping value.

10.01 ANALYSIS METHOD

- 10.01.1 STATIC ANALYSIS - Static analysis may be used only where the natural frequencies of the equipment exceed 30Hz. The equipment shall be designed to withstand the stresses resulting from an acceleration of the equipment base equal to the maximum ground motion acceleration.
- 10.01.2 MODAL (DYNAMIC) ANALYSIS - The equipment shall be modeled as an assemblage of discrete structural elements interconnected at a finite number of points called nodes (a finite element analysis). The number and location of elements and nodes shall be such that an adequate representation of the system is obtained. The model shall be developed to

represent the configuration of the equipment in service. The maximum modal response shall be determined using an input motion described by the response spectra indicated in IEEE Standard 693. The total response shall be determined by combining the modal response using the square root of the sum of the squares technique.

- 10.01.3 ALLOWABLE EQUIPMENT STRESSES - The calculated internal stresses from dynamic analysis in a steel or aluminum component shall not exceed the allowable stresses for the material given in the Uniform Building Code with a one-third increase for seismic forces where allowed in the Code.
- 10.01.4 PORCELIAN EQUIPMENT STRESSES - The resulting internal stresses in a ceramic component shall not exceed 50 percent of the component's ultimate mechanical strength, and if applicable, the resulting applied loads shall not exceed 85 percent of oil leakage load.

10.02 SEISMIC TESTING

Tests shall be performed using at least one of the following testing methods by subjecting the equipment to vibratory motion which conservatively simulates that experienced at the equipment mounting. Prior to the test, a plan shall be submitted to the Owner for review and approval. This plan shall contain the proposed locations for the accelerometers and strain gauges. The accelerometers and strain gauges shall be placed at critical points. The use of "strain bolts" is recommended so that the reactions can be directly determined. In addition, the plan shall contain sufficient information concerning the proposed test to demonstrate compliance with these specifications.

- 10.02.1 CONTINUOUS TEST METHOD - The resonance search shall be conducted as described in Phase I below. A continuous sinusoidal motion shall be applied for a duration of 15 cycles of each resonant frequency. The test shall be conducted as described in Phase II below.
- 10.02.2 SINE BEAT TEST METHOD - The resonant frequency search shall be conducted as described in Phase I below. A sinusoidal beat motion consisting of a sinusoid of the equipment resonant frequency modulated by a lower frequency sinusoid which provides at least 10 cycles of resonant frequency per beat. There shall be a minimum of 5 such bursts of resonant frequency within a period ranging from 60 seconds to 150 seconds and the pause between bursts shall be long enough so that there will be no significant superposition of motion. This testing shall be as described in the publication "IEEE Guide for Seismic Qualification of Class 1 Electric Equipment for Nuclear Power Generating Stations," IEEE Standard 344. The test shall be conducted as described in Phase II below.
- 10.02.3 PHASE 1: RESONANT FREQUENCY SEARCH - A low-amplitude frequency search shall be conducted at a rate not greater than two octaves per minute in the range from 1.0Hz to 33Hz to determine the regions of the resonance in the three axes. The test equipment base acceleration input during the sweep shall be in the range from 0.05g to 0.2g.

10.02.4 PHASE 2: FULL-SCALE TEST - Tests shall be conducted at the resonant frequencies determined in Phase I with amplitudes of base acceleration equal to the specified acceleration in the horizontal and vertical directions.

10.02.5 ACCEPTANCE CRITERIA - The seismic test shall be considered acceptable if the following criteria are met:

- No cracking, buckling, or other types of failure are found.
- The measured stresses do not exceed the yield stress for steel and aluminum components and 95 percent of the ultimate mechanical strength for ceramic components.

10.02.6 SEISMIC WITHSTAND CAPABILITY REPORT - All required test data, analysis, calculations, and seismic performance information shall be submitted in a report form to the Owner for review and approval prior to acceptance of the equipment.

The report shall include a seismic outline drawing of the equipment which shall contain the following minimum information:

- Overall dimensions and weights.
- Anchoring details showing recommended bolt or weld sizes, or both, and their corresponding locations.
- Natural frequencies and damping ratios of major equipment components.
- Maximum ground acceleration (including deflections of bushing terminals).
- Center of gravity of the equipment and components.
- Maximum deflections.
- Reactions at the base of supporting structure.

SPEC-11 APPROVAL DRAWINGS

The manufacturer/vendor shall submit for record drawings electronically in both .pdf and .dwg file formats. These drawings shall include a general outline drawing with accurate dimensions and locations of equipment, nameplate, wiring schematics and connection diagrams. The drawings shall also include details of equipment bases and accessories by style number. Drawings shall be sent to both the District and to the District's Engineering Design Agent. See Section 15.

SPEC-12 INSTRUCTION MANUAL

The manufacturer/vendor shall supply instruction manuals electronically in .pdf format to both the District and the District's Design Agent. See SPEC-15. Each PCB shall also be shipped with one copy of the instruction manual including drawings placed in heavy duty plastic zip-lock style bag inside the control enclosure.

SPEC-13 STORAGE

Heater terminals shall be provided for electrical connection during storage to protect internal parts against moisture.

SPEC-14 INFORMATION TO BE FURNISHED BY MANUFACTURER OR VENDOR WITH BID

The Bidder's proposal must include a statement that its equipment proposal is in accordance with these specifications. Any or all items that do not comply with these specifications must be specifically listed including all details and explanations for deviation from these specifications. Exceptions, which may be taken, must also be listed. Bids which include substitutions or deviations from the specification or supplied drawings, but which fail to include a listing of these substitutions, deviations, or exceptions, will be considered as non-responsive and will not be evaluated.

- 14.01 PCB type, model, and/or designation number.
- 14.02 DRAWINGS - Preliminary design drawings of the specific PCB being bid by each supplier or manufacturer must be presented for review and approval by the District and the District's Engineering Design Agent. Drawings shall be submitted electronically in both .pdf and .dwg file formats. See SPEC-15.
- 14.03 PCB Ratings and Related Required Capabilities: The Bidder shall furnish complete data and information as shown in "Exhibit A."
- 14.04 GENERAL INFORMATION
 1. Complete description of all maintenance requirements, clearances, special handling or service problems and recommended schedules for inspections and service.
 2. Bidder shall furnish with the proposal a full explanation of the type and extent of the Bidder's warranty for this equipment. Warranted work shall include both parts and labor and shall be performed to District satisfaction in a manner best serving the interests of the District. The warranty period for this equipment shall begin only after all equipment and accessories have been installed and accepted by the District.
 3. The Bidder shall furnish in the proposal the charges for the services of an assembly engineer at the time the District shall put the PCB's into service. The Bidder shall guarantee the availability of this service and shall coordinate with the District the completion of this service. It shall be the responsibility of this engineer to warrant the PCB's readiness for safe and reliable operation prior to the District energizing the equipment.
 4. The Bidder shall quote the price adjustment for delivery F.O.B. factory, freight allowed.

5. The Bidder shall furnish a guaranteed delivery time to a District-designated point of delivery and the conditions, if any, governing same.
6. The Bidder shall provide a complete list of all scheduled inspections and recommended or required maintenance in the first ten (10) years of service, including a list of those items most commonly needing repair, adjustment, or replacement where item costs are included for replacement parts.

SPEC-15 DISTRICT'S DESIGN AGENT

Attn: Mr. Michael Vuolo
3900 S Wadsworth Blvd
Lakewood, CO 80235
Phone: (303) 276-8704
Email: michael.vuolo@powereng.com
Cc: scott.ross@powereng.com

SPEC-16 INTENT

It is emphasized that the purpose of these specifications is to procure rugged and reliable equipment of proven basic design and fundamental components, which will perform in a completely trouble-free manner and meet all the requirements of these specifications.

The District shall be sole arbiter in the determination of the ability of the equipment to perform the duties required and reserves the right to reject any or all bids and accept the bid or bids which in its sole and absolute judgment will under all circumstances best serve the interests of the District.

“Approved Equal” - the term “approved equal” shall mean the quality of equipment shall be equal in the determination of the District within this specification and/or representative standards. The District shall be sole arbiter in determination of equality and reserves the right to reject any bids or accept any bids, which in its sole and absolute judgment will, under all circumstances, best serve the interests of the District.

SPEC-17 AWARD OF CONTRACT

It is recognized that there may be considerable variations in the design and construction of the equipment proposed by the various Bidders. The District shall evaluate all features, which may affect advantages of suitability, cost of inspection, installation, operation, servicing, adjustment, and costs of replacement parts including delivery times.

The District shall evaluate the Bidder's experience in producing equipment similar to that herein specified, delivery time and experience that users have had with similar equipment produced by the Bidder.

All these factors, in addition to the bid price and delivery time frames, will be given consideration in determining the best bid, and each Bidder shall provide the data to cover completely all item-by-item requirements in these specifications. Additional features or special conditions of sale will also be considered.

The District may make multiple awards to accommodate requirements and schedules.

SPEC-18 INFORMATION TO BE FURNISHED BY SUCCESSFUL BIDDER ONLY

18.01 Instruction manuals specifically covering the equipment furnished, including part numbers of assemblies and components shall be provided electronically in .pdf file format. Specific identification of replacement parts, components and assemblies shall be included.

18.02 The Bidder shall provide electronically in both .pdf and .dwg file formats (where applicable) each of the following for approval to both the District and the District's Design Agent (See SPEC-15):

1. Outline drawings showing dimensions, weights, center of gravity, location of accessories including control equipment and data giving engineering values on the dynamic forces, which must be considered in constructing the PCB foundation.
2. Manufacturer, catalog number and drawings of all bushings.
3. Drawings, diagrams, and information required for assembly and erection, as well as operating and maintaining the PCB.
4. Schematics and wiring diagrams of CTs, bushing potential devices, auxiliary switches, controls, and alarms.
5. Lifting instructions and descriptions of any accessory equipment needed for lifting and handling.
6. Full-wave withstand test
7. Permissible safe cantilever loading at external terminal of bushing as installed
8. Description of construction
9. Inter-changeability with other bushings, guaranteed delivery times for replacements

18.03 Relay Accuracy Current Transformers (CT's) (Required):

1. Number to be furnished. Twelve (12), two per bushing.
2. Types
3. Ratings
4. Accuracy class
5. Installation location(s)

18.04 Meter Accuracy Current Transformers (CT's)
(If Purchase Option Exercised by District):

1. Number to be furnished. Six (6), one per bushing.
2. Types
3. Ratings
4. Accuracy class
5. Installation location(s)

18.05 General Information:

1. Net weight of complete circuit PCB:
 - a. With gas
 - b. Without gas
2. Quantity of gas required
3. Assembly engineering services/per day. Guaranteed availability of this service.
4. Factory adjustment for F.O.B. factory, freight allowed
5. Guaranteed delivery time

SPEC-19 "BUY AMERICAN" COMPLIANCE

These 115 kV Power Circuit Breakers must be certified to meet all Build America Buy America Act (BABAA) requirements mandated by Title IX of the Infrastructure Investment and Jobs Act ("IIJA"), Pub. L. 177-58.

The manufacturer shall provide a Manufacturer's Certification for BABAA requirements with all applicable submittals and prior to shipping. Manufacturers shall comply with BABAA requirements, including coordination with manufacturers, distributors, and suppliers to correct deficiencies in any BABAA documentation. District approval of drawings shall include review of BABAA documentation. The manufacturer shall certify upon delivery that all work and materials have complied with BABAA requirements. For any change orders, the Manufacturer shall provide BABAA documentation for any new products or materials required by the change. Installation of materials or products that are not compliant with BABAA requirements shall be considered defective work.

Manufacturers should ensure that the District has an approved Manufacturer's Certification or waiver prior to items being delivered to the project site. By submitting a request for payment, based in whole or in part on furnishing equipment or materials, Manufacturer certifies that such equipment and materials, to Bidder's knowledge, are compliant with BABAA requirements.

If the Manufacturer/Bidder has an existing federally approved BABAA waiver under which it intends to manufacture the product, please submit this along with the Bid packet for consideration by the District. BABAA compliance will be a strong determining factor in award of the Bid.

PART IV - CONTRACT FORMS
BID M3-2023
115kV, 1200 AMPERE, POWER CIRCUIT BREAKER (PCB)
CONTRACT AGREEMENT (SAMPLE)

STATE OF WASHINGTON

COUNTY OF MASON

THIS AGREEMENT AND CONTRACT, made and entered into at Shelton, Washington, this _____ day of _____, 2023; by and between **PUBLIC UTILITY DISTRICT 3 OF MASON COUNTY, WASHINGTON**, a Public Utility District, hereinafter designated as the "District" and

Hereinafter designated as the "**Bidder.**"

WITNESSETH:

That whereas the District has heretofore caused to be prepared certain plans and specifications **M3-2023 115kV, 1200 AMPERE, POWER CIRCUIT BREAKER (PCB)** and other Contract Documents therein described all collectively hereinafter referred to as "Contract Documents," for the sum of:

Dollars (\$_____) plus tax, and the Bidder on this _____ day of _____, 2023, filed with the District a Proposal to perform said work and agreed to accept as payment therefore the sums fully stated and set forth in the Proposal for the product, services or work performed.

WHEREAS the said Contract Documents fully and accurately described the terms and conditions upon which the Bidder proposes to furnish said products, services and perform said work, together with the manner and time of furnishing same:

IT IS THEREFORE AGREED, that the Bidder agrees to provide products, services or work required in the Contract Documents for the sum stated above and that the Contract Documents filed with the District, as aforesaid, do in all particulars become part of the Agreements and Contract by and between the parties hereto in all matters and things therein set forth and described: and further, that the District and the Bidder hereby accept and agree to the terms and conditions of said Contract Documents filed as completely as if said terms and conditions and plans were herein set out in full.

IN FAITH WHEREOF, witness the hands and seals of both parties hereto on the day and year in the Agreement first above written.

BIDDER:

BY: _____

TITLE: _____

DATE: _____

**PUBLIC UTILITY DISTRICT NO. 3
OF MASON COUNTY**

BY: _____

TITLE: _____

DATE: _____

PART IV - CONTRACT FORMS
BID M3-2023
115KV POWER CIRCUIT BREAKERS (PCB)
PERFORMANCE BOND (SAMPLE)

KNOW ALL MEN BY THESE PRESENTS: That whereas **PUBLIC UTILITY DISTRICT 3 OF MASON COUNTY**, hereinafter designated as the "District" has entered into an agreement dated _____

with _____
hereinafter designated as the "Bidder," providing for **M3-2023 115KV POWER CIRCUIT BREAKER (PCB)** which agreement is on file at the District office and by this reference is made a part hereof.

WHEREAS said Bidder is required under the terms of said agreement and under the provisions of Section 39.08.010 et seq. of the Revised Code of Washington to furnish a bond for the faithful performance of said agreement;

NOW, THEREFORE, we, the undersigned Bidder, as principal, and _____
_____ a corporation organized and existing under and by virtue of the laws of the state of _____ and duly authorized to do a surety business in the state of Washington, as surety, are held and firmly bound unto the state of Washington and said Public Utility District 3 of Mason County in the sum of

_____ Dollars (\$_____) for the payment of which we do jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns by these presents.

THE CONDITIONS OF THIS OBLIGATION are such that if the said principal, his/her heirs, representatives or successors, shall well and truly keep and observe all of the covenants, conditions, and agreements in said Contract, and pay all laborers, mechanics, subcontractors and material men with provisions and supplies for carrying on such work, and shall indemnify and save harmless the District, its officers and agents, from any pecuniary loss resulting from the breach of any said terms, covenants, or conditions to be performed by the Bidder.

AND FURTHER, that the Bidder will correct or replace any defective work or materials discovered by the said District within a period of one year from the date of acceptance of such work by said District, then this obligation shall become null and void; otherwise, it shall be and remain in full force and effect.

No change, extension of time, alteration, or addition to the work to be performed under the agreement shall in any way affect Bidder or Surety's obligation on this bond, and surety does hereby waive notice of any change, extension of time, alterations, or additions thereunder.

This bond is furnished in pursuance of the requirements of the agreement above mentioned and in addition thereto it is furnished to meet the requirements of Section 39.08.010 et seq. of Revised Code of Washington, and, in addition to other obligations herein contained, is made, executed and delivered by the Bidder and surety to the District for filing with the District Auditor for the use and benefit of said District together with all laborers, mechanics, subcontractors, material men and all persons who supply such person or persons, subcontractors with provisions and supplies for the carrying on of the work covered by the agreement to the extent required by said Revised Code of Washington, and, in addition, to the extent the District or its property may be held liable under any of said sections of the Revised Code of Washington.

IN WITNESS WHEREOF, the said Bidder and the said surety have caused this bond to be signed and sealed by their duly authorized officers this _____ day of _____, 2023.

SURETY:

BIDDER:

BY: _____

BY: _____

TITLE

TITLE

SURETY'S AGENT:

Address

PART V - GENERAL CONDITIONS

GC-1 DISTRICT

- 1.01 Whenever the term "District" appears in this contract, or in any related document, it shall mean the Public Utility District No. 3 of Mason County, Shelton, Washington, or its duly authorized representative.
- 1.02 All claims of the Bidder and all questions relating to the interpretation of the Contract, including all questions as to the acceptable fulfillment of the Contract on the part of the Bidder and all questions as to compensation, shall be submitted in writing to the District for determination.
- 1.03 All determinations and instructions of the District will be final. Pending such determination, the Contractor shall proceed with the work.

GC-2 INTENT OF DOCUMENTS

- 2.01 It is intended that the obligations of the District and the Contractor are fully set forth and described in the Contract Documents. All parts of other documents are intended to be correlative and complementary, and any work required by one and not mentioned in another, shall be executed to the same extent and purpose as though required by all. The misplacement, addition or omission of a word or character shall not change the intent of any document from that set forth by the Contract Documents as a whole. Should a question of doubt rise in respect to the intent and meaning of any part of the Contract Documents, the matter shall be submitted to the District for decision.
- 2.02 The Bidder shall be solely responsible for any costs or expenses arising from a failure to request such instructions or interpretations.
- 2.03 If the Bidder, in the course of the work finds any discrepancy between the various parts of the Contract/Bidding Documents or finds any errors or omissions in the Bid Documents, the District shall be informed in writing. Any work done after such discovery, until authorized, will be done at the Bidder's risk.

GC-3 ENTIRE AGREEMENT/SEVERABILITY

- 3.01 No representations have been made to induce either party to enter into this Agreement except for the representations explicitly stated herein. This Agreement (including any addenda or exhibits attached hereto) supersedes all prior or contemporaneous written or oral agreements or expressions of intent or understanding and is the entire agreement between the parties with respect to its subject matter. If any provision of this Agreement is held by a court of competent jurisdictions to be invalid, void or unenforceable, the remaining provisions will nevertheless continue in full force without being impaired or invalidated in any way. The invalid, void, or unenforceable provisions shall be adjusted rather than voided, if possible, in order to achieve the intent of the parties to this Agreement to the extent possible, unless such modification would materially alter the original intent of this Agreement. All terms, conditions or provisions which may appear on

any purchase or sales order or invoice issued pursuant to this Agreement, to the extent inconsistent with the terms and conditions of this Agreement, shall be of no force or effect, notwithstanding the fact that such order or invoice may have been executed subsequent to the date of this Agreement, and, in any event, preprinted terms of any such order or invoice shall have no force or effect.

GC-4 LAWS AND ENFORCEMENT

- 4.01 All operations of the Bidder having to do with the design, manufacture, inspection, production, processing, tests, packaging, shipping, and invoicing of the equipment and materials covered by the Contract shall be conducted in compliance with applicable laws, regulations, statutes, ordinances, and codes of the United States Government and of the state of Washington and any subdivision or agency thereof having jurisdiction.
- 4.02 In performing any of the work hereunder, the Bidder shall be solely responsible for compliance with all said applicable laws, regulations, statutes, ordinances, and codes, and shall indemnify the District from any claim, damage or judgment arising from any non-compliance, alleged or proven.
- 4.03 If either party brings an action to enforce this contract or to recover damages for the breach of same, the prevailing party shall be entitled to recover its reasonable attorney's fees. Venue of/for any such action shall be in Mason County Superior Court.

GC-5 TAXES AND ASSESSMENTS

- 5.01 Material and equipment furnished hereunder, being for the exclusive use of a political subdivision of the state of Washington, is exempt from any federal manufacturer's excise tax by virtue of Section 4221 of the Internal Revenue Code.
- 5.02 The contract prices shall include all taxes levied on the Bidder, including Washington business and occupation tax, in connection with this work, but shall not include Washington State sales or use tax levied against the District. Such sales or use tax levied against the District in connection with this work and paid by the Bidder will be computed on taxable items and reimbursed to the Bidder in accordance with rules relating to the Revenue Act of the state of Washington as amended, issued by the Excise Tax Division of the Tax Commission of the state of Washington.

GC-6 PATENT INDEMNITY

- 6.01 The Bidder hereby agrees to indemnify and save harmless the District, against any and all judgments, costs, damages and expenses which may be awarded against the District in any suit, action or proceeding brought against the District for infringement or alleged infringement of any patent, arising out of the use by the District of the machinery, equipment or materials furnished by the Bidder hereunder in the ordinary course of its use for the purpose hereunder intended or out of the processes or acts so employed by the Bidder.

GC-7 STANDARD SPECIFICATIONS

- 7.01 References are made in the specifications to standard specifications, codes, practices, and requirements of such organizations as American Society for Testing and Materials (ASTM), American National Standards Institute, Inc. (ANSI), National Electrical Manufacturers Association (NEMA), Institute of Electrical and Electronic Engineers (IEEE), and others.
- 7.02 Wherever such references are made, it is to be understood that the issue of each respective specification, code, practice, or requirement in effect on the day the Invitation for Bids is dated, is to be followed unless otherwise noted.

GC-8 NO WAIVER

- 8.01 None of the provisions of the Contract shall be considered waived by the District except when such waiver is given in writing. No such waiver shall be or be construed to be a waiver of any past or future default, breach, or modification of any of the terms, provisions, conditions, or covenants of the Contract except as expressly stipulated in such waiver.

GC-9 PASSING OF TITLE

- 9.01 Title to the equipment to be furnished under the Contract shall pass to the Purchaser when delivered by public carrier to locations as specified in Part VI (Special Conditions) of this document and accepted by a representative of the District by issue of a delivery receipt.
- 9.02 The issue of a delivery receipt shall not impair the District's right in any regard provided herein.

PART VI - SPECIAL CONDITIONS

SC-1 SCOPE

1.01 The work to be performed under this contract consists of the following:

Furnishing all labor, materials and equipment as required to design, manufacture, and furnish electrical apparatus and appurtenances as described in Specifications, Part III.

SC-2 INDUSTRY STANDARDS

2.01 The apparatus and appurtenances to be furnished under this specification shall be designed, manufactured, and tested to conform with the applicable ANSI Standards, including appendixes, as amended by this specification.

SC-3 BIDDER DRAWINGS

3.01 All drawings, prints, lists, etc., furnished by the Bidder in compliance with the requirements of the following paragraphs shall be supplied without extra cost, and the cost shall be included in the price of the equipment furnished under the contract. All submitted drawings, when approved, shall form a part of the contract to the same extent as though incorporated herein. All correspondence shall be addressed to: **Mason County Public Utility District 3, P.O. Box 2148, Shelton, Washington 98584, Attention: Jennifer Renecker, Purchasing Manager.**

SC-4 DELIVERY SCHEDULE

4.01 Delivery is essential for the successful completion of this project. The District aims to receive all apparatus at the earliest possible date. Bidders must comply with the specified timeline outlined in the bid response.

The District has an immediate requirement for five (5) units, with the remaining four (4) units needed for a later project schedule. If the Bidder can propose a schedule that expedites five (5) units, followed by the remaining four (4) units, the District is open to reviewing proposals that align with its schedule.

4.02 Delay in delivery beyond the quoted timeframe may result in a deduction of \$100.00 per working day from the agreed sale price, commencing from the first day after the specified delivery deadline.

4.03 Equipment will be packaged in such a manner as to facilitate the following:

1. Full inspection of equipment with minimal removal of packing, lagging, suitable for easy repackaging. Device packed in such a manner as to allow reloading and transport to job site by District.
2. If transported in enclosed trailer, easy removal of equipment by Hyster H50H, 5000 lb. forklift, and standard height loading dock.

3. If transported on an open deck flatbed, the device must be suitably crated and reinforced for removal with crane. **Device will be suitably covered to protect against road wash, grime and debris that can damage external surfaces or parts.**

4.04 Delivery location will be to the District Johns Prairie Operations Center:

**Mason County PUD 3
2621 East Johns Prairie Road
Shelton, Washington, 98584**

SC-5 PAYMENT

- 5.01 Payment for apparatus will be made in one lump sum within thirty (30) days after the date of delivery of the apparatus and all associated appurtenances in satisfactory condition, accepted by the District and upon presentation of the invoice by the Bidder.

SC-6 GUARANTEES

- 6.01 In addition to any other remedy provided by law, if within two (2) years after satisfactory normal continuous operation of any item of equipment delivered hereunder is begun, any item of equipment is found to be defective, whether in design, workmanship, or materials, the Bidder is obligated, at their own expense, to provide and install the necessary replacement part or parts. Furthermore, the Bidder shall bear the costs of any necessary tests to validate compliance with the guarantee, without imposing any expense to the District.
- 6.02 In addition to meeting the general guarantee set forth above, the equipment must meet any and all of the applicable specific guarantees set forth elsewhere in the Contract Document. The District may reject any item of equipment which fails to do so or direct the Bidder to make necessary alterations to correct the deficiency. All costs and expenses incident to furnishing, delivering, and installing replacement parts or by altering existing parts, together with expenses incurred by retesting by reason of failure of the equipment to meet the guarantees and other requirements of the specifications, shall be borne by the Contractor.
- 6.03 Nothing herein shall be deemed to be a waiver by the District of any remedies it may have under the law, which are expressly reserved.

SC-7 BID QUANTITY EXTENSION

- 7.01 The District reserves the option to acquire additional quantities beyond those specified in the Bid Proposal. The District acknowledges any such procurement is contingent upon a mutual agreement between the District and the Bidder.

**PART VII
BID FORMS**

BIDDER DOCUMENTS

DATA TO BE SUBMITTED WITH BID

Each Bidder shall submit the following with Bidder response:

- Bid Bond
- Bidder Acknowledgement
- Bidding Schedule
- Bid Proposal
- Exhibit "A" Bidders Data Sheet
- Certification of Compliance with Wage Payment Statutes / Suspension & Debarment

The Bidder's proposal must include a statement that its equipment proposal is in accordance with these specifications as described in SPEC-14.

one (1) copy of descriptive information relating to the equipment Bidder proposes to furnish.

The drawings and data submitted must be in sufficient technical provisions of the specification. Failure of such information to indicate compliance of the Bid with the specification, or failure to submit all the required data, may result in rejection of the Bid.

**PART VII - BID FORMS
BID BOND**

_____, as Principal, and _____
_____, as Surety, obligate ourselves to **PUBLIC UTILITY DISTRICT NO. 3 OF
MASON COUNTY** (the District), in the sum _____
_____ Dollars (which is a sum not less than five percent (5%) of the amount of the Total for Bid
Comparison). Principal and Surety hereby bind ourselves, our heirs, executors, administrators, and
successors, jointly and severally, to pay this sum.

The condition of the obligation of this bond is that:

Principal has submitted its written bid, dated _____ in response to
the District's advertisement for bid for _____
_____.

If Principal withdraws its bid in a manner not authorized in the Bid Document; or if the Principal
does not, within ten (10) calendar days after the notice of award for any reason whatsoever, except the
fault of the District, enter into the Contract Agreement with the District in accordance with the bid and
give Performance and Payment Bond with good and sufficient surety for the faithful performance and
proper fulfillment of the contract, and supply the certificate of insurance (if applicable) and proof of proper
submittal to the Washington State Department of Labor & Industries of its Statement of Intent to Pay
Prevailing Wages (if applicable) as required by the Contract, then the above obligations shall be and
remain in full force and effect; and we shall immediately pay to the District as liquidated damages the
above stated sum; otherwise they shall be void.

The person signing this bond on behalf of Principal and the person signing on behalf of Surety
each have full authority from our governing bodies to bind Principal and Surety by that signature.
Principal and Surety have each signed this instrument and each stamped it with our seals this _____ day
of _____, 2023.

(SEAL)

(Principal)

(Business Address)

In Presence of

(Address)

(SEAL)

(Surety)

(Business Address)

In Presence of

(Address)

PART VII - BID FORMS
BID DOCUMENT ACKNOWLEDGEMENT

In compliance with the Call for Bids dated **November 30, 2023**, undersigned hereby proposes to design and furnish apparatus and appurtenances as included in the Bidding Documents, all delivered F.O.B. public carrier to the District's **Johns Prairie Operations Center, 2621 E Johns Prairie Road, Shelton**, Washington, in conformity with the Bid Document and addenda, if any, on file at the office of Public Utility District 3 of Mason County, Shelton, Washington, at the prices stated opposite the respective items listed on the Bidding Documents attached hereto.

It is understood that this Bid constitutes a firm offer which cannot be withdrawn for thirty (30) calendar days after the date set for Bid opening.

The undersigned certifies that Bidder has examined and is familiar with Bid Document No. **M3-2023**, that Bidder has checked all the figures shown in the Bidding Schedule and other attachments hereto and understands that the District will not be responsible for any errors or omissions on the Bidder's part in making up the Bid.

If awarded the Contract, the undersigned hereby agrees to execute a Contract and furnish the necessary bonds within ten (10) calendar days after receipt of notice of the award.

The undersigned further agrees that if awarded the Contract, Bidder will deliver the material and equipment within the time limits fixed in the Contract Documents.

Attached hereto and made a part hereof by this reference are the Bidding Schedule and Drawings and Data to be submitted with Bid. There is enclosed herewith a Bid Bond, or a certified or Cashier's Check payable to the District in an amount of not less than five percent (5%) of the amount of the Total Bid which shall be and remain the property of the said District in event of failure of the successful Bidder to execute the necessary Contract and furnish the required bonds. It is understood that the failure of the successful Bidder to enter into the required Contract and give the required bonds within ten (10) calendar days after the form of agreement and bonds have been supplied to, will cause substantial injury to the District which injury is not easily reduced to monetary terms, and it is therefore agreed that this sum is proper to be considered as liquidated damages for such injury.

This Bid also acknowledges receipt, understanding, and full consideration of the following addenda issued prior to date for receipt of bids. Addenda Nos. _____ (if no addenda have been received, so state.)

Note: If Bidder is a corporation, indicate State of Incorporation under signature; if a partnership, give full names of all partners.

Date _____

Bidder _____

Signature _____

By _____

Title _____

Address _____

**PART VII - BID FORMS
BIDDING SCHEDULE**

The District requires all deliveries for Bid **M3-2023** to be immediately delivered to the John's Prairie Operations Center, 2621 E Johns Prairie Rd, Shelton, WA. Refer to Section SC-4 for specific information regarding the delivery schedule details.

**1. SCHEDULE FOR:
NINE (9) EACH EXPEDITED DELIVERY**

Production Time (weeks) _____

Shipping Time (weeks) _____

Delivery Date to Site _____

Manufacturer's Name _____

ALTERNATIVE SCHEDULE OPTION FOR TWO DELIVERIES

**2. SCHEDULE FOR:
FIVE (5) EACH EXPEDITED**

Production Time (weeks) _____

Shipping Time (weeks) _____

Delivery Date to Site _____

Manufacturer's Name _____

FOUR (4) EACH LATER DELIVERY

Production Time (weeks) _____

Shipping Time (weeks) _____

Delivery Date to Site _____

Manufacturer's Name _____

BIDDER _____

BY _____

TITLE _____

**PART VII
BID FORMS**

BID PROPOSAL

All equipment shall be of new manufacture only.

BIDDER'S NAME: _____

MFG NAME: _____

1. NINE (9) EACH

115kV, 1,200 Ampere Minimum Power Circuit Breakers (PCB).
Per Specifications, Part III.

Unit Cost _____

Total Cost _____

**ALTERNATIVE SCHEDULE OPTION FOR TWO DELIVERIES
AS PROPOSED IN BID SCHEDULE**

2. FIVE (5) EACH FOR FIRST EXPEDITED DELIVERY AND FOUR (4) LATER DELIVERY

115kV, 1,200 Ampere Minimum Power Circuit Breakers (PCB).
Per Specifications, Part III.

Unit Cost _____ e

Total Cost _____

ONLY FIRM PRICES WILL BE ACCEPTED.

Date _____

Bidder _____

By _____

Title _____

Address _____

Note: If Bidder is a corporation or limited liability company, indicate State of Incorporation or formation under signature; if a partnership, give full names of all partners.

**PUBLIC UTILITY DISTRICT NO. 3
OF MASON COUNTY**

**SHELTON, WASHINGTON
PART VII
BID FORMS**

“EXHIBIT A”

Bidders Data Sheet

Item: _____

Supplier: _____ Manufacturer: _____

Delivery: _____

I. The Bidder’s proposal must include a statement that its equipment proposal is in accordance with these specifications. Any or all items, which do not comply with these specifications, must be specifically listed including all details and explanations for deviation from these specifications. Exceptions, which may be taken, must also be listed. Bids which include substitutions or deviations from the specification or supplied drawings, but which fail to include a listing of these substitutions, deviations, or exceptions, will be considered as non-responsive and will not be evaluated.

II. Power circuit breaker (PCB) type and designation number. _____

III. Drawings

Preliminary design drawings of each specific PCB being bid by each supplier or manufacturer must be presented for review and approval by the District.

IV. Power Circuit Breaker Ratings and Related Required Capabilities:

1. GENERAL RATINGS

- 1. Breaker Quantity _____
- 2. Nominal Voltage, kV _____
- 3. Maximum Voltage, kV _____
- 4. Max. Continuous Current A _____
- 5. Voltage range factor, K _____
- 6. Low frequency withstand (10 sec. wet), kV rms _____
- 7. Full wave impulse withstand (BIL), kV _____
- 8. Wave impulse withstand, 2us kV crest _____
- 9. Wave impulse withstand, 3us kV crest _____
- 10. Duty cycle _____
- 11. Short Circuit Current, kA _____
- 12. Max Symetrical Interrupting capability, A _____
- 13. Max Asymetrical Interrupting capability, A _____
- 14. 3-Sec short-time current, A _____
- 15. Close and Latch capability, A crest _____
- 16. Rated Interrupting Time, cycles _____
- 17. Rated permissible trip delay, sec _____
- 18. Reclosing Time, cycles _____
- 19. Reclosing Range, cycles _____
- 20. Rated transient over voltage factor _____
- 21. Guaranteed time between 1st and last pole open/close, sec _____

- 22. 180 degree out-of-phase switching (Yes or No) _____
- 23. Seismic withstand capabilities, dynamic g's _____
- 24. Ambient temperature range _____
- 25. Trip coil current at 125VDC, A _____
- 26. Trip coil voltage range at 125 VDC, V _____
- 27. Close coil current at 125VDC, A _____
- 28. Close coil voltage range at 125 VDC, V _____
- 29. Control cabinet heater, total watts _____
- 30. Normal operating gas pressure at 68 degrees F, PSIG _____
- 31. Alarm operating gas pressure at 68 degrees F, PSIG _____
- 32. Lockout operating gas pressure at 68 degrees F, PSIG _____
- 33. Pressure relief device rating, PSIG _____
- 34. Quantity of SF₆ gas, pounds _____
- 35. Trip logic for low SF₆ gas operating pressure _____
- 36. Control Cabinet rating _____

2. **BUSHING**

- 1. Bushing Manufacture _____
- 2. Bushing type and material _____
- 3. BIL _____
- 4. Color _____
- 5. Bushing metal to metal strike(L-G), inches _____

- 6. Bushing creepage distance over porcelain _____
- 7. Cantilever strength, pounds _____
- 8. Description of bushing construction. _____
- 9. Inter-changeability with other bushings _____
- 10. Guaranteed delivery times for replacements _____
- 11. Example outline drawing included Yes / No

3. CURRENT TRANSFORMERS (CT's)

- 1. Manufacture _____
- 2. Insulation medium _____
- 3. Type _____
- 4. Ratio _____
- 5. Accuracy class _____
- 6. Thermal rating _____
- 7. Location _____
- 8. Quantity at each bushing _____
- 9. Example CT curves included Yes / No

4. MECHANISM

- 1. Manufacture _____
- 2. Mechanism catalog number _____
- 3. Type _____
- 4. Charging motor horsepower rating _____

- 5. Charging motor operating current at 125VDC, A _____
- 6. Charging motor inrush current at 125VDC, A _____
- 7. Number of CO operations without recharging mechanism _____
- 8. Time required to fully recharge mechanism from zero, sec _____
- 9. Control Power Disconnects Type: Two-pole knife switches (Yes or describe other) _____

5. **DIMENSIONS**

- 1. Length, inches _____
- 2. Width, inches _____
- 3. Height, inches _____
- 4. Phase spacing, inches _____
- 5. Metal to metal distance to adjacent phases, inches _____
- 6. Metal to metal distance to same phase _____
- 7. Height from bottom of frame to lowest live part, inches _____
- 8. Height required for bushing removal, inches _____
- 9. Weight of total PCB, pounds _____

6. **ACCESSORIES**

- 1. Additional auxiliary switch with at least 12 “a” and 12 “b” contacts Yes / No
- 2. Breaker 52X close relay with four (4) spare contacts from each. Yes / No
- 3. Cutoff and latch checking switches. Yes / No

- | | | |
|-----|--|----------|
| 4. | One local-remote control switch wired for local-remote operation. | Yes / No |
| 5. | One trip-close push button station wired for local PCB test operation. One push button for each trip coil. | Yes / No |
| 6. | One maintenance closing and opening device shall be furnished for use with PCB's. | Yes / No |
| 7. | Position indicator visible from the outside of the control cabinet. | Yes / No |
| 8. | Loss of voltage alarm relay on each auxiliary power and control power feed to the PCB: one for the auxiliary power, one for close control power, and one for each of the trip coil circuits. | Yes / No |
| 9. | Operation counter to count open/close operations. | Yes / No |
| 10. | One elapsed time meter for the stored energy mechanism motor. | Yes / No |
| 11. | 120VAC lamp with door-operated switch in the control cabinet. | Yes / No |
| 12. | One 120VAC, GFCI, straight blade, tamper resistant, single-phase receptacle (Hubbell Catalog No. GFR56262GYTR) shall be installed in each control cabinet, be accessible from outside the cabinet, and covered with a "while in use" weatherproof cover (Hubbell Catalog No. WP26M). | Yes / No |
| 13. | A suitable nameplate showing all ratios, accuracy classes, and thermal ratings of the CT's shall be mounted inside the control cabinet. | Yes / No |
| 14. | Nameplates to identify switches, relays, and other auxiliary devices. | Yes / No |
| 15. | One SF ₆ gas sampling valve per vessel for use in moisture testing. | Yes / No |
| 16. | SF ₆ gas system pressure gauge. | Yes / No |

- | | | |
|-----|--|----------|
| 17. | SF ₆ gas system meeting requirements of Spec 3.16 of Part III | Yes / No |
| 18. | SF ₆ gas system meeting requirements of Spec 3.18 of Part III | Yes / No |
| 19. | Density switch with three independent contacts for annunciation of low SF ₆ gas density cutoff. | Yes / No |
| 20. | Bushing terminals, NEMA four-hole, spade-type, aluminum terminals with both sides of terminal suitable for electrical connections. | Yes / No |
| 21. | Grounding Pads: A minimum of Two (2) locations on the structural steel frame and one (1) location on the control cabinet shall be provided to accept NEMA two-hole tinned bronze, bolted-type terminals for attachment to the Owner's 250 kcmil to 4/0 AWG stranded copper ground cables. The grounding pads shall be on diagonally opposite locations on the frame. | Yes / No |

V. General Information

1. Complete description of all maintenance requirements, clearances, special handling or service problems and recommended schedules for inspections and service.

2. Bidder shall furnish with the proposal a full explanation of the type and extent of the Bidder's warranty for this equipment. Warranted work shall include both parts and labor and shall be performed to District satisfaction in a manner best serving the interests of the District. The warranty period for this equipment shall begin only after all equipment and accessories have been installed and accepted by the District.

3. The Bidder shall furnish in the proposal the charges for the services of an assembly engineer at the time the District shall put each PCB into service. The Bidder shall guarantee the availability of this service and shall coordinate with the District the completion of this service. It shall be the responsibility of this engineer to warrant each PCB's readiness for safe and reliable operation prior to the District energizing the equipment.

4. The Bidder shall quote the price adjustment for delivery F.O.B. factory, freight allowed.

5. The Bidder shall furnish a guaranteed delivery time to a District-designated point of delivery and the conditions, if any, governing same.

6. The Bidder shall provide a complete list of all scheduled inspections and recommended or required maintenance in the first ten (10) years of service, including a list of those items most commonly needing repair, adjustment, or replacement where item costs are included for replacement parts.

Manufactured by _____

Delivery _____

Submitted by: _____

Signed: _____

Print Name: _____

Address:

Telephone: _____



Certification of Compliance with Wage Payment Statutes / Suspension & Debarment

The bidder hereby certifies that, within the three-year period immediately preceding the bid solicitation date (November 30, 2023), the bidder is not a “willful” violator, as defined in RCW 49.48.082, of any provision of chapters 49.46, 49.48, or 49.52 RCW, as determined by a final and binding citation and notice of assessment issued by the Department of Labor and Industries or through a civil judgment entered by a court of limited or general jurisdiction.

Bidder/Vendor represents and warrants that neither it nor its principals or affiliates presently are debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in any governmental contract by any governmental department or agency within the United States.

I certify under penalty of perjury under the laws of the State of Washington that the foregoing is true and correct.

Bidder’s Business Name

Signature of Authorized Official*

Printed Name

Title

Date

City or other Location

State or Country

Check One:

Sole Proprietorship

Partnership

Joint Venture

Corporation

Limited Liability Company

State of Incorporation, or if not a corporation, State where business entity was formed:

If a co-partnership, give firm name under which business is transacted:

** If a corporation, proposal must be executed in the corporate name by the president or vice-president (or any other corporate officer accompanied by evidence of authority to sign). If a co-partnership, proposal must be executed by a partner.*