



**Distribution Line Specifications**

**Material Purchase Specifications**

**Bypass Switches**

# GRAND RIVER DAM AUTHORITY

## DISTRIBUTION BYPASS SWITCHES

### DATA SHEET

This sheet is to be filled out by **bidder/vendor** for each type of switch being quoted. *Note many places have place holders or examples of switch configuration requirements, it is the responsibility of the bidder/vendor to verify all data shown on this data sheet and to correct or add to any data that is identified either with a placeholder or example*

QUANTITY of SWITCHES requested for bid for this DATA SHEET: 3 full sets

QUANTITY of SWITCHES being bid for this DATA SHEET: \_\_

VOLTAGE (L-L):	<b>XX</b>	kV
BIL:	<b>XX</b>	kV
AMPACITY (Continuous):	<b>XX</b>	A
AMPACITY (Momentary):	<b>XX</b>	kA
TYPE OF MECHANISM:	<b>Hookstick Operated Bypass Switch</b>	
MOUNTING:	<b>10' Fiberglass Braceless Crossarm</b>	
PHASE SPACING:	<b>Minimum 42" Center to Center of Switch</b>	
OPERATOR:	<b>Hook Stick</b>	
SPECIAL FEATURES:		

# GRAND RIVER DAM AUTHORITY

## DISTRIBUTION BYPASS SWITCHES

### GENERAL REQUIREMENTS

#### I. PROPOSAL

- A. The Vendor/Manufacturer shall provide a bid proposal for a full three-phase set of distribution bypass switches as as single full assembly pre-assembled and mounted on a 10' braceless fiberglass crossarm. Vendor/Manufacturer shall comply with the following specifications. The vendor/Manufacturer shall call out specifically and label as such, any exceptions to these specifications in the provided proposal.
- B. The Vendor/Manufacturer's bid shall be on a lump sum price basis for which he agrees to furnish the fully assembled bypass switch sets covered in the specification. ***Without limitations, it is to be understood that the prices bid are to be firm and not subject to adjustment due to changes in the costs of material, labor, or any other factors except for those specifically authorized in these specifications.***
- C. The proposal shall state the time in weeks after receipt of the purchase order, when the approval drawings specified will be submitted to the Company. At no time shall this exceed a period of six (6) weeks.
- D. The proposal shall state a firm shipping date.
- E. With the bid document, Bidder shall state any required assembly or adjustments required prior to installation for switch assembly set to be operable.
- F. ***With the bid documents, the Bidders shall furnish any drawings, pictures, or other descriptive data needed to explain fully the type of equipment proposed.*** These drawings shall be in sufficient detail to indicate the kind, size, arrangement, weights, breakdown for shipment, and operation of component materials and devices; the external connections, anchorages, and supports required; the dimensions needed for installation, and correlation with other materials and equipment.

# GRAND RIVER DAM AUTHORITY

## DISTRIBUTION BYPASS SWITCHES

### I. GENERAL

- A. This specification covers the furnishing of the switches listed on the Data Sheet. The switches shall be complete with insulators, operating arms and mechanism, mounting brackets, hardware, and documentation. Switches shall fully pre-assembled and aligned to be ready for installation.
- B. As used herein "switch" means a disconnect switch including operating mechanism whether manual or motor operated with all operating piping and interphase rods, shop and field erection nuts, bolts, and fasteners as well as post insulators.
- C. The disconnect switches and their appurtenances shall conform to this specification and shall conform to the requirements for the latest published IEEE Standard for air switches and bus supports and the NEMA Standard for power switching equipment.

### II. SPECIFICATIONS

- A. Disconnect Switches
  - 1. Disconnect switches shall be of the 3-position hook stick-operated type, mounted to a 10' braceless fiberglass crossarm. Disconnect portions of the switch shall open vertically and bypass portion shall be side open. Switches (or crossarm assembly) shall have a minimum of 45 degrees of tilt to allow bypass portion of the switch be operated from the ground with a hot stick.
  - 2. Mechanical strength of switch and insulators shall be coordinated with all forces to which they may be subjected during normal use and shall meet the latest applicable NEMA and USA Standards. The switches shall be designed such that no appreciable interphase forces will be transmitted to the switch support structure or crossarm during switch operation. Switches shall either open or close satisfactorily under a deposit of hard ice 3/4 inch in thickness. Switch-blades shall be counter balanced to prevent them from falling closed from any open position.
  - 3. All electrical contacts shall appropriated rated and of sufficient strength and thickness.
  - 4. Terminal pads of switches shall be standard 2-hole or 4-hole pad style. Vendor shall specify in quote what type of terminal pad is included with the switch set.

# GRAND RIVER DAM AUTHORITY

## DISTRIBUTION BYPASS SWITCHES

### B. Operating Mechanism

1. Switches shall be hookstick operated and shall be operable by a hot stick from the ground.
2. Each switch set shall include two (2) disconnect and one (1) bypass switch per phase.

### C. EQUIPMENT NAMEPLATE

Each switch set will have nameplate identifying the following information:

- A. Manufacturer.
- B. Rating in amperes.
- C. Voltage in kV for switches.
- D. Catalog number.
- E. Year manufactured.

### D. DIMENSIONS

The switch shall dimensions shall be provided in the quote by the vendor/bidder. The crossarm shall be a 10' braceless fiberglass crossarm.

# GRAND RIVER DAM AUTHORITY

## DISTRIBUTION BYPASS SWITCHES

### III. PREPARATION FOR SHIPMENT AND SHIPMENT

- A. All bypass switch sets shall be carefully prepared for shipment fully assembled as one full set ready for installation. Particular care shall be used in placing suitable separators between heavy pieces and extra long pieces, and also general use of non-abrading dunnage materials in such a manner as to prevent damage to insulators and zinc coatings in transit.
- B. Any particular shipment shall include complete switches with no extra pieces or missing pieces.
- C. Proposal shall be based on F.O.B. destination no F.O.B. shipping point transportation will be allowed.
- D. Notify GRDA Warehouseman two business days before delivery as to exact time of arrival to arrange for receiver and unloader to be present. Notify:

**GRAND RIVER DAM AUTHORITY**  
**Robert Wheeler**  
**Engineering and Transmission Headquarters**  
**East on Highway 69A**  
**Pryor, Oklahoma 74361**  
**Telephone (918) 824-7850**  
**robert.wheeler@grda.com**

### IV. CORRESPONDENCE

All technical correspondence, transmittal letters, technical information, approval drawings, final reproducible drawings, prints, and instruction books should be mailed or emailed to:

**GRAND RIVER DAM AUTHORITY**  
**9933 E. 16<sup>th</sup> Street**  
**Tulsa, OK. 74128**  
**ATTN: Scott Woodward**  
**scott.woodward@grda.com**

### V. DOCUMENTS/DRAWINGS

- A. The Vendor/manufacturer shall furnish one (1) copy of outline drawings and detail and assembly drawings for approval. Each drawing submitted shall be

# GRAND RIVER DAM AUTHORITY

## DISTRIBUTION BYPASS SWITCHES

clearly marked with GRDA's name and GRDA's purchase order number. When catalog pages are submitted, the applicable items shall be indicated. These approval drawings shall be submitted as soon as possible but no later than six weeks after award of purchase.

- B. A drawing index listing all applicable drawings, instruction manuals, and complete parts list with appropriate identifying part numbers to be submitted for the equipment furnished under these specifications, shall be included with the initial submittal of approval drawings.
- C. In addition to the above drawings, the Vendor/manufacturer shall furnish reproducible copies of all drawings after any corrections made for approval as follows:
- One (1) copy of drawing index
  - One (1) copy of each final drawing
  - One (1) copy of parts list
1. AutoCAD Release 2013 (or latest revision) drawings are preferred by Grand River Dam Authority. The Vendor/manufacturer may provide these drawings in AutoCAD Release 2013 (or latest revision) may be provided via email if file size permits. Vendor may request a sharepoint be set up to allow drawings to be uploaded if file size exceeds email capabilities.
  2. If AutoCAD drawings are not provided, the manufacturer shall provide reproducible drawings. These reproducible drawings shall be of a right reading translucent for a minimum 0.003 thickness Mylar base, wash-off type, photographic or equal, with sufficient tooth to take pencil or ink line. The reproducible shall not exceed a maximum of 24" X 36".
  3. If AutoCAD drawings are not provided reproducible drawings are to be mailed to GRDA as soon as possible, and in any event, no later than six (6) weeks prior to date of shipment of equipment covered by these specifications.
  4. The final drawing will show information described under approval drawings.
- D. If complete bills of material are not included on above drawings, then six (6) separate copies, fully describing equipment shall be supplied as soon as possible after drawing approval.
- E. Bill of material shall include a detailed list of all parts, containing part number, description of part, and identification number. The identification number will be shown on drawings such that location of each part is evident. Exploded type drawing would be desirable to show this information.

# GRAND RIVER DAM AUTHORITY

## DISTRIBUTION BYPASS SWITCHES

### **VI INSTRUCTION MANUALS**

- A. The seller shall furnish one (1) complete and final copy of instruction manuals for each switch set purchase order plus one (1) spare complete and final copy per purchase order at time of shipment of the equipment.
- B. The instruction manuals shall cover complete installation including any operating and maintenance instructions, drawings and parts lists for each item of equipment furnished.
- C. Where applicable, a list of recommended spare parts with the price of each item and a schedule of required lubricants, as recommended for each item, shall be included in the instruction manual.
- D. The instruction manuals shall show all nameplate information and shop order numbers of each item of equipment.

### **VII WARRANTY**

Any equipment specified herein or part thereof that shall develop defects not disclosed prior to acceptance by GRDA within one year after energization or eighteen months after delivery, whichever occurs first, shall be promptly replaced by the Vendor/manufacturer free of charge to GRDA.