Frankfort Plant Board

BID INVITATION #1763

ISSUED ON

July 21, 2022

BY

THE ELECTRIC & WATER PLANT BOARD OF THE CITY OF FRANKFORT, KENTUCKY

FOR

Purchase of Remanufactured Distribution Transformers

TO BE OPENED ON

August 4, 2022 at 2:00PM

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III. ADVERTISEMENT FOR BID

The Frankfort Plant Board
305 Hickory Drive
Frankfort, KY 40601

Separate sealed Bids for remanufactured distribution transformers will be received by the Frankfort Plant Board until August 4, 2022 at 2:000PM; and then opened and publicly read aloud.

Specifications may be examined at the following location:

Frankfort Plant Board
Service Center
305 Hickory Drive
Frankfort, KY 40601

No bidder may withdraw his bid for a period of thirty (30) days after closing time scheduled for the receipt of Bids.

The Plant Board reserves the right to waive informalities and to accept or to reject any and all bids.

For Bid Correspondence, contact:
Jennifer Hellard
(502) 352-4422
jhellard@fewpb.com

For Technical Correspondence, contact:
Travis McCullar
(502) 352-4608
tmccullar@fewpb.com

IV. INTRODUCTION

The Electric & Water Plant Board of the City of Frankfort, Kentucky issues this Invitation to solicit bids on the purchase of remanufactured distribution transformers.

Quoted prices shall be firm F.O.B. with freight included to Frankfort, Kentucky.

Material included on this bid is item specific. No exceptions shall be made.

This bid may be awarded to multiple vendors based on pricing and availability of material at time of order.

Please note instructions on Pages 5-7. Failure to adhere to instructions may result in rejection of bid.

READ CAREFULLY -- BIDDER MUST PROVIDE ALL INFORMATION REQUESTED -- SIGN BID

If an EEOC Certificate is included as a part of this documentation, it shall be executed and returned as a part of the bid response package. Absence of the EEOC Certificate indicates your organization already has the necessary compliance certificate on file with the Plant Board.

V. INSTRUCTIONS TO BIDDERS

1. SUBMISSION OF BIDS

A. The following certificates or notices are included as a part of this documentation and shall be returned as a part of the bid response package.

- An Equal Employment Opportunity Compliance (EEOC) Certificate
- A Certification of Nonsegregated Facilities (CONF)
- A General Safety Program (GSP) Notice
- A Drug free Workplace Compliance (DWC)

B. Each bid should be in a SEPARATE SEALED ENVELOPE and have typed on the envelope the INVITATION NUMBER, OPENING DATE, AND TIME. No responsibility will be attached to the Frankfort Electric & Water Plant Board for the premature opening of or failure to open a bid not properly addressed or identified. Bids must be received in the office of the Frankfort Electric & Water Plant Board, 305 Hickory Drive, P. O. Box 308, Frankfort, Kentucky, 40602, in a sealed envelope not later than the time specified for opening of bids, at which time all bids received will be publicly opened and read in the Bid Opening Room. It shall be the Bidder's responsibility that the bids are delivered to the above address no later than the time specified. Bidders are invited to attend public bid openings; also, to review complete bid files after awards have been made.

C. Bids may be rejected unless filled out in ink or typewritten and signed in ink by a proper agent of the firm.

D. Telegraphic bids, facsimile bids, or modifications of bids by telegram are not acceptable.

E. Conditional bids are not acceptable.

F. It is the responsibility of each Bidder before submitting a Bid to:

- Examine the Bid and Contract documents thoroughly.
- Consider federal, state, and local laws and regulations that may affect cost, progress, performance, or furnishing of the work.
- Study and carefully correlate Bidder’s observations with the Bidding and Contract documents and notify Owner of all conflicts, errors, and/or the discrepancies.

G. All bids shall remain subject to acceptance for a period of thirty (30) days after the date of the Bid opening.

H. Retain one complete copy of the bid for your file and return original with your bid.

I. Bids may be withdrawn at any time prior to opening upon written request by the bidder. Negligence on the part of the bidder in preparing his bid shall not constitute a right to withdraw bid after it has been opened.

J. Bidders are invited to attend public bid opening; also, to review complete bid files after awards have been made.

2. BID SCHEDULE/SIGNATURE PAGE

A. Bidders should quote on the basis of units stated in this invitation. Unit price should be entered and EXTENDED. In case of error in the extension of prices, the unit price will govern. For discrepancies between figures and written amounts, precedence will be given to the written amounts.

B. Bids by corporations must be executed in the corporate name by the president or a vice-president (or other corporate officer accompanied by evidence of authority to sign) and the corporate seal must be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation must be shown below the signature.

C. Bids by partnerships must be executed in the partnership name and signed by a partner, whose title must appear under the signature and the official address of the partnership must be shown below the signature.

D. All names must be typed or printed below the signature.

E. The Bid shall contain an acknowledgement of receipt of all Addenda (the numbers of which must be filled in on the Bid Form).

F. The address, telephone number and contact person for communications regarding the Bid must be shown.

3. QUALIFICATIONS OF BIDDERS

To demonstrate qualifications to perform work, each Bidder must be prepared to submit within five (5) days of Owner's request, written evidence such as financial data, previous experience, present commitments and other such data as may be called for. The Owner may make an investigation as deemed necessary to determine the ability of the Bidder to perform the work, and the Bidder shall furnish to the Owner all such information and data for this purpose, as the Owner may request. The Owner reserves the right to reject any bid if the evidence submitted by, or investigation of, such Bidder fails to satisfy the Owner that such Bidder is properly qualified to carry out the obligations of the Contract and to complete the work contemplated therein.

4. AWARD OF CONTRACT

A. The Owner reserves the right to reject any and all Bids and to waive informalities or minor defects. Any Bid may be withdrawn prior to the above scheduled time for the opening of Bids or authorized postponement thereof. Any Bid received after the time and date specified shall not be considered. No Bidder may withdraw a bid within 30 days after the actual date of opening thereof. Should there be reasons why the contract cannot be awarded within the specified period, the time may be extended by mutual agreement between the Owner and the Bidder. In the event that the lowest responsive and responsible bid is within the Owner's budget, the Contract will be awarded to the lowest responsive and responsible Bidder which, in the Owners sole and absolute judgment, will best serve the interest of the Owner

B. In determining the best responsive and responsible Bidder, the following elements will be considered: (1) lowest price, (2) if the Bidder has a satisfactory performance record, (3) if the Bidder has a suitable financial status to meet obligations incidental to the work, (4) if the Bidder involved maintains a permanent place of business, (5) if the Bidder has adequate personnel and equipment to perform the work properly within the time allotted, (6) number of and acceptability by the Owner of any and all proposed Subcontractors, (7) the completeness and regularity of the Bid Schedule and (8) time schedule of delivery. In addition, the Owner may consider in making the determination (1) quality of equipment (or materials), (2) efficiency and environmental aspects of equipment (or materials) (3) the selection of equipment (or materials), (4) alternate equipment (or materials), and (5) deductions or other modifications listed in the Bid Schedule.

5. LAWS AND REGULATIONS

The Bidder's attention is directed to the fact that all applicable State Laws, municipal ordinance, and the rules and regulations of all authorities having jurisdiction over construction of the Project shall apply to the Contract throughout, and they will be deemed to be included in the Contract the same as though herein written out in full.

VI. SPECIFICATIONS

POLE MOUNT TRANSFORMERS

These specifications cover liquid filled, self-cooled overhead type distribution transformers rated 500 KVA and below at voltages below 15 KV..

GENERAL CONDITIONS

At a minimum, transformers shall be designed and manufactured in accordance with these specifications and applicable sections of the latest edition of NEMA, ANSI, NEC, and any other applicable standard governing transformers.

MECHANICAL CHARACTERISTICS

TANK: Shall be constructed of heavy-gauge steel formed into a cylinder and seam-welded. Lifting lugs are to be welded to the tank wall and capable of supporting the entire transformer weight when filled with oil. Lifting lugs shall have a minimum safety factor of three (3). The entire tank assembly shall be watertight.

Painting shall meet or exceed ANSI standards

Tank shall have lightning arrestors mounting brackets at both H_1 and H_2 terminals.

FLUID: Oil shall be new, not reprocessed. The oil used should meet ANSI/ASTM D3487 Standard and not have any PCB's content in it. It should be able to pass the ANSI D 877 dielectric test.

BUSHINGS AND TERMINALS: High voltage bushings shall consist of two cover mounted bushings to accommodate copper or aluminum conductors in accordance with the table provided below:

Low-Voltage Terminal Sizes for Single-Phase Transformers

			TRANSFORMER LOW VOLTAGE RATING (VOLTS)		
Size of Terminal Opening Inches	Millimeters	AWG Size of Conductor Terminal will Accommodate	120/240	240/480	277
5/16	7.9	No 8 Solid to No 2 Stranded	-	-	-
5/8	15.9	No 6 Solid to No 4/0-19 Stranded	10-15	10-25	10-25
13/16	20.6	No 2 Solid to 350 kcmil-19 Stranded	25-50	37 ½ - 100	37 ½ - 100
15/16	23.8	No 1/0 Solid to 500 kcmil-37 Stranded	75	75	75
1-1/4	31.8	No 2/0 Solid to 1000 kcmil-61 Stranded	100	100	100
Spade H		- - -	167-250	167-500	167-250

Bushings are to be of either wet process porcelain or molded epoxy of ANSI light gray color. Bushings shall be equipped with a stress relieving sleeve with the shank extended below the oil level. Low voltage bushings shall consist of:

1. Two bushings for 277 volt;
2. Three bushings for 120/240 and 240/480 volt;
3. Four bushings for 120/240 and 240/480 volt units 167 KVA or larger; tank wall mounted terminals which are internally clamped to prevent rotation and sealed to prevent leakage and the entrance of moisture. Bushing leads shall be long enough to permit ease of cover removal.

LIGHTNING ARRESTOR: Unit shall be equipped with one heavy-duty, distribution class, metal oxide polymer arrestor, PVR-Optima mounted to the right-hand side of the H1 terminal. Arrestor shall be field replaceable.

VENTING: Venting shall be by means of an automatic self-sealing pressure release valve installed on the cover or the upper tank wall. The release valve shall be designed to operate and vent to the atmosphere the buildup of gases preventing the eruption of the tank, cover, or bushings.

EXTERNAL MARKINGS: The transformer shall be marked with a nameplate with all pertinent data, the KVA rating, and the word “NON-PCB” on the tank wall in letters which are a minimum 2-1/2" high. The word "DUAL", when two primary voltages are specified, shall be stenciled below the low voltage bushings on the tank wall in letters and numbers which are a minimum 2-1/2" high, and a plainly marked high voltage switch when applicable (Ref. #4, Other Features).

UNIQUE ID: The transformer shall be marked with a unique sequential number and bar coding on a permanent label. The label should be centered, top edge of label approximately 6” under the LV bushings. Number shall be black in color with 1-1/2” high numbers. Owner will supply the beginning number at time of order placement. Unique transformer I.D. shall be linked to the manufacturer

serial number by bar coding. Slight modifications in location are acceptable. See below for additional details.

NAMEPLATE: Shall be stainless steel and shall be permanently mounted on the tank or the mounting bracket. Nameplate data shall include as a minimum: transformer weight, impedance, high and low voltage ratings, winding material, KVA rating, date of manufacture, name of supplying manufacturer, wiring schematic, type of insulating fluid, any other data as required by ANSI C57.12.00 standards.

OTHER FEATURES: Transformer shall be equipped with the additional features as follows:

1. LV grounding provision
2. Tank grounding provision
3. Liquid level marking (internal)
4. External dual voltage switch as required for dual primary with tap voltage plainly marked
5. Hanging brackets
6. Other accessories as may be required by NEMA and /or ANSI standards
7. Ship on pallets with banding straps

ELECTRICAL CHARACTERISTICS

WINDING AND CORE: Unit shall be of shell type core construction with *copper primary and aluminum strip secondary with resin, epoxy or varnish coated diamond kraft paper (both sides) installed between layers and also used as barriers between the primary and secondary windings. Core shall be constructed of cold-rolled grain oriented silicon steel, core steel edges are to be smooth. Core laminations shall be held together with bands with the top and bottom yokes being held together by vertical tie-rods or a core clamp to make for a rigid structure to withstand rated faulted conditions.

Coil leads are to be electrically connected to the terminal board or bushings by pressure welds to provide for optimum current exchange. Both high voltage and low voltage leads are to be installed in insulating tubes or ducts.

Internal secondary leads shall be identified with permanently embossed lead markings to correspond with the lead markings on the nameplate. Unit is to be equipped with cooling ducts to direct the flow of coolant through the windings.

BIL: Unit shall be rated 95 KV BIL but shall withstand a 110 KV impulse test.

*NOTE: If manufacturer elects to use different winding materials than specified, it must be noted in the bid exceptions. Otherwise it will be assumed that the winding materials are as specified.

SINGLE PHASE PAD MOUNT TRANSFORMERS

These specifications cover liquid filled, self-cooled, dead front, pad mount type distribution transformers single-phase rated 167 KVA and below at voltages below 15 KV.

GENERAL CONDITIONS

At a minimum, transformers shall be designed and manufactured in accordance with these specifications and applicable sections of the latest edition of NEMA, ANSI, NEC, and any other applicable standard governing transformers.

Any unit supplied under these specifications, which is found to be in violation of these specifications, shall be replaced, at vendor's expense, for a like unit which meets specifications.

MECHANICAL CHARACTERISTICS

TANK AND TERMINAL COMPARTMENT: The design of the pad-mounted equipment in this specification shall conform to the stipulations, recommendations, opinions and practices of the "Western Underground Committee Guide 2.13", security for pad-mounted equipment enclosures.

Unit shall be of sealed tank construction of sufficient strength to withstand a pressure of 7 PSI without permanent distortion.

Unit shall be primed with a corrosion resistance primer coat and a final top coat of Munsell 7GY 3.29/1.5 pad-mount green.

Paint shall meet or exceed ANSI C57-12.31 Enclosure Coating System.

In addition to the regular locking provision, all access doors or hood shall be secured by a recessed, captive, pentahead bolt that meets the dimensions set forth in RUS Drawing A3759.

The pad-mounted equipment shall meet the requirements for tamper resistance set forth in ANSI C57.12.28 including the pry test, pull test, and wire probe test.

FLUID: Oil shall be new, not reprocessed. The oil used should meet ANSI/ASTM D3487 Standard and not have any PCB’s content in it. It should be able to pass the ANSI D 877 dielectric test.

BUSHINGS AND TERMINALS: High voltage bushings shall consist of 200 amp Elastimold universal bushing wells catalog number **K160PC-SI** with Elastimold 200 amp loadbreak bushing insert catalog number **1601 A4R** or equivalent.

Low voltage terminals for copper or aluminum conductor shall be:

Single-phase: Provide a 5/8" diameter threaded stud which is installed with an externally removable three point retaining plate.

VENTING: Venting shall be by means of an automatic self-sealing pressure release valve installed on the tank wall. The release valve shall be designed to operate and vent to the atmosphere the buildup of gases preventing the eruption of the tank, cover, or bushings.

EXTERNAL MARKINGS: The transformer shall be marked with a nameplate with all pertinent data, the word “NON-PCB”, the KVA rating and the primary voltage shall be stenciled on the front just above the latching mechanism. Permanent labels and slight modifications in location are acceptable.

NAMEPLATE: Shall be stainless steel or aluminum with laser etching with contrast lettering and shall be permanently mounted on the tank. Nameplate data shall include as a minimum: transformer weight, impedance, high and low voltage ratings, winding material, KVA rating, date of manufacture, name of supplying manufacturer, wiring schematic, type of insulating fluid, and other data as required by ANSI C57.12.00 standards.

OTHER FEATURES: Transformer shall be equipped with the additional features as follows:

1. LV grounding provision
2. Tank grounding provision
3. Loop Feed, unless noted otherwise
4. External tap changer as required for dual primary with tap voltage plainly marked
5. Two parking stands
6. Other accessories as may be required by NEMA and /or ANSI standards

ELECTRICAL CHARACTERISTICS

WINDING AND CORE: Unit shall be of shell type core construction with *copper primary and aluminum strip secondary with resin, epoxy or varnish coated diamond kraft paper (both sides) installed between layers and also used as barriers between the primary and secondary windings. Core shall be constructed of cold-rolled grain oriented silicon steel, core steel edges are to be smooth. Core laminations shall be held together with bands with the top and bottom yokes

being held together by vertical tie-rods or a core clamp to make for a rigid structure to withstand rated faulted conditions.

Coil leads are to be electrically connected to the terminal board or bushings by pressure welds to provide for optimum current exchange. Both high voltage and low voltage leads are to be installed in insulating tubes or ducts.

Unit is to be equipped with cooling ducts to direct the flow of coolant through the windings.

BIL: Unit shall be rated 95 KV BIL but shall withstand a 110 KV impulse test.

FUSING: A bayonet-type fuse (with label installed stating: "Vent transformer prior to removing fuse"), with drip shield, which is an oil-immersed drawout expulsion fuse designed to protect the transformer from secondary faults and overcurrent conditions and is hook stick operable, in conjunction with an internal weak link fuse for transformer protection against internal faults which may or may not be field replaceable.

BUSHING ARRANGEMENTS DIMENSIONS: Pad mounts shall be of ANSI style "one" arrangement and the minimum dimensions as specified in ANSI shall apply.

Drawings for approval by Plant Board Engineering shall be submitted along with the bid and will be returned to the successful bidder with noted changes and/or approval.

Bushing and Terminal arrangements shall be as specified in ANSI/IEEE C57.12.00 – 2010.

*NOTE: If manufacturer elects to use different winding materials than specified, it must be noted in the bid exceptions. Otherwise it will be assumed that the winding materials are as specified.

75-500KVA THREE PHASE PAD

These specifications cover oil filled, self-cooled, dead front, pad mount type distribution transformers three-phase rated 75 to 500 KVA at voltages below 15 KV.

GENERAL CONDITIONS

At a minimum, transformers shall be designed and manufactured in accordance with these specifications and applicable sections of the latest edition of NEMA, ANSI, NEC, and any other applicable standard governing transformers.

Any unit supplied under these specifications, which is found to be in violation of these specifications shall be replaced, at vendor's expense, for a like unit which meets specifications.

MECHANICAL CHARACTERISTICS

TANK: The design of the pad-mounted equipment in this specification shall conform to the stipulations, recommendations, opinions and practices of the "Western Underground Committee Guide 2.13", security for pad-mounted equipment enclosures.

Unit shall be of sealed tank construction of sufficient strength to withstand a pressure of 7 PSI without permanent distortion.

Unit shall be primed with a corrosion resistance primer coat and a final top coat of Munsell 7GY 3.29/1.5 pad-mount green.

Paint shall meet or exceed ANSI C57-12.28-1988 Enclosure Coating System.

NAMEPLATE: Shall be stainless steel or aluminum with laser etching with a contrast lettering and shall be permanently mounted on the tank. Nameplate data shall include as a minimum: transformer weight, impedance, high and low voltage ratings, winding material, KVA rating, date of manufacture, name of supplying manufacturer, wiring schematic, type of insulating fluid, and other data as required by ANSI C57.12.00 - 1980 standards.

BUSHINGS AND TERMINALS: High voltage bushings shall consist of 200 amp Elastimold universal bushing wells catalog number **K160PC-SI** with Elastimold 200 amp loadbreak bushing insert catalog number **1601 A4R** or equivalent.

Low voltage terminals for copper or aluminum conductor: Provide standard threaded studs based on KVA size which is installed with an externally removable three point retaining plate.

VENTING: Venting shall be by means of an automatic self-sealing pressure release valve installed on the tank wall. The release valve shall be designed to operate and vent to the atmosphere the buildup of gases preventing the eruption of the tank, cover, or bushings.

EXTERNAL MARKINGS: The transformer shall be marked with a nameplate with all pertinent data, the KVA rating and the primary voltage shall be stenciled on the front just above the latching mechanism. Permanent decals and slight modifications in location are acceptable.

OTHER FEATURES: Transformer shall be equipped with the additional features as follows:

1. LV grounding provision
2. Tank grounding provision
3. Loop Feed, unless noted otherwise
4. External tap changer as required for dual primary with tap voltage plainly marked.
5. Six parking stands.

6. Other accessories as may be required by NEMA and /or ANSI standards.

ELECTRICAL CHARACTERISTICS

WINDING AND CORE: Unit shall be of shell type core construction with *copper primary and aluminum strip secondary with resin, epoxy or varnish coated diamond kraft paper (both sides) installed between layers and also used as barriers between the primary and secondary windings. Core shall be constructed of cold-rolled grain oriented silicon steel, core steel edges are to be smooth. Core laminations shall be held together with bands with the top and bottom yokes being held together by vertical tie-rods or a core clamp to make for a rigid structure to withstand rated faulted conditions.

Coil leads are to be electrically connected to the terminal board or bushings by pressure welds to provide for optimum current exchange. Both high voltage and low voltage leads are to be installed in insulating tubes or ducts.

Unit is to be equipped with cooling ducts to direct the flow of coolant through the windings.

BIL: Unit shall be rated 95 KV BIL but shall withstand a 110 KV impulse test.

FUSING: Bayonet-type fuses (with label installed stating: "Vent transformer prior to removing fuse"), with drip shield, which is an oil-immersed drawout expulsion fuse designed to protect the transformer from secondary faults and overcurrent conditions and is hook stick operable, in conjunction with an internal weak link fuse for transformer protection against internal faults which may or may not be field replaceable.

BUSHING ARRANGEMENTS DIMENSIONS: Pad mounts shall be of ANSI style "one" arrangement and the minimum dimensions as specified in ANSI shall apply.

Drawings for approval by Plant Board Engineering shall be submitted along with the bid and will be returned to the successful bidder with noted changes and/or approval.

Bushing and Terminal arrangements shall be as specified in ANSI/IEEE C57.12.00 – 2010.

TRANSFORMER SWITCH: Provide an internal oil-immersed, gang-operated radial feed switch. The switch must be capable of switching transformer full load current. The switch handle shall be located in the primary compartment and must be hot stick operable.

*NOTE: If manufacturer elects to use different winding materials than specified, it must be noted in the bid exceptions. Otherwise it will be assumed that the winding materials are as specified.

750-1000 KVA THREE PHASE PAD

These specifications cover oil filled, self-cooled, dead front, pad mount type distribution transformers three-phase rated 750 to 1000 KVA at voltages below 15 KV.

GENERAL CONDITIONS

At a minimum, transformers shall be designed and manufactured in accordance with these specifications and applicable sections of the latest edition of NEMA, ANSI, NEC, and any other applicable standard governing transformers.

Any unit supplied under these specifications, which is found to be in violation of these specifications shall be replaced, at vendor's expense, for a like unit which meets specifications.

MECHANICAL CHARACTERISTICS

TANK: The design of the pad-mounted equipment in this specification shall conform to the stipulations, recommendations, opinions and practices of the "Western Underground Committee Guide 2.13", security for pad-mounted equipment enclosures.

Unit shall be of sealed tank construction of sufficient strength to withstand a pressure of 7 PSI without permanent distortion.

Unit shall be primed with a corrosion resistance primer coat and a final top coat of Munsell 7GY 3.29/1.5 pad-mount green.

Paint shall meet or exceed ANSI C57-12.28-1988 Enclosure Coating System.

NAMEPLATE: Shall be stainless steel or aluminum with laser etching with a contrast lettering and shall be permanently mounted on the tank. Nameplate data shall include as a minimum: transformer weight, impedance, high and low voltage ratings, winding material, KVA rating, date of manufacture, name of supplying manufacturer, wiring schematic, type of insulating fluid, and other data as required by ANSI C57.12.00 - 1980 standards.

BUSHINGS AND TERMINALS: High voltage bushings shall consist of 200 amp Elastimold universal bushing wells catalog number K160PC-SI with Elastimold 200 amp loadbreak bushing insert catalog number 1601 A4R or equivalent.

Low voltage terminals for copper or aluminum conductor shall be removable NEMA 10-hole pads with 9/16" diameter holes. Pads are to be furnished with additional support, by means of a support bar mounted to the end of the pads and fastened to the top of the transformer box.

VENTING: Venting shall be by means of an automatic self-sealing pressure release valve installed on the tank wall. The release valve shall be designed to operate and vent to the atmosphere the buildup of gases preventing the eruption of the tank, cover, or bushings.

EXTERNAL MARKINGS: The transformer shall be marked with a nameplate with all pertinent data, the KVA rating and the primary voltage shall be stenciled on the front just above the latching mechanism. Permanent decals and slight modifications in location are acceptable.

OTHER FEATURES: Transformer shall be equipped with the additional features as follows:

1. LV grounding provision

2. Tank grounding provision
3. Loop Feed, unless noted otherwise
4. External tap changer as required for dual primary with tap voltage plainly marked.
5. Temperature Gauge with Peak Indicator Dial
6. Six parking stands.
7. Other accessories as may be required by NEMA and /or ANSI standards

ELECTRICAL CHARACTERISTICS

WINDING AND CORE: Unit shall be of shell type core construction with *copper primary and aluminum strip secondary with resin, epoxy or varnish coated diamond kraft paper (both sides) installed between layers and also used as barriers between the primary and secondary windings. Core shall be constructed of cold-rolled grain oriented silicon steel, core steel edges are to be smooth. Core laminations shall be held together with bands with the top and bottom yokes being held together by vertical tie-rods or a core clamp to make for a rigid structure to withstand rated faulted conditions.

Coil leads are to be electrically connected to the terminal board or bushings by pressure welds to provide for optimum current exchange. Both high voltage and low voltage leads are to be installed in insulating tubes or ducts.

Unit is to be equipped with cooling ducts to direct the flow of coolant through the windings.

BIL: Unit shall be rated 95 KV BIL but shall withstand a 110 KV impulse test.

FUSING: Bayonet-type fuses (with label installed stating: "Vent transformer prior to removing fuse"), with drip shield, which is an oil-immersed drawout expulsion fuse designed to protect the transformer from secondary faults and overcurrent conditions and is hook stick operable, in conjunction with an internal weak link fuse for transformer protection against internal faults which may or may not be field replaceable.

BUSHING ARRANGEMENTS DIMENSIONS: Pad mounts shall be of ANSI style "one" arrangement and the minimum dimensions as specified in ANSI shall apply.

Drawings for approval by Plant Board Engineering shall be submitted along with the bid and will be returned to the successful bidder with noted changes and/or approval.

Bushing and Terminal arrangements shall be as specified in ANSI/IEEE C57.12.00 – 2010.

TRANSFORMER SWITCH: Provide an internal oil-immersed, gang-operated radial feed switch. The switch must be capable of switching transformer full load current. The switch handle shall be located in the primary compartment and must be hot stick operable.

*NOTE: If manufacturer elects to use different winding materials than specified, it must be noted in the bid exceptions. Otherwise it will be assumed that the winding materials are as specified.

ABOVE 1000 KVA THREE PHASE PAD

PAD MOUNT TRANSFORMERS:

These specifications cover oil filled, self-cooled, dead front, pad mount type distribution transformers three-phase rated above 1000 KVA at voltages below 15 KV.

RATINGS:
KVA: above 1000
PHASE: Three
FREQUENCY: 60 Hertz
PRIMARY VOLTAGE: 13,200 delta DUAL WOUND: No
AUX. PRIMARY VOLTAGE: delta
SECONDARY VOLTAGE: 480/277 wye
TEMPERATURE RISE: 65 degrees C.

GENERAL CONDITIONS:

At a minimum, transformers shall be designed and manufactured in accordance with these specifications and applicable sections of the latest edition of NEMA, ANSI, NEC, and any other applicable standard governing transformers.

Any unit supplied under these specifications which is found to be in violation of these specifications shall be replaced, at vendor's expense, for a like unit which meets specifications.

MECHANICAL CHARACTERISTICS

TANK: The design of the pad-mounted equipment in this specification shall conform to the stipulations, recommendations, opinions and practices of the

"Western Underground Committee Guide 2.13", security for pad-mounted equipment enclosures.

Unit shall be of sealed tank construction of sufficient strength to withstand a pressure of 7 PSI without permanent distortion.

Unit shall be primed with a corrosion resistance primer coat and a final top coat of Munsell 7GY 3.29/1.5 pad-mount green.

Paint shall meet or exceed ANSI C57-12.28-1988 Enclosure Coating System.

NAMEPLATE: Shall be stainless steel or aluminum with laser etching with contrast lettering and shall be permanently mounted on the tank. Nameplate data shall include as a minimum: transformer weight, impedance, high and low voltage ratings, winding material, KVA rating, date of manufacture, name of supplying manufacturer, wiring schematic, type of insulating fluid, and other data as required by ANSI C57.12.00 - 1980 standards.

BUSHINGS AND TERMINALS: High voltage bushings shall consist of 200 amp Elastimold universal bushing wells catalog number K160PC-SI with Elastimold 200 amp loadbreak bushing inserts catalog number 1601 A4R or equivalent.

Low voltage terminals for copper or aluminum conductor shall be removable NEMA 10-hole pads with 9/16" diameter holes. Pads are to be furnished with additional support, by means of a support bar mounted to the end of the pads and fastened to the top of the transformer box.

VENTING: Venting shall be by means of an automatic self-sealing pressure release valve installed on the tank wall. The release valve shall be designed to operate and vent to the atmosphere the buildup of gases preventing the eruption of the tank, cover, or bushings.

EXTERNAL MARKINGS: The transformer shall be marked with a nameplate with all pertinent data, the KVA rating and the primary voltage shall be stenciled

on the front just above the latching mechanism, the wording "NON PCB" and a plainly marked high voltage switch when applicable (Ref. #4, Other Features). Permanent decals and slight modifications in location are acceptable.

OTHER FEATURES: Transformer shall be equipped with the additional features as follows:

1. LV grounding provision
2. Tank grounding provision
3. Loop Feed, unless noted otherwise
4. External tap changer as required for dual primary with tap voltage plainly marked.
5. Two parking stands per phase
6. One inch drain valve with sampling device, to be installed in high voltage compartment.
7. A one-inch oil filling provision
8. Liquid level indicator
9. Temperature gauge with Peak Indicator Dial
10. Nitrogen blanket over oil
11. Other accessories as may be required by NEMA and /or ANSI standards

ELECTRICAL CHARACTERISTICS:

WINDING AND CORE: Unit shall be of wound core or shell type core construction with *copper primary and aluminum strip secondary with resin, epoxy or varnish coated diamond Kraft paper (both sides) installed between layers and also used as barriers between the primary and secondary windings. Core shall be constructed of cold-rolled grain oriented silicon steel, core steel edges are to be smooth. Core laminations shall be held together with bands with the top and bottom yokes being held together by vertical tie-rods or a core clamp to make for a rigid structure to withstand rated faulted conditions.

Coil leads are to be electrically connected to the terminal board or bushings by pressure welds to provide for optimum current exchange. Both high voltage and low voltage leads are to be installed in insulating tubes or ducts.

Unit is to be equipped with cooling ducts to direct the flow of coolant through the windings.

BIL: Unit shall be rated 95 KV BIL but shall withstand a 110 KV impulse test.

FUSING: A hook stick operable bayonet-type expulsion fuse (with label installed stating: "Vent transformer prior to removing fuse"), with drip shield, which is an oil-immersed drawout expulsion fuse designed to protect the transformer from excessive overloads and secondary faults, in conjunction with an under-oil back-up current-limiting fuse to provide transformer protection against internal faults. The two fuses must be properly coordinated so that operation of the back-up current-limiting fuse will occur only as a result of transformer failure.

BUSHING ARRANGEMENTS DIMENSIONS: Pad mounts shall be of ANSI style "one" arrangement and the minimum dimensions as specified in ANSI shall apply.

Drawings for approval by Plant Board Engineering shall be submitted along with the bid and will be returned to the successful bidder with noted changes and/or approval.

Bushing and Terminal arrangements shall be as specified in ANSI C57.12.26-1987, Figure 6A for loop-feed and with staggered low voltage terminals as specified in Figure 8A.

PRIMARY TAPS: Transformer shall be equipped with 2 1/2 % taps, two above and two below the reference voltage.

TRANSFORMER SWITCH: Provide an internal oil-immersed, gang-operated radial feed switch. The switch must be capable of switching transformer full load

current. The switch handle shall be located in the primary compartment and must be hot stick operable.

*NOTE: If manufacturer elects to use different winding materials than specified, it must be noted in the bid exceptions. Otherwise, it will be assumed that the winding materials are as specified.

VII. BID PRICING FORM

Remanufactured Distribution Transformers

Pole Mount Transformers

Item #	Quantity Requested	Description	Quantity Available	Unit Price	Total
1	10	15 KVA POLE MOUNT PRIMARY: 7620/13200 SECONDARY: 120/240			
2	6	37.5 KVA POLE MOUNT PRIMARY: 7620/13200 SECONDARY: 120/240			
3	10	50 KVA POLE MOUNT PRIMARY: 7620/13200 SECONDARY: 120/240			
4	2	50 KVA POLE MOUNT PRIMARY: 7620/13200 SECONDARY: 240/480			
5	3	167 KVA POLE MOUNT PRIMARY: 7620/13200 SECONDARY: 240/480			
6	2	167 KVA POLE MOUNT PRIMARY: 7620/13200 SECONDARY: 277/480			
7	4	250 KVA POLE MOUNT PRIMARY: 7620/13200 SECONDARY: 240/480			
8	1	500 KVA POLE MOUNT PRIMARY: 7620/13200 SECONDARY: 277/480			

Single Phase Pad Mount Transformers

Item #	Quantity Requested	Description	Quantity Available	Unit Price	Total
1	15	25 KVA PAD MOUNT PRIMARY: 7620/13200 SECONDARY: 120/240			
2	10	37.5 KVA PAD MOUNT PRIMARY: 7620/13200 SECONDARY: 120/240			
3	4	75 KVA PAD MOUNT PRIMARY: 7620/13200 SECONDARY: 120/240			

Three Phase Pad Mount Transformers

Item #	Quantity Requested	Description	Quantity Available	Unit Price	Total
1	2	75 KVA PAD MOUNT PRIMARY: 13200 SECONDARY: 277/480			
2	1	150 KVA PAD MOUNT PRIMARY: 13200 SECONDARY: 208/120			
3	1	750 KVA PAD MOUNT PRIMARY: 13200 SECONDARY: 208/120			
4	1	1000 KVA PAD MOUNT PRIMARY: 13200 SECONDARY: 480/277			
5	1	1500 KVA PAD MOUNT PRIMARY: 13200 SECONDARY: 208/120			
6	2	1500 KVA PAD MOUNT PRIMARY: 13200 SECONDARY: 480/277			
7	2	2000 KVA PAD MOUNT PRIMARY: 13200 SECONDARY: 480/277			
8	1	2500 KVA PAD MOUNT PRIMARY: 13200 SECONDARY: 480/277			

VIII. SIGNATURE PAGE

Remanufactured Distribution Transformers

We submit the prices on page 28-29 and agree to make delivery within _____ days after receipt of order. The transformers offered in this bid shall include the following warranty:

_____

_____

_____

_____

_____

_____

_____

_____

SIGNED BY: _____

PRINTED NAME: _____

EMAIL: _____

FIRM: _____

ADDRESS: _____

_____

TELEPHONE NUMBER: ( ) _____

E-MAIL ADDRESS: _____

FAX NUMBER: ( ) _____

DATE: _____

IX. EQUAL EMPLOYMENT OPPORTUNITY COMPLIANCE CERTIFICATE

A. Has your company filed the required Employer Information Report, EEO-1 (Standard Form 100) with the Secretary of Labor's Joint Reporting Committee for the prior period ending March 31?

YES NO

If your answer to Question A above is "NO", check the following appropriate reasons for not filing:

1. Employ less than one hundred people company-wide.
2. Have specific exemption from Secretary of Labor as provided in Section 20 of Executive Order 11246, as amended.

Within Thirty (30) days after receipt of any order from the **Frankfort Electric and Water Plant Board** and prior to each March 31 thereafter, during the performance of work under said order, the undersigned firm agrees to file Standard Form 100, entitled "Equal Employment Opportunity Information Report EEO-1" in accordance with instructions contained therein, unless such firm has either filed such report within twelve months preceding the date of the award or is not otherwise required by law or regulations to file such a report.

B. In consideration of the undersigned being placed in the **Frankfort Electric and Water Plant Board's** "Supplier Document" for the year ending March 31 next, the undersigned certifies that he does not and will not maintain or provide for his employees any segregated facilities at any of his establishments and that he does not and will not permit his employees to perform their services at any location under his control where segregated facilities are maintained. The undersigned agrees that a breach of this certification is a violation of the Equal Opportunity Clause in any subcontract, contract, purchase order, or agreement that the undersigned may receive from the **Frankfort Electric and Water Plant Board.**

As used in this certification, the term "Segregated facilities" means any waiting room, work areas, rest room, and washrooms, restaurants and other eating areas, time clocks, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated on the basis of race, creed, color or national origin, because of habit, local custom or otherwise.

The undersigned further agrees that he will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding $10,000 which are not exempt from the provisions of the Equal Opportunity Clause; that he will retain such certification in his files and that he will forward the following notice to his proposed subcontractors (except when the proposed subcontractors have submitted identical certification for specific time periods).

"NOTICE TO PROSPECTIVE SUBCONTRACTORS OF REQUIREMENT FOR CERTIFICATION OF NONSEGREGATED FACILITIES"

"A certification of Nonsegregated Facilities, as required by the May 9, 1967 order on Elimination of Segregated Facilities, by the Secretary of Labor (32 Fed. Reg. 7439, May 19, 1967) must be submitted prior to the award of a subcontract exceeding $10,000 which is not exempt from the provisions of the Equal Opportunity clause. The certification for all subcontractors during a period (i.e., quarterly, semi-annually, or annually).

(Note: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.)"

C. Do you have at each of your facilities a current written Affirmative Action Compliance Program as required by Title 41 of the Code of Federal Regulations (CFR) 60-1.40; and current written Affirmative Action Programs for disabled veteran, veterans of the Vietnam Era and Handicapped workers as required by CFR 60-250.4 and CFR 60-741.4?

YES NO

If "NO" within 120 days after receipt of any order resulting from attached quotation, the undersigned firm agrees to develop and maintain written Affirmative Action Compliance Programs as required. (Current law requires the contractor to develop a written Affirmative Action Compliance Programs in those cases where the contractor has received prime contract or subcontracts for $50,000 or more and employs fifty (50) or more people).

CONTRACTOR (SELLER/SUPPLIER): _____

MAILING ADDRESS / PHONE:_____

_____

_____
Authorized Representative's
NAME (PRINT OR TYPE): _____

Authorized Representative TITLE:_____

Dated Signature of Authorized Representative:_____

X. "NOTICE TO PROSPECTIVE CONTRACTORS OF REQUIREMENT OF GENERAL SAFETY PROGRAM"

The Frankfort Plant Board requires that all contractors operate in compliance with standards set forth by federal, state, and local regulatory agencies, including but not limited to the Occupational Safety and Health Administration, Environmental Protection Agency and Department of Transportation. To comply with the regulations set forth by these agencies it is necessary for each contractor to operate under an established safety program pertaining to the contractor's specific line of business.

The primary goal of a safety program is to protect the health and safety of employees and the public. Our goals are also to conserve and protect property and the environment. **IT IS OUR ABSOLUTE CONVICTION THAT:**

- This is a moral responsibility of each firm and worker involved.
- Safe and healthful work is more efficient, effective and inseparable from how we perform our work.
- Accidents and injuries are unnecessary costs

We accomplish work which is free from accident and injury by providing vigorous leadership that is visible through the organization.

How well we conduct our work in a hazard-free manner, according to the direction provided, is a key factor in our performance for which we are each accountable.

There are certain basic elements that are incorporated into the safety program:

- Effective management leadership from each contractor;
- Organization of a **General Safety Program**;
- On-site supervisor with authority to carry out their responsibilities including suspension of work to correct unsafe conditions;
- Proper training and supervision; and
- Employee participation

Does your organization operate under an established safety program that is in compliance with all applicable federal, state and local regulations and does this program embody the philosophies described above?

YES NO

CONTRACTOR (SELLER/SUPPLIER): _____

MAILING ADDRESS / PHONE: _____

_____

_____

Authorized Representative's
NAME (PRINT OR TYPE): _____

Authorized Representative TITLE: _____

Dated Signature of Authorized Representative:

_____

If you received this as part of an Invitation to Bid, please return with your bid.

OTHERWISE

Please return to: Safety Officer
Frankfort Electric and Water Plant Board
PO Box 308
Frankfort, KY 40602

Frankfort Electric and Water Plant Board
PO Box 308, Frankfort KY 40602

XI. DRUGFREE WORKPLACE COMPLIANCE CERTIFICATE

PLEASE SIGN BELOW TO INDICATE: 1) Contractor is in compliance with any applicable local, state or federal laws concerning mandatory Drug and Alcohol Testing Programs; and 2) AS a term of any contract, the Contractor agrees to comply with any such drug and/or alcohol testing that may be required by law.

CONTRACTOR :_____
MAILING ADDRESS/PHONE: _____
_____

Authorized Representative's
NAME (Print or Type):_____
Authorized Representative's TITLE: _____
SIGNATURE & DATE: _____

If you received this as part of an Invitation to Bid please Return with your BID; Otherwise, Return to: Personnel/Safety Officers, PO Box 308, Frankfort KY 40602

DRUGFREE WORKPLACE COMPLIANCE CERTIFICATE