

# REQUEST FOR PROPOSAL



## BURLINGTON ELECTRIC DEPARTMENT

585 Pine street  
Burlington, VT 05401-4891  
Phone: 802-865-7456

RFP #

**096-24**

DATE:

4/17/2024

**REQUEST FOR QUOTATION**

**THIS IS AN INQUIRY,**  
**NOT AN ORDER**

**PLEASE QUOTE PROMPTLY**

ALL RFP'S RESPONSES ARE TO BE  
UPLOADED TO OUR SECURE  
WEB SITE USING YOUR UNIQUE LOGIN

DELIVERY REQUIRED BY: ASAP	QUOTATION DUE BY NLT 05/22/24 11:00am EST	REQUISITION NO:	DEPT: ENGINEERING
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QTY	DESCRIPTION					
3	Transformer Size (kVA): 167	Primary Voltage 13800 Grd Y/7970	Secondary Voltage 240/120V	Description 167KVA Single Phase, Liquid Filled, Submersible (Vault Type), Loop Feed, Distribution Transformer	Spec Impedance 1.60% - 2.25%	BED Specification S0112

Purchase Price Constant	Load Loss Factor (\$/Watt)	No Load Loss Factor (\$/Watt)
1.301	\$1.42	\$17.45

Loss Evaluation formula "First Cost Multiplier"

NAMEPLATE SHALL INDICATE NON-PCB

Quote both Amorphous & Steel Core... If not quoting one type please specify why!

**(when order is placed approval drawings will be required but should not effect the delivery time)(XFRSUB00310) This must be on the data plate)**

UNIT COST=\$ \_\_\_\_\_ DELIVERY= \_\_\_\_\_ WEEKS ARO

LOSS EVALUATION FORMULA APPLIES TO QUOTE & PURCHASE PRICE:

No load = (Avg) \_\_\_\_\_ (Max) \_\_\_\_\_ Load =(Avg) \_\_\_\_\_ (Max) \_\_\_\_\_ Total = (Avg) \_\_\_\_\_ (Max) \_\_\_\_\_

IMPEDANCE: \_\_\_\_\_ Bid will be evaluated on average values.

Please confirm freight is included in unit cost. It is **Y/N** (circle one quoted)

CERTIFIED TEST REPORTS SHALL BE emailed AT THE TIME OF SHIPMENT TO [engineering@burlingtonelectric.com](mailto:engineering@burlingtonelectric.com) . PAYMENT OF THE ABOVE ITEM SHALL BE HELD UNTIL RECEIVED AND ACCEPTED BY B.E.D.

**DELIVERY REQUIREMENT: SHIP FOB DESTINATION FREIGHT ALLOWED . Hours are 7:30 am to 2:30pm M-F**

BED RESERVES THE RIGHT TO ACCEPT OR REJECT ANY OR ALL PROPOSALS RECEIVED IN RESPONSE TO THIS RFP OR TO TAKE OTHER ACTION CONSISTENT WITH THE BEST INTEREST OF BED. BED RESERVES THE RIGHT TO NEGOTIATE SEPARATELY WITH ANY SOURCE TO SERVE THE BEST INTEREST OF BED.

EXCEPTIONS TO THIS RFP SHALL BE SUBMITTED IN WRITING & ACCEPTED BY B.E.D. ON THE AWARDED P.O. TO BE BINDING. ALL SUBMITTED BIDS BECOME THE PROPERTY OF BURLINGTON ELECTRIC DEPARTMENT. AFTER THE AWARDING OF THE CONTRACT TO THE SUCCESSFUL BIDDER, ALL BIDS ARE OPEN FOR PUBLIC VIEWING

**ALL PROPOSALS MUST BE SUBMITTED VIA THE SECURE WEB SITE.** BED WILL NO LONGER ACCEPT FAXED BIDS, EMAIL OR MAILED. ALL RFQ'S MUST INCLUDE OUTLINE DRAWING SHOWING DIMENSIONS OF TRANSFORMER. IF ANY INFORMATION IS MISSING THE RFP WILL BE DEEMED INVALID AND WILL NOT BE EVALUATED

### VENDOR MUST COMPLETE THIS INFORMATION

- SHIPMENT CAN BE MADE \_\_\_\_\_ DAYS FROM RECEIPT OF ORDER
- F.O.B. DESTINATION FREIGHT ALLOWED BURLINGTON ELECTRIC DEPT. DOCK.
- TERMS \_\_\_\_\_ DISCOUNT OF \_\_\_\_\_ % IF PAID NET \_\_\_\_\_ DAYS
- QUOTE VALID \_\_\_\_\_ DAYS

SIGNED \_\_\_\_\_ DATE: \_\_\_\_\_

TITLE: \_\_\_\_\_ COMPANY: \_\_\_\_\_

**B.E.D. RESERVES THE RIGHT TO ACCEPT OR DECLINE ANY AND ALL BIDS. ALL BIDS BECOME THE PROPERTY OF BURLINGTON ELECTRIC DEPARTMENT**

*Paul Charbonneau*

PURCHASING -- JEFF TURNER II

**TO INQUIRE ON ABOVE QUOTE PLEASE CALL PURCHASING DEPARTMENT DIRECT AT:**

**PAUL CHARBONNEAU 865-7456**  
email: [pcharbonneau@burlingtonelectric.com](mailto:pcharbonneau@burlingtonelectric.com)

# REQUEST FOR PROPOSAL

The following is a minimum check list that must be included in the submittal of the above RFP.

If any of the information is missing it will make your RFP invalid and we will not be able to consider it for evaluation!!!

## DID YOU INCLUDE THE FOLLOWING AT A MINIMUM ?

Unit Cost

Delivery time

No Load (avg) & (max)

Load (avg) & (max)

Total (avg) & (max)

Impedance (must be average values)

Is delivery included in the cost of the item? If not what is the cost for delivery  
Drawings with dimension.

Did you quote both Amorphous core and Steel? If not why?

**Include** manufacturer information about corrosion protection (item 14e on material spec) and coating (item 5j on material spec).

All RFP's must be uploaded to our secure site using your unique login. We will only accept Word, Excel or PDF submissions. Once you have Uploaded your file you will get an email indicating that it was successful. All times are based on EST.

*Paul Charbonneau*

PURCHASING -- JEFF TURNER II

TO INQUIRE ON ABOVE QUOTE PLEASE CALL  
PURCHASING DEPARTMENT DIRECT AT:

PAUL CHARBONNEAU 865-7456  
email: [pcharbonneau@burlingtonelectric.com](mailto:pcharbonneau@burlingtonelectric.com)



**BURLINGTON ELECTRIC DEPARTMENT (BED)  
MATERIAL SPECIFICATION**

**Single Phase, Liquid Filled, Submersible (Vault Type), Loop Feed,  
Distribution Transformer**

1) Scope:

- a) This specification covers the electrical characteristics and mechanical features of single phase, 60 Hz, mineral oil immersed, self-cooled, 55°C rise, submersible type, distribution transformers.
- b) All transformers shall be in accordance with the latest revision of each referenced industry standard (listed below) for severe service, except as modified by this specification.

ANSI/IEEE C57.12.00	ANSI/IEEE C57.12.23	ANSI/IEEE C57.12.32
ANSI/IEEE C57.12.70	ANSI/IEEE C57.12.80	ANSI/IEEE C57.12.90
ANSI/IEEE C57.91	ANSI/IEEE 386	

2) Ratings:

- a) The kVA rating shall be as specified on the purchase order.
- b) The nominal high voltage rating and the basic impulse insulation level (BIL) shall be the following:

13800 Grd Y/7970	95 kV BIL
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- c) The nominal low voltage rating and the basic impulse insulation level shall be one of the following:

120 / 240	30 kV BIL
277	30 kV BIL

3) Impedance Voltage:

15 - 250 kVA	1.60% - 2.25%
333 kVA and larger	3.25% with tolerance +/- 7.5%

4) Testing:

- a) All transformer testing shall comply with ANSI/IEEE C57.12.00 and ANSI/IEEE C57.12.90.
- b) All transformers shall be tested for no load losses (85°C), total losses (85°C), percent impedance (85°C) and exciting current (100% rated voltage). No load losses shall also be tested at 105% rated voltage.
- c) All transformers shall be subjected to a full wave voltage impulse.
- d) The manufacturer shall supply verification that the design has passed Short Circuit criteria per ANSI/IEEE C57.12.00 and ANSI/IEEE C57.12.90.

- e) Complete certified test reports, by serial number, shall be provided to BED within 30 days of shipping the transformers. These reports must either be signed by an authorized individual at the factory, or be accompanied by a cover letter referring to P.O. number and signed by an agent authorized to conduct transformer sales business for the manufacturer.

5) Construction:

- a) The manufacturer shall certify that the transformer and the oil are PCB free. This will be indicated on the transformer nameplate.
- b) The transformer tank and cooling fins shall be corrosion resistant construction, 304 grade stainless steel with finish coating and undercoating suitable for severe service vault application.
- c) The first 24" from the base of the transformer tank and cooling fins shall be treated with an epoxy, asphalt coating or equivalent protection to minimize corrosion.
- d) The transformer tank cover shall be welded and pressure tested prior to leaving the factory.
- e) The transformer shall be constructed such that it can be lowered into place through a 36 inch diameter clear round opening. The maximum overall diameter of the transformer shall be 30 inches. Exception: 167 kVA and above transformers shall have a maximum overall diameter of 33 inches.
- f) The maximum height from base to cover for the transformer shall be 66 inches.
- g) The nameplate shall be made of a corrosion resistant material and permanently marked meeting ANSI/IEEE C57.12.00, for nameplate A.
- h) The internal secondary leads shall be permanently identified corresponding to the lead markings on the nameplate.
- i) All insulating components, oil, paper, and wire enamel shall be made of thermally upgraded material which are all compatible at a 55 degree C temperature rise.
- j) All insulating paper used as layer insulation in transformer coils shall be bonded type, coated on both sides with a thermosetting adhesive and properly cured prior to impregnating with oil or the coils shall be wound with primary conductor containing a thermosetting adhesive that when properly cured will form an effective bond, both turn to turn and layer to layer.
- k) The transformer shall be capable of being loaded in accordance with ANSI/IEEE C57.91. In particular, ancillary equipment shall not limit the loading the transformer to this guide. The self-cooled temperature rating shall be 55°C.
- l) Lifting lugs for a balanced lift and provisions for jacking shall be included.

6) High Voltage Connectors:

- a) The high voltage terminations shall be 200 amp loadbreak, separable, insulated connectors and shall conform to all applicable ANSI/IEEE and IEEE standards.
- b) Two (2) 200 amp universal bushing wells (for loop feed) shall be provided.

- c) Primary bushings shall be a two-piece design with universal bushing wells and load break bushing well inserts, rated for 8.3 kV/14.4 kV.
  - d) Bushing wells shall be welded to the tank cover.
  - e) Bushing well studs shall be field replaceable.
  - f) Provisions for an insulated bushing (parking stand) shall be included for each bushing.
  - g) All bushing well inserts shall be supplied by the customer.
- 7) Low Voltage Connectors:
- a) The low voltage bushings shall be cover mounted.
  - b) The low voltage terminals shall be copper alloy NEMA 4 hole pads mounted on threaded studs.
  - c) The low voltage terminals shall accommodate either aluminum or copper conductors.
- 8) Over-current Protection:
- a) A loadbreak, BAY-O-NET type, oil immersed fuse shall be provided in series with an oil immersed, back-up current limiting fuse (CLF). The BAY-O-NET fuse element shall be externally replaceable with a distribution hot stick.
  - b) The BAY-O-NET fuse shall be current sensing, RTE type 353C, or equal.
  - c) The BAY-O-NET fuse size shall be per Table 4 of Cooper Power Systems publication 240-98.
  - d) The BAY-O-NET fuse and fuse holder must be interchangeable with RTE brand components.
  - e) The back-up CLF shall be RTE type ELSP, or equal.
  - f) The back-up CLF shall be coordinated with the BAY-O-NET fuse, per Table 4 of Cooper Power Systems publication 240-98 and sized to melt only on internal transformer faults.
  - g) The back-up CLF shall be connected on the source side of the BAY-O-NET fuse.
  - h) The BAY-O-NET fuse housing operating mechanism shall be interlocked with a primary switch to prevent the fuse from being removed or inserted while the transformer is energized.
- 9) The transformer shall be equipped with the following accessories:
- a) An automatic pressure relief device designed to re-seal after operating.
  - b) A means of manually venting tank pressure
  - c) ANSI/IEEE tank grounding provisions.
- 10) Information to be provided with quotation:
- a) Outline drawing of a typical unit, including a one-line diagram of the transformer.
  - b) Average percent positive impedance, X/R, and percent exciting current.

- c) Average and guaranteed maximum Total Load Losses.
- d) Average and guaranteed maximum No Load Losses.
- e) A description of the method used to minimize tank corrosion (design details or type of treatment).
- f) Warranty information and location of the nearest service shop, owned and operated by the manufacturer, which is capable of repairing all components of the transformer shall be provided.

11) Information to be provided with Shipment of Transformer:

- i) Manufacturer shall provide BED with the final X/R and percent positive impedance.

12) Exceptions:

Any exceptions to this specification shall be clearly documented when quoting. Exceptions must be specifically granted in writing by BED. Failure of BED to acknowledge exceptions when placing an order requires the manufacturer to comply with this specification if the order is accepted. Manufacturer shall not provide exception to the transformer impedance specified in part 3 of this specification.

13) Approval of final drawings:

Manufacturer shall provide BED with final transformer drawings after P.O. is placed. Approval of final drawings by BED shall be required.

14) BED's loss evaluation formula applies to all bids.

15) Penalties:

Failure to meet quoted losses may result in a financial penalty being assessed the manufacturer. The penalty will be determined via BED's loss evaluation formula.