

# City of Wilson, NC.

# Invitation to Bid #: 2023-69

# Title: 2000 kVA Transformers – Three Phase Padmount

Date of Issue: 03/20/2024

# Bid Opening Date: 04/17/2024

# At 2:00 PM ET

Direct all questions for this ITB to:

**Ricky Wilson** 

**Purchasing Manager** 

Email: rvwilson@wilsonnc.org

# **ADVERTISEMENT FOR BIDS**

Per NCGS 143-129 sealed bids for **2000 kVA Transformers – Three Phase Padmount** CITY OF WILSON BID NUMBER **2023-69**, will be received from vendors by the City of Wilson, Purchasing Office (hereinafter also referred to as the "City") in the Purchasing Office at the City Operations Center 1800 Herring Avenue, Wilson, North Carolina 27893 until the <u>date and time</u> <u>above</u> which time and place all bids received will be publicly opened and read aloud.

Proposals must be enclosed in a sealed envelope addressed to Ricky Wilson, Purchasing Manager, City of Wilson. The bid name and bid number as well as vendor name shall be marked on the envelope or packaging the bid is submitted in.

Clearly mark each package with: (1) Vendor name; (2) the Bid number; and (3) the due date. Address the package(s) for delivery: City of Wilson Attn: Purchasing 1800 Herring Ave. E Wilson, NC. 27893. (Packages may be hand delivered or mailed). If Vendor is submitting more than one (1) bid, each bid shall be submitted in separate sealed envelopes and marked accordingly. For delivery purposes, separate sealed envelopes from a single Vendor may be included in the same outer package. Proposals may be subject to rejection unless submitted with the information above included on the outside of the sealed proposal package. The City reserves the right to reject any and all bids and to waive any informality.

#### Introduction:

The City of Wilson is requesting sealed bids for each pricing of 2000 kVA three phase padmount transformers per the specifications herein. The City is anticipating on purchasing (2) two, but is requesting each pricing for this transformer from this invitation to bid in the case funding is not available for both. Sealed bids will be opened on the date and time above at the City of Wilson Operations Center in the Purchasing Office located at 1800 Herring Ave Building 200, Wilson, NC 27893.

### The City of Wilson Wilson, North Carolina

## Wilson Energy Electrical Engineering

### **Group Specification #100**

### **Three Phase Padmount Transformers**

| Rev. | Date      | Description  | By  |  |  |  |  |  |
|------|-----------|--|-----|--|--|--|--|--|
| 0    | 3/17/1996 | Initial Release  | JHD |  |  |  |  |  |
| 1    | 7/15/1997 | Revision 1   |     |  |  |  |  |  |
| 2    | 8/2/2000  | Revision 2<br>Revision 3   |     |  |  |  |  |  |
| 3    | 12/9/2004 | Revision 3   |     |  |  |  |  |  |
| 4    | 6/17/2005 | Revision 4   | JMM |  |  |  |  |  |
| 5    | 6/24/2005 | Revision 5   |     |  |  |  |  |  |
| 6    | 1/9/2007  | Revision 6   | JMM |  |  |  |  |  |
| 7    | 1/17/2007 | • IV-E-5 Corrected this to meet IEEE C57.12.34-2004, 9.10.2                                    |     |  |  |  |  |  |
| 8    | 4/27/2010 | Updated A and B factors  | DRG |  |  |  |  |  |
|      |           | Updated approved supplier information  |     |  |  |  |  |  |
| 9    | 8/11/2015 | • IV B2 – Made all sizes dead-front, loop-feed   | DRG |  |  |  |  |  |
|      |           | • IV B3b Changed spade hole requirements   |     |  |  |  |  |  |
|      |           | • IV B4a – Added requirement for neutral bushings to be  |     |  |  |  |  |  |
|      |           | below primary or secondary bushings  |     |  |  |  |  |  |
|      |           | • IV C – Specified fuse rating   |     |  |  |  |  |  |
|      |           | • IV E5 Changed tank valve location to high voltage side                                       |     |  |  |  |  |  |
|      |           | • IV M Corrected LV height requirement for 300 kVA   |     |  |  |  |  |  |
|      |           | • IV.M.1 Increased secondary compartment width by 6"   |     |  |  |  |  |  |
| 10   | 1/30/19   | IV J Added request for FR3 adder   | DRG |  |  |  |  |  |
|      |           | • V, VI and VII Removed A and B factors, loss testing  |     |  |  |  |  |  |
|      |           | and liquidated damages   |     |  |  |  |  |  |
| 11   | 12/15/20  | • I – changed mineral oil to natural ester   | DRG |  |  |  |  |  |
|      |           | • I – changed 65°C to 75°C   |     |  |  |  |  |  |
|      |           | • III A1 – Added taps; J taps for 22.86/13.2kV and ±2.5%,                                      |     |  |  |  |  |  |
|      |           | ±5% for 12.47/7.2 kV   |     |  |  |  |  |  |
|      |           | • IV B4b – number of holes in LV terminals   |     |  |  |  |  |  |
|      |           | • IV B5 – added "at the same height or below" for neutral                                      |     |  |  |  |  |  |
|      |           | termination  |     |  |  |  |  |  |
|      |           | • IV J – FR3 only  |     |  |  |  |  |  |
| 12   | 8/12/21   | Added primary fault indicator  | DRG |  |  |  |  |  |
| 13   | 8/11/23   | <ul> <li>Added 112.5 and 225kVA, 12.47Y/7.2kV; 1000 and 2500<br/>kVA, 22.86Y/13.2kV</li> </ul> | DRG |  |  |  |  |  |

#### **Electrical Engineering**

#### Specifications For Three Phase Padmount Transformers

#### I. Scope

This specification covers certain electrical, dimensional, and mechanical characteristics, and takes into consideration certain safety features of three phase, 60-Hz, 75° C rise, natural ester-insulated high voltage transformers, rated 2,500 kVA and smaller.

#### II. General

- A. Except as otherwise specified herein, all construction, characteristics, requirements, tests, definitions, terminology, and voltage designations shall be in accordance with the latest edition of American National Standards Institute C57.12.34; Pad mounted Compartmental-Type, Self-Cooled, Three Phase Distribution Transformers for use with Separable Insulated High-Voltage Connectors, High Voltage, 34,500 Grd Y/19,920 Volts and Below; 2,500 kVA and smaller.
- B. "Approved" as used in these specifications refers to approval by Wilson Energy, Electrical Engineering. Approved manufacturers are:
  - 1. ABB
  - 2. Cooper Power Systems
  - 3. General Electric
  - 4. Howard Industries
  - 5. Kuhlman
  - 6. Pauwells
  - 7. Central Moloney
  - 8. Ermco
  - 9. WEG

Criteria for including another manufacturer on the "approved" list:

- Manufacturer must have a good reputation with respect to quality, delivery time, ability to meet specification; furnishing a client contact list will help Wilson Energy to make this determination.
- A manufacturer may be removed from the "approved" list for problems with quality, delivery time, and ability to meet specifications.
- If the manufacturer was once on the "approved" list but was removed for problems with quality, delivery time, and ability to meet specification; the manufacturer must demonstrate that it has corrected its deficiencies to the satisfaction of Wilson Energy. Wilson Energy reserves the right to allow a reasonable period of time from de-listing to re-listing (at least one year) to enable a manufacturer's change/correction process to become mature before adding the manufacturer back to the "approved" list.

- C. Prior to transformer construction, the transformer manufacturer must:
  - 1. Furnish mechanical and electrical data, along with dimensional outline drawings of all sizes and voltages included in this specification, for approval by Wilson Energy.
  - 2. The minimum design information includes the following:
    - i. The volume of air and oil within the sealed tank.
    - ii. The primary and secondary fault current withstand capacity of the transformer.
    - iii. The impulse voltage of the transformer.
    - iv. The means by which the core and coil assembly is clamped and supported.
    - v. The type of insulating medium used throughout the transformer coil construction.
    - vi. Whether the units have epoxy impregnated paper.
    - vii. Whether the units have interlaced secondary windings.
  - 3. Wilson Energy recognizes that manufacturers continuously improve their products through engineering review. Manufacturers are encouraged to discuss any opportunities for design improvements with the Wilson Energy Electrical Engineering.
- D. Wilson Energy's three phase Padmount transformer specifications require a rectangular tank design. "Pocket Bushings" or "Box-Outs" for primary and/or secondary bushings are acceptable engineering designs as long as the distance from the hand hole opening to any one of the primary or secondary bushings is no greater than 30 inches. Any "Pocket Bushing" and/or "Box-Out" transformer must be approved by Wilson Energy Electrical Engineering.

### III. Ratings & Catalog Numbers

A. Ratings

Wilson Energy operates grounded wye distribution feeders at 22,860/13,200 volts and 12,470/7,200 volts. Voltage ratings, kVA ratings, and insulation characteristics shall be in accordance with Table 2 and Table 3 of ANSI C57.12.34-latest edition in addition to the specifications below:

| High Voltage  | BIL    | Low Voltage          | BIL   | KVA        | High Voltage<br>Taps |
|---------------|--------|----------------------|-------|------------|----------------------|
| 22,860/13,200 | 125 kV | 208Y/120<br>480Y/277 | 30 kV | All Ranges | J taps               |
| 12,470/7,200  | 95 kV  | 208Y/120<br>480Y/277 | 30 kV | All Ranges | ±2.5%, ±5%           |

| Table I                            |
|------------------------------------|
| <b>Transformer Characteristics</b> |

#### B. Catalog Numbers

| New           | Catalog   | kVA               | Primary                   | Secondary            |
|---------------|-----------|-------------------|---------------------------|----------------------|
| Cat. Number   | Number    | Size              | Voltage                   | Voltage              |
| 285-084-00031 | 2620-1509 | 75                | 12,470/7,200              | 208/120              |
| 285-084-00033 | 2620-1657 | 150               | 12,470/7,200              | 208/120              |
| 285-084-00034 | 2620-1673 | 150               | 12,470/7,200              | 480/277              |
| 285-084-00036 | 2620-1806 | 300               | 12,470/7,200              | 208/120              |
| 285-084-00037 | 2620-1855 | 300               | 12,470/7,200              | 480/277              |
| 285-084-00038 | 2620-1889 | 500               | 12,470/7,200              | 480/277              |
| 285-084-00039 | 2620-1905 | 500               | 12,470/7,200              | 208/120              |
| 285-084-00042 | 2620-1954 | 750               | 12,470/7,200              | 480/277              |
| 285-084-00043 | 2620-1970 | 750               | 12,470/7,200              | 208/120              |
| 285-084-00040 | 2620-1913 | 1,000             | 12,470/7,200              | 480/277              |
| 285-084-00041 | 2620/1921 | 1,500             | 12,470/7,200              | 480/277              |
| 285-084-00050 |           | 2,500             | 12,470/7,200              | 480/277              |
| 285-084-00051 |           | 75                | 22860/GY/13.2             | 208/120              |
| 285-084-00052 |           | 150               | 22860/GY/13.2             | 208/120              |
| 285-084-00053 |           | 300               | 22860/GY/13.2             | 208/120              |
| 285-084-00054 |           | 300               | 22860/GY/13.2             | 480/277              |
| 285-084-00055 |           | 500               | 22860/GY/13.2             | 208/120              |
| 285-084-00056 |           | 500               | 22860/GY/13.2             | 480/277              |
| 285-084-00061 |           | 75                | 22860/GY/13.2             | 480/277              |
| 285-084-00062 |           | 150               | 22860/GY/13.2             | 480/277              |
| 285-084-00066 |           | 112.5             | 12,470/7,200              | 208/120              |
| 285-084-00067 |           | 225               | 12,470/7,200              | 208/120              |
| 285-084-00068 |           | 2500              | 22860/GY/13.2             | 480/277              |
| 285-084-00069 |           | 1000              | 22860/GY/13.2             | 480/277              |
| N/A           |           | <mark>2000</mark> | <mark>12,470/7,200</mark> | <mark>480/277</mark> |

1. Wilson Energy Catalog Numbers for Three Phase Padmount Transformers are as follows:

## IV. All Transformers

A. Impedance and Regulation.

The minimum percent impedance voltage, as measured on the rated voltage connection, and the maximum percent regulation, at rated load and 80% Power Factor, shall be as follows:

| kVA Rating             | Absolute<br>Minimum<br>Impedance | Absolute<br>Maximum<br>Regulation |
|------------------------|----------------------------------|-----------------------------------|
| 75-150                 | 2.50%                            | 3.40%                             |
| 225-500                | 3.50%                            | 3.40%                             |
| <mark>750-2,500</mark> | <mark>5.75%</mark>               | <mark>4.00%</mark>                |

- B. Bushings and Terminals
  - 1. The specific dimensions for these loop-feed transformers shall be according to Figure 5A, Figure 6 and Figure 12A of ANSI C57.12.34 (See IV-M Dimensions Table of this document for transformer compartment dimensional minimums). There shall be mechanical clearances for 360 degree rotation of the Elastimold 1602 A3R Loadbreak Feed-Thru Insert and for simultaneous use of the Elastimold 163 FTR Feed-Thru and/or equivalent mounted parking stand.
  - 3. High Voltage Bushings
    - a. Two high voltage bushings per phase shall be provided to permit operating the transformer from a looped primary cable system.
    - b. High voltage bushings shall consist of six ESNA Bushing Wells for Loop Feed Deadfront operation, which will accept the Elastimold 1602 A3R Loadbreak Feed-Thru insert and/or equivalent. All other bushing wells must be approved through the Electric Division before the bid date to be accepted.
  - 4. Low Voltage Bushings
    - a. Low voltage bushings shall contain NEMA spades with porcelain or polymer bushings. (If any manufacturer's polymer bushing becomes problematic, their particular type of polymer bushing may be excluded in future revisions of this specification.)
    - b. Low voltage line and neutral terminals shall be copper and in accordance with ANSI Standard C57.12.34-latest edition, Figure 13(a) as follows:

| <u>kVA</u> | <u>208Y/120</u>  | <u>480Y/277</u>  |
|------------|------------------|------------------|
| 75         | 16 hole terminal | 16 hole terminal |
| 150        | 16 hole terminal | 16 hole terminal |
| 300        | 16 hole terminal | 16 hole terminal |
| 500        | 16 hole terminal | 16 hole terminal |
| 750        | 20 hole terminal | 20 hole terminal |
| 1000       |                  | 20 hole terminal |
| 1500       |                  | 20 hole terminal |
| 2000       |                  | 20 hole terminal |
| 2500       |                  | 20 hole terminal |

c. Low voltage bushing assembly shall be capable of withstanding a load in a vertical direction of 800 inch-pounds, without causing a deflection sufficient to produce a leak. Load withstand shall be based upon a force applied at the end of the terminal (or the terminal extension).

- d. Low voltage bushing assemblies shall be supported in the vertical direction with insulated support brackets connected by adjustable J-Hooks to a horizontal bar (not the top of the cabinet).
- 5. Neutral Termination
  - a. High Voltage Neutral: The high voltage neutral shall be brought out through a separate bushing and grounded externally, in the high voltage compartment. The bushing shall be rated the same insulation class as the primary with a 2-hole spade and a solid copper strap ground bolted to the tank. The bushing shall be located at the same height or below the primary bushings.
  - b. Low Voltage Neutral: The low voltage neutral bushing shall be a fully insulated bushing, rated at the same insulation class as the phase bushing, connected to an adjacent ground pad on the tank. The detachable strap shall be of sufficient size to carry the maximum fault current available from the transformer. The bushing shall be located at the same height or below the secondary bushings.
- 6. High and low voltage winding lead lengths shall be long enough to permit field replacement of bushings or bushing wells.
- 7. All gasketed joints are to afford a sealed tank in accordance with industry standards. Gasket materials must be durable and reusable Buna N rubber or equal with a durometer rating of 65 to 80. Ordinary cork or corkprene are not approved. Gaskets must be installed such that the high voltage bushing wells are continually in contact with the grounded tank.
- C. Fuses

All transformers shall be supplied with an approved internally mounted partial range current-limiting fuse and a draw out Loadbreak oil temperature sensitive Link. The bay-o-net fuse assembly shall have the Flapper valve fuse body to prevent oil spills. Drip shields shall be provided. The manufacturer shall provide fuse curves for all transformer kVA ratings.

The fuse minimum melt should withstand 12 times transformer full-load current for 0.1 seconds, 3 times transformer full-load current for 10 seconds, 2 times transformer full-load current for 2 hours, and 1.6 times transformer full-load current for 7 hours.

D. Accessories Equipment

Accessory equipment shall require approval of Wilson Energy Electrical Engineering and be in accordance with the latest edition of ANSI Standard C57.12.34.

- 1. Lifting provisions shall be permanently attached and arranged on the tank to provide a distributed balanced lift in a vertical direction for the completely assembled transformer and shall be designed to provide a Safety Factor of 5.
- 2. Jack bosses or equivalent jacking facilities shall be provided on the tank. The vertical clearance for a jack shall be  $1\frac{1}{2}$  inches minimum and  $6\frac{1}{2}$  inches maximum.
- 3. Tank grounding provisions shall be in accordance with ANSI Standard C57.12.34-latest edition. The grounding provisions shall be capped before painting the unit and shipped with the caps in place. (Plated Copper) A 1/0 copper grounding lug shall be supplied with the transformer inside the low voltage cabinet.
- 4. A 1-inch NPT upper plug (or cap) for filling and pressure testing and a 1inch NPT lower drain valve with built-in sampling device shall be provided on all transformers.
- 5. All transformers shall be equipped with an approved automatic resetting pressure relief device mounted in the handhold cover that will automatically relieve tank pressures that exceed 10 PSIG and effectively reseal with no leakage for air or oil up to 10 PSIG. This device must exclude moisture from the transformer and have a life equal to the transformer. The specifications must meet or exceed those of a Qualitrol Model 208-60E.
- 6. An oil temperature and an oil level gauge shall be mounted unexposed in the secondary compartment of the transformer.
- 7. A LBOR Loadbreak oil-immersed, two position switch to de-energize the transformer.
- 8. Parking stands shall be provided in the high voltage compartment (six stands)

- 9. Rectangular hand holes with gaskets shall be provided for access to high voltage expulsion fuses, three phase switches, neutral connections, bushings, etc. without removing the main cover of the transformer. Each hand hole cover shall be tamper-proof and removable only after being unfastened from inside the compartment. The hand hole opening shall have the following minimum dimensions:
  - a. 75 through 500 kVA: 14 x 24 inches.
  - b. 750 through 2,500 kVA: two 14 x 24 inch hand holes, one centered behind the high voltage compartment and one centered behind the low voltage compartment.
  - c. High voltage and low voltage bushings shall be within 30 inches of the hand hole opening to facilitate tightening wiring connections.
- 10. 12.47/7.2 kV transformers shall have full-capacity taps at +5%, +2.5%, nominal, -2.5% and -5%. 22.86/13.2 kV transformers shall have full-capacity J taps. Tap changer shall be externally operable. Transformers shall be shipped with the de-energized tap changer in the nominal position.
- E. Tanks
  - 1. Transformers tanks shall be of a sealed-tank construction as specified in ANSI Standard C57.12.34-latest revision.
  - 2. The tank shall be a minimum of 12-gauge sheet steel and strong enough to withstand a pressure of 7 PSIG without permanent distortion and 12 PSIG without rupturing or displacing other components of the transformer or affecting cabinet security.
  - 3. A welded or bolted main cover may be provided; however, gasketed bolted hand holes are required regardless of the type of cover.
  - 4. After final assembly, the tank shall be positively pressurized to at least 3 PSIG to detect any leaks, prior to leaving the factory. Transformers found with leaks prior to initial energization/installation shall be returned to the manufacturer for repair or a refund at the manufacturer's shipping and repair cost for a period of up to three years.
  - 5. Each tank shall contain a fill valve in the low voltage compartment and a drain valve accessible from the exterior of the transformer. Drain valve shall be enclosed in a suitable metal enclosure that is lockable with a <sup>1</sup>/<sub>2</sub> inch penta-head stainless steel spring-loaded captive bolt and padlock.
- F. Cabinet Security
  - 1. Cabinet security shall meet the latest Western Underground Guide 2.13 Revision.
  - 2. The transformer tank and compartments shall be constructed so as to limit disassembly, breakage and prying open of any doors, panels, and sills with the doors in the locked and closed position.
  - 3. There shall be no exposed screws, bolts or other fastening devices which

are externally removable, nor shall there be any opening through which foreign objects such as sticks, rods or wires might be inserted to contact live parts.

- 4. Suitable means for securing the compartment doors shall be provided as follows:
  - a. The low voltage compartment door shall have 3-point latching and a handle and hasp, each with a minimum <sup>1</sup>/<sub>2</sub> inch diameter hole, for a lock. This locking device shall be designated and located to limit prying, cutting or breaking. The handle shall have a minimum gripping length of 4 inches.
  - b. A <sup>1</sup>/<sub>2</sub> inch penta-head stainless steel spring-loaded captive bolt with threads separate from the locking device shall also be provided with a blind bolt hole. Removal of the penta-head locking bolt must only be accomplished after removal of the padlock.
  - c. Doors shall be constructed to provide access to the high voltage compartment only after the door to the low voltage compartment has been opened. There shall be one or more additional penta-head fastening devices that must be removed before the high voltage door can be opened.
- G. General Construction
  - 1. The transformer tank and compartments shall be assembled as an integral unit suitable for flush mounting on a flat, rigid surface. The assembly shall restrict the entry of water (other than flood water) into compartments so as to impair the operation of the transformer.
  - 2. The high voltage and low voltage compartments shall be located side by side on one side of the transformer tank. When viewed from the front, the low voltage compartment shall be on the right. These compartments shall be separated by a metal barrier or other rigid material.
  - 3. Doors shall be a minimum of 13 gauge steel and braced. They shall be provided with stops for latching in the open position and shall be removable only in the completely open position.
  - 4. Stainless steel hinges and stainless steel hinge pins shall also be provided. The hinge pins shall be a minimum of 0.340" in diameter and 3" in length. The hinges shall be continuously welded or bolted. The gauge of the hinges is to be the same or greater than the gauge of the doors.
  - 5. The transformer compartment sill shall be supplied with a flange on the inside bottom to facilitate securing the transformer to the pad.
  - 6. Devices such as switch handles, adapters, separable insulated high voltage connector(s) and replaceable fuses, which are designed for operation after the transformer is in place, shall be located in the high and low voltage compartments so that they can be operated with hotline tools.

- H. Paint
  - All transformer tanks and cabinets shall be electrostatically-painted with a minimum of 3 mils (dry) finish coat of regular olive green Munsel 7GY 3.29/1.5 or equivalent. When used in the inside of the tank, this paint must be impervious to transformer oil.
  - 2. The surface treatment and painting process shall yield a high quality coating that conforms to the latest ANSIC57.12-28 revision.
- I. Tilt

Transformers shall be designed such that a 5-degree tilt of tank will continue to keep all internal live parts covered by the insulating liquid.

J. Oil

Natural ester insulating fluid complying with IEEE C57.147 shall be provided in the transformer up to the liquid level marking. Fluid shall be Cargill Envirotemp FR3. Each transformer shall have a minimum 5-inch diameter label indicating fluid brand.

- K. Nameplate and Labeling
  - 1. A nameplate made of laser imprinted anodized aluminum shall be provided and securely attached on the inside of the low voltage compartment door so that it is readable with cables in place. This nameplate shall be in accordance with ANSI Standard C57.12.34 latest revision. The nameplate should note specifically the non-PCB status of the transformer.
  - 2. The serial number and date of manufacture must be provided.
  - 3. Internal and external, weather-resistant "Danger" safety labels (4 <sup>1</sup>/<sub>2</sub>" x 8" minimum)
  - 4. Internally mounted "Mr. Ouch" safety labels (4 <sup>1</sup>/<sub>2</sub>" x 8" minimum)
  - 5. An internal label (inside the door) similar to the following label to indicate non-PCB dielectric fluid is used.

"This transformer was filled or processed at the factory with non-PCB dielectric fluid in accordance with Federal Polychlorinated Biphenyl (PCB) Regulations 40 CFR761, dated May 31, 1979. The purchaser should take the necessary precautions so that PCB contamination is not introduced during filling or during maintenance of the transformer."

- L. Core Construction
  - 1. The core shall be 4 or 5 legged or triplex design.
  - 2. The design of the core shall be such that excessive tank heating will not occur during unbalanced load conditions or due to loss of one primary phase.

#### M. Dimensions

| Transformer        | All dimensions are in inches<br>Minimum Dimensions for the HV Compartment |                 |                 | All dimensions are in inches<br>Minimum Dimensions for the LV Compartment |                 |                 |
|--------------------|---|-----------------|-----------------|---|-----------------|-----------------|
| KVA                | Height  | Width           | Depth           | Height  | Width           | Depth           |
| 75                 | 58  | 40              | 18              | 58  | 30              | 18              |
| 150                | 58  | 40              | 18              | 58  | 30              | 18              |
| 300                | 62  | 40              | 18              | 62  | 36              | 18              |
| 500                | 62  | 40              | 20              | 62  | 36              | 20              |
| 750                | 62  | 40              | 20              | 62  | 36              | 20              |
| 1,000              | 62  | 53              | 20              | 62  | 36              | 20              |
| 1,500              | 62  | 53              | 24              | 62  | 36              | 24              |
| <mark>2,000</mark> | <mark>62</mark>   | <mark>53</mark> | <mark>24</mark> | <mark>62</mark>   | <mark>36</mark> | <mark>24</mark> |
| 2,500              | 62  | 53              | 24              | 62  | 36              | 24              |

The units' compartment dimensions shall meet the minimum dimensions as indicated below (Note this table is IV.M.1):

#### V. Transformer Losses

Transformers must meet current Department of Energy (DOE) transformer efficiency standards.

#### VI. Manufacturer's Tests and Test Reports.

- A. All transformers shall receive tests in accordance with the methods prescribed in ANSI Standard C57.12.90.
- B. Certified Test Reports.
   A certified test report shall be sent to the Purchasing Manager, City of Wilson,
   P.O. Box 10, Wilson, NC 27893. This report will include the following:
  - 1. Actual measured excitation losses and exciting current at a temperature of  $20^{\circ}$  to  $30^{\circ}$  C.
  - 2. Actual measured load losses including all associated stray losses and test current after temperature correction to 85° C.
  - 3. Actual measured impedance and impedance voltage after temperature correction to 85° C.
- C. Tolerance for Losses (removed)

#### VII. Liquidated Damage (removed)

#### VIII. Workmanship, Transportation, and Warranty.

- A. In addition to inspections and tests on parts and products, the manufacturer shall have a finished product quality audit program to assure a well-designed, safe, and durable product.
- B. Any design modifications, or modifications affecting the installation and operation of a transformer, electrical or mechanical, made following an award of an order must be submitted to Wilson Energy Electrical Engineering for approval before any transformer so modified shall be shipped.
- C. Transformers that are rejected by Wilson Energy for defects or non-adherence to specifications shall be returned to the supplier freight collect for a full refund.

#### **GENERAL TERMS AND CONDITIONS**

- 1. <u>DEFAULT</u>: In case of default by the vendor, the City of Wilson may procure the articles or services from other sources and hold the vendor responsible for any excess cost occasioned thereby.
- 2. <u>GOVERNMENTAL RESTRICTIONS</u>: In the event any Governmental restrictions are imposed which necessitate alternation of the material, quality, workmanship or performance of the items prior to delivery, it shall be the responsibility of the vendor to notify, in writing, the issuing purchasing office at once, indicating the specific regulation, which required such alternations. The City of Wilson reserves the right to accept any such alternations, including any price adjustments occasioned thereby, or to cancel the contract.
- **3.** <u>AVAILABILITY OF FUNDS</u>: Any and all payments to the vendor are dependent upon and subject to the availability of funds to the City for the purpose set forth in this agreement.
- 4. <u>TAXES</u>: Any applicable taxes shall be invoiced as a separate item. The City is not exempt from local or North Carolina sales tax.
- 5. <u>SITUS AND GOVERNING LAWS</u>: This Contract is made under and shall be governed and construed in accordance with the laws of the State of North Carolina, without regard to its conflict of laws rules, and within which state all matters, whether sounding in Contract or tort or otherwise, relating to its validity, construction, interpretation and enforcement shall be determined.
- 6. <u>PAYMENT TERMS</u>: Payment terms are Net not later than 30 days after receipt of a correct invoice or acceptance of goods, whichever is later. Invoices are preferred by the City to be sent by e-mail to <u>cowaccts@wilsonnc.org</u>
- 7. <u>NON-DISCRIMINATION</u>: The Vendor will take necessary action to comply with all Federal and State requirements concerning fair employment and employment of people with disabilities, and concerning the treatment of all employees without regard to discrimination on the basis of any prohibited grounds as defined by Federal and State law.
- 8. <u>CONDITION AND PACKAGING</u>: Unless otherwise provided by special terms and conditions or specifications, it is understood and agreed that any item offered or shipped has not been sold or used for any purpose and shall be in first class condition. All containers/packaging shall be suitable for handling, storage or shipment.
- **9. INTELLECTUAL PROPERTY WARRANTY AND INDEMNITY**: Vendor shall hold and save the City, its officers, agents and employees, harmless from liability of any kind, including costs and expenses, resulting from infringement of the rights of any third party in any copyrighted material, patented or patent-pending invention, article, device or appliance delivered in connection with The Contract.
- 10. <u>TERMINATION FOR CONVENIENCE</u>: If this contract contemplates deliveries or performance over a period of time, the City may terminate this contract at any time by providing 60 days' notice in writing from the City to the Vendor. In that event, any or all finished or unfinished deliverables prepared by the Vendor under this contract shall, at the option of the City, become its property. If the contract is terminated by the City as provided in this section, the City shall pay for those items for which such option is exercised, less any payment or compensation previously made.
- 11. <u>ADVERTISING</u>: Vendor agrees not to use the existence of The Contract or the name of the City as part of any commercial advertising or marketing of products or Services. A Vendor may inquire whether the City is willing to act as a reference by providing factual information directly to other prospective customers.

- **12.** <u>ACCESS TO PERSONS AND RECORDS</u>: An independent auditor shall have access to persons and records as a result of all contracts or grants entered into by the City of Wilson in accordance with General Statute 147-64.7.
- **13.** <u>ASSIGNMENT</u>: No assignment of the Vendor's obligations nor the Vendor's right to receive payment hereunder shall be permitted. However, upon written request approved by the issuing purchasing authority and solely as a convenience to the Vendor, the City may:
  - a) Forward the Vendors payment check directly to any person or entity designated by the Vendor, and
  - b) Include any person or entity designated by Vendor as a joint payee on the Vendor's payment check. In no event shall such approval and action obligate the City to anyone other than the vendor and the vendor shall remain responsible for fulfillment of all Contract obligations.
- 14. INSURANCE: \*A copy of Vendors Insurance Certificate is required to be submitted upon award.\*

**COVERAGE** - During the term of the Contract, the Vendor at its sole cost and expense shall provide commercial insurance of such type and with such terms and limits as may be reasonably associated with the Contract. As a minimum, the Vendor shall provide and maintain the following coverage and limits:

a) <u>Worker's Compensation</u> - The Vendor shall provide and maintain Worker's Compensation Insurance, as required by the laws of North Carolina, as well as employer's liability coverage with minimum limits of \$500,000.00, covering all of Vendor's employees who are engaged in any work under the Contract in North Carolina. If any work is sub-contracted, the Vendor shall require the sub-Contractor to provide the same coverage for any of his employees engaged in any work under the Contract within the State.

b) <u>**Commercial General Liability</u>** - General Liability Coverage on a Comprehensive Broad Form on an occurrence basis in the minimum amount of \$1,000,000.00 Combined Single Limit. Defense cost shall be in excess of the limit of liability.</u>

c) <u>Automobile</u> - Automobile Liability Insurance, to include liability coverage, covering all owned, hired and non-owned vehicles, used within North Carolina in connection with the Contract. The minimum combined single limit shall be \$250,000.00 bodily injury and property damage; \$250,000.00 uninsured/under insured motorist; and \$2,500.00 medical payment.

**REQUIREMENTS** - Providing and maintaining adequate insurance coverage is a material obligation of the Vendor and is of the essence of The Contract. All such insurance shall meet all laws of the State of North Carolina. Such insurance coverage shall be obtained from companies that are authorized to provide such coverage and that are authorized by the Commissioner of Insurance to do business in North Carolina. The Vendor shall at all times comply with the terms of such insurance policies, and all requirements of the insurer under any such insurance policies, except as they may conflict with existing North Carolina laws or The Contract. The limits of coverage under each insurance policy maintained by the Vendor shall not be interpreted as limiting the Vendor's liability and obligations under the Contract.

15. <u>GENERAL INDEMNITY</u>: The Vendor shall hold and save the City, its officers, agents, and employees, harmless from liability of any kind, including all claims and losses accruing or resulting to any other person, firm, or corporation furnishing or supplying work, Services, materials, or supplies in connection with the performance of The Contract, and from any and all claims and losses accruing or resulting to any person, firm, or corporation that may be injured or damaged by the Vendor in the performance of The Contract and that are attributable to the negligence or intentionally tortious acts of the Vendor provided that the Vendor is notified in writing within 30 days from the date that the City has knowledge of such claims. The Vendor represents and warrants that it shall make no claim of any kind or nature against the City's agents who are involved in the delivery or processing of Vendor deliverables or Services to the City. The representation and warranty in the preceding sentence shall survive the termination or expiration of The Contract.

- **16.** <u>CONFIDENTIALITY</u>: Any City information, data, instruments, documents, studies or reports given to or prepared or assembled by or provided to the Vendor under The Contract shall be kept as confidential, used only for the purpose(s) required to perform The Contract and not divulged or made available to any individual or organization without the prior written approval of the City.
- **17.** <u>COMPLIANCE WITH LAWS</u>: Vendor shall comply with all laws, ordinances, codes, rules, regulations, and licensing requirements that are applicable to the conduct of its business and its performance in accordance with The Contract, including those of federal, state, and local agencies having jurisdiction and/or authority.
- **18.** <u>ENTIRE AGREEMENT</u>: This document and any others incorporated specifically by reference represent the entire agreement between the parties and supersede all prior oral or written statements or agreements. This document, any addenda hereto, and the Vendor's proposal are incorporated herein by reference as though set forth verbatim.

All promises, requirements, terms, conditions, provisions, representations, guarantees, and warranties contained herein shall survive the contract expiration or termination date unless specifically provided otherwise herein, or unless superseded by applicable Federal or State statutes of limitation.

- **19.** <u>AMENDMENTS</u>: This Contract may be amended only by a written amendment duly executed by the City and the Vendor.
- **20.** FORCE MAJEURE: Neither party shall be deemed to be in default of its obligations hereunder if and so long as it is prevented from performing such obligations as a result of events beyond its reasonable control, including without limitation, fire, power failures, any act of war, hostile foreign action, nuclear explosion, riot, strikes or failures or refusals to perform under subcontracts, civil insurrection, earthquake, hurricane, tornado, or other catastrophic natural event or act of God.
- 21. <u>SOVEREIGN IMMUNITY</u>: Notwithstanding any other term or provision in The Contract, nothing herein is intended nor shall be interpreted as waiving any claim or defense based on the principle of sovereign immunity or other state or federal constitutional provision or principle that otherwise would be available to the City under applicable law.
- 22. <u>E-VERIFY</u>: Vendor understands that E-Verify is the federal E-Verify program operated by the United States Department of Homeland Security and other federal agencies, or any successor or equivalent program used to verify the work of authorization of newly hired employees pursuant to federal law in accordance with NCGS 64-25 et seq. Vendor is aware of and in compliance with the requirements of E-Verify and Article 2 of Chapter 64 of the North Carolina General Statutes. To the best of Vendor's knowledge, any subcontractors employed by it as a part of this contract are in compliance with the requirements of E-Verify and Article 2 of Chapter 64 of the North Carolina General Statute.
- **23.** <u>IRAN DIVESTMENT ACT CERTIFICATION</u>: Vendor certifies that, as of the date listed (2017), it is not on the Final Divestment List as created by the State Treasurer pursuant to N.C.G.S. Chapter 147 Article 6E. In compliance with the requirements of the Iran Divestment Act and N.C.G.S. Chapter 147 Article 6E, Vendor shall not utilize in the performance of the contract any subcontractor that is identified on the Final Divestment List.
- 24. <u>EVALUATION OF BID:</u> All qualified proposals/bids will be evaluated and award made to the firm(s) whose proposal/bid is deemed to be in the best interest of the City of Wilson, all factors considered. The City of Wilson reserves the right to reject any and all offers if determined in its best interest.
- 25. <u>BID/PROPOSAL PUBLIC RECORD:</u> All proposals/bids received become the property of the City of Wilson and information included therein or attached thereto shall become public record upon their

delivery to the city. Submission of a bid/proposal in response to a request constitutes acceptance of all terms and conditions and requirements contained in the request.

- **26.** <u>RECOMMENDATION OF AWARD:</u> The recommendation of award by city council represents a preliminary determination and not a legally binding acceptance of the bid or proposal until the city has executed a written agreement in a form agreeable by an authorized city official.
- **27.** <u>COST FOR PROPOSAL PREPARATION</u>: Any costs incurred by Vendor in preparing or submitting offers are the Vendor's sole responsibility; the City will not reimburse any Vendor for any costs incurred or associated with the preparation of proposals.
- **28.** <u>INSPECTION AT VENDOR'S SITE</u>: The City reserves the right to inspect, at a reasonable time, the equipment, item, plant or other facilities of a prospective Vendor prior to Contract award, and during the Contract term as necessary for the City's determination that such equipment, item, plant or other facilities conform with the specifications/requirements and are adequate and suitable for the proper and effective performance of the Contract.
- **29.** <u>PRICE ADJUSTMENTS:</u> A requested <u>price increase</u> may only become effective after approval of the Purchasing Manager in writing. Price increases will need to have sufficient justification as to the reason why the increase is being requested. The City will need 30 days written notice before price increases can become effective, failure to notify the City of a price increase will result in payment of invoice at prior written contracted/agreed upon pricing until the conditions are met. A <u>price decrease</u> will only need to be communicated to the Purchasing Manager for documentation purposes.
- **30.** <u>BRAND NAME REFERENCES:</u> Brand names identified herein are a reference point for bidders to have knowledge or an idea of what is being requested. Alternative/Equivalent options will be considered once drawings and specifications are submitted. Alternatives are required to be approved by City of Wilson/Wilson Energy Engineering Staff.
- **31.** <u>VENDOR REGISTRATION:</u> All vendors (new, current or potential) must register with our Vendor Registration system through Vendor Registry at the following link. <u>https://vrapp.vendorregistry.com/Vendor/Register/Index/city-of-wilson-nc-vendor-registration</u>

**Remainder of page intentionally left blank** 

## **Bid Sheet** (Required)

**Item information:** (The city reserves the right to order any quantity based on each pricing. Multiple vendors may be awarded based on pricing, lead times, specs, and other potential factors taken into consideration.) Vendors may bid on any variation of the below, please respond no bid in price column if pricing cannot be provided. If vendor is not on the approved list, please attach transformer specifications to the end of your bid submittal.

| City of Wilson<br>Catalog<br>Number | kVA<br>Size | Primary Voltage | Secondary<br>Voltage | Price (Each)<br>without taxes |
|-------------------------------------|-------------|-----------------|----------------------|-------------------------------|
| N/A                                 | 2,000       | 12,470/7,200    | 480 / 277            | \$                            |

| Delivery Cost per transformer (if applicable) \$          |  |  |  |  |
|---|--|--|--|--|
| Lead Time (estimated in weeks):                           |  |  |  |  |
| Company Name:   |  |  |  |  |
| Company Address:  |  |  |  |  |
| Contact Person:   |  |  |  |  |
| Telephone Number:   |  |  |  |  |
| E-mail address  |  |  |  |  |
| Number of Addendums Acknowledged (circle one) N/A 1 2 3 4 |  |  |  |  |
| Authorized Signature:                                     |  |  |  |  |
| Print Name of Authorized Signature:                       |  |  |  |  |
| Title:  |  |  |  |  |
|   |  |  |  |  |

\*Please attach specifications to bid submittal package. Exceptions or alternates to any of the specifications may be considered, please list if any on an attached page to your bid submittals\*