



**CITY OF LEESBURG
FLORIDA**

INVITATION TO BID (ITB)

ITB TITLE: FURNISH & INSTALL POWER TRANSFORMER

ITB Number:	<u>130351</u>	Contracting Buyer:	<u>Stephanie Lay</u>
Bid Due Date:	<u>May 23, 2013</u>	Site Visit Date:	<u>May 2, 2013</u>
Bid Due Time:	<u>2:00 P.M.</u>	Issue Date:	<u>April 23, 2013</u>

Project Budget/Cost Estimate: \$868,000.00

Brief Description / Purpose

The work shall include furnishing all equipment and materials, as set forth in the Invitation to Bid and as specified herein.

Bids will be received on one (1) schedule for a power transformer. The Owner intends to purchase one (1), three-phase, 67,000 to 13,090 / 7,560 volt, LTC, power transformer for the Center Substation equipped as evaluated with any or all deducts. The transformer is to be rated 18/24/30/36.6 KNAN/ KNAF/ KNAF (55C) KNAF (65C). The Owner reserves the right to reject any or all Proposals and to select any or all schedules or combinations or portions thereof listed in the Cost Proposal.

Bid Package Distribution

The City of Leesburg uses Public Purchase (www.publicpurchase.com) to distribute and receive bids and proposals. There is no charge to vendors/contractors to register and participate in the solicitation, nor will any fees be charged to the awarded vendor. Refer to www.leesburgflorida.gov/purchasing/bids.aspx to view and/or obtain solicitation documents or for further information.

The Public Purchase website is the official location used by the City for posting of solicitation documents, addendums, questions/answers and other related material. Vendors obtaining documents from other sources are reminded those sources are not authorized distribution points and may not have the most current information. The City will not be held liable or be bound by solicitation information obtained from other sources.

Registration with Public Purchase **is required** in order to download and view solicitation documents. Should time not permit please contact the Purchasing Division at (352) 728-9880 or by e-mail at purch@leesburgflorida.gov to obtain a solicitation document(s).

SECTION 1 – Special Terms and Conditions

CITY OF LEESBURG, FLORIDA INVITATION TO BID (ITB)

No: 130351

“67 TO 15 KV Power Transformer for East Substation”

The City of Leesburg is inviting bids from licensed vendors to provide a 67 to 15 KV power transformer for the East 69 to 15 KV Substation in accordance with ITB Terms and Conditions, and Specifications (Section 2). The work shall include furnishing all equipment and materials.

1. **Information or Clarification**

For information concerning procedures for responding to this ITB, technical specifications, etc., utilize the question & answer feature provided by Public Purchase. Such contact shall be for clarification purposes only. Material changes, if any, to the scope of services or solicitation procedures will be valid only if transmitted by written addendum (See addendum section of Public Purchase Site). No variation in price or conditions shall be permitted based upon a claim of ignorance. Submission of a bid will be considered evidence that the Bidder has familiarized themselves with the nature and extent of the work, and the equipment, materials, and labor required.

2. **Eligibility**

To be eligible to respond to this ITB, the contractor submitting the bid shall submit with their bid no less than six (6) references which shall include the name of the company, a contact person, telephone number, fax number, and e-mail address for the company that you have provided services for in the past. Use the Statement of Experience form in Section 4 “Forms” provided in this bid package to list references. **BIDS NOT CONTAINING THE REQUESTED NUMBER OF REFERENCES MAY BE DEEMED NON-RESPONSIVE.**

Bidders are reminded to submit sealed bids only on the forms provided. No Bid submitted may be withdrawn after the scheduled closing time for the Bid for a period of ninety (90) days.

Bidders are cautioned to check their bid carefully. Ensure all forms are fully completed and submitted with your bid in accordance with the instructions. Failure to do so may result in your bid not being considered for award.

3. **Purpose**

The purpose of this solicitation is to purchase one (1) three-phase, 67,000 to 13,090/7560 volt, LTC power transformer for the City of Leesburg Electric Department’s Center Street Substation. Transformer shall be equipped as evaluated with any or all deducts.

4. **Designated Procurement Representative**

Questions concerning any portion of this solicitation shall be directed in writing [fax and e-mail accepted.] to the below named individual who shall be the official point of contact for this solicitation.

Questions should be submitted no later than five (5) working days before the bid opening date.

Stephanie Lay, Buyer
City of Leesburg | Purchasing Department
204 N. 5th Street, Leesburg, FL 34748
Phone: 352-728-9880 | Fax: 352-326-6618
E-mail: purch@leesburgflorida.gov

No answers given in response to questions submitted shall be binding upon this solicitation unless released in writing as an addendum to the solicitation by the Purchasing Department for the City of Leesburg.

5. **Pre-Bid Conference/Site-Visit** - An initial “Non-Mandatory” pre-bid conference and site visit will be held on

May 2, 2013, at 1:00 P.M.

at Center Substation, 399 North 14th Street, Leesburg, Florida 34748 (corner of Center Street and 14th Street (US Highway 27)) to discuss the conditions and specifications included within this solicitation. Subsequent site visits will be held on. This is the only designated time contractors and their sub-contractors will be permitted access to the project site. Come prepared to take measurements, pictures, and perform any other site investigation required for you to submit an informed and accurate bid response.

Vendors are requested to bring this solicitation document to the conference, as additional copies may not be available. Also, attendees should have ladders and equipment need for measuring, as this may be their only opportunity.

Prior to submitting a bid it is advisable that the vendor visit the site of the projected work and become familiar with any conditions which may in any manner affect the work to be done or affect the equipment, materials and labor required. The vendor is also advised to examine carefully the specifications and to become thoroughly aware regarding any and all conditions and requirements that may in any manner affect the work to be performed under the contract. No additional allowances will be made because of lack of knowledge of these conditions. For any additional information regarding the specifications and requirements of this bid contact the purchasing representative, Stephanie Lay, at 352-728-9880.

6. **Method of Award - To a Single Vendor in the Aggregate**
Bids will be evaluated based on the ‘Cost of Ownership’ calculation defined in the Technical Specifications. The City will award to a single vendor.
7. **Method of Payment** - All invoices shall contain the purchase order number, date and location of services performed and confirmation of acceptance by the appropriate City representative.

Failure to submit invoices in the prescribed manner will delay payment.

Payments shall be tendered in accordance with the Florida Prompt Payment Act, Part VII, Chapter 218, Florida Statutes.

8. **Bid Response Guarantee** - A certified or cashier's check on a national or state bank, or a bid bond executed by a surety firm acceptable to the Owner for not less than five percent (5%) of the total amount of the bid, made payable to the City of Leesburg, shall accompany each Bid Response as guarantee that the Bidder will, if awarded the contract, promptly enter into agreement to do the work and furnish the required Performance and Payment Bond. **LETTERS OF CREDIT OR ANY OTHER BID GUARANTY INSTRUMENT WILL NOT BE ACCEPTED.**
9. **Return of Bid Response Guarantees** - As soon as the Bid Responses have been evaluated, the City of Leesburg may, at its discretion, return or release the guarantee deposits accompanying such Bid Responses, as in its judgment, would not likely be considered in making the award. All other Bid Response guarantees will be held until the contract and bond have been executed, after which any sums of money representing security deposits will be returned to the respective Bidders whose Bid Responses they accompanied. Bid Bonds will not be returned unless requested.
10. **Guaranty of Faithful Performance and Payment** - A Performance and Payment Bond written by a Surety firm satisfactory to the City of Leesburg on the forms attached hereto which comply with Section 255.05(1), Florida Statutes, will be required of the successful Bidder to guarantee that he will deliver a complete project under his Contract in strict accordance with the Contract Documents and that he will pay promptly all persons supplying him with labor or materials for the work.

The Performance and Payment Bond shall be for an amount not less than the Total Contract Price as agreed to by both parties. The cost of this bond shall be included in the price bid in the Bid Response.

This bond shall be substantially in the form provided herein and written by a qualified Surety firm and through a reputable and responsible surety bond agency licensed to do business in the State of Florida and Lake County and meet the following requirements:

The Surety must be rated as "A" or better as to strength by Best's Insurance Guide, published by Alfred M. Best Company, Inc., 75 Fulton Street, New York, New York.

Bonding Limit - Any One Risk: The Bonding Limit of the Surety shall not exceed ten (10) percent of the policy holder's surplus (capital and surplus) as listed by the aforementioned Best's Insurance Guide. The completed Bond shall be executed in four (4) counterparts and delivered to the City of Leesburg with the required Power-of-Attorney and with the executed contract as required below in Article IB-Q or these Instructions to Bidders.

11. **Power of Attorney** - Attorneys-in-Fact, who sign Bid Bonds and Performance or Payment Bonds, must file with such bonds a certified copy of their power of attorney to sign such bonds.
12. **Acceptance of Goods or Services** - The goods delivered as a result of an award from this solicitation shall remain the property of the contractor, and services rendered under the contract will not be deemed complete, until a physical inspection and actual usage of the product(s) and/or service(s) is (are) accepted by the City and shall be in compliance with the terms herein, fully in accord with the specifications and of the highest quality.

Any goods and/or services purchased as a result of this solicitation and/or contract may be tested and/or inspected for compliance with specifications. In the event that any aspect of the goods or

services provided is found to be defective or does not conform to the specifications, the City reserves the right to terminate the contract or initiate corrective action on the part of the vendor, to include return of any non-compliant goods to the vendor at the vendor's expense, requiring the vendor to either provide a direct replacement for the item, or a full credit for the returned item. The vendor shall not assess any additional charge(s) for any conforming action taken by the City under this clause. The City will not be responsible to pay for any product or service that does not conform to the contract specifications.

In addition, any defective product or service or any product or service not delivered or performed by the date specified in the purchase order or contract, may be procured by the City on the open market, and any increase in cost may be charged against the awarded contractor. Any cost incurred by the City in any re-procurement plus any increased product or service cost shall be withheld from any monies owed to the contractor by the City for any contract or financial obligation.

This project will be inspected by an authorized representative of the City. This inspection shall be performed to determine acceptance of work, appropriate invoicing, and warranty conditions.

13. Delivery of Solicitation Response

To be considered for award, a bid or proposal must be received and accepted in the Purchasing Division prior to the date and time established within the solicitation. Allow sufficient time for transportation and inspection.

Each package shall be clearly marked with the applicable solicitation number, title, and company name. Ensure that your bid or proposal is securely sealed in an opaque envelope/package to provide confidentiality of the bid or proposal prior to the solicitation closing.

Delivery IN PERSON	THIRD PARTY CARRIER i.e., Fed-Ex, UPS
PURCHASING DIVISION CITY OF LEESBURG 204 N. 5TH STREET LEESBURG, FLORIDA	PURCHASING DIVISION CITY OF LEESBURG 204 N. 5TH STREET LEESBURG, FLORIDA 34748

FACSIMILE (FAX) OR ELECTRONIC SUBMISSIONS (E-MAIL) WILL NOT BE ACCEPTED.

14. Completion Requirements for Invitation to Bid - One (1) signed original bid and Three (3) complete copies of the bid submitted by the vendor shall be sealed and delivered to the Purchasing Division no later than the official bid opening date and time. Any bid received after this time will not be considered and will be returned unopened to the submitter. The City is not liable or responsible for any costs incurred by any Bidder in responding to this ITB including, without limitation, costs for product and/or service demonstrations if requested.

When you submit your bid, you are making a binding offer to the City and are agreeing to all of the terms and conditions in this Invitation to Bid. Use only the form(s) provided in this document. If you make any change to the content or format of any form, the City may disqualify your offer. All

information shall be legible and either written in ink or typewritten. If you make a correction or change on any document, the person signing the bid or proposal must initial the change. The bid shall be manually signed by an official authorized to legally bind the Bidder to its provisions.

COMPLETION OF BID PACKAGE: The vendor shall complete all required entries in Section 4 of the bid form such as, but not limited to, pricing pages, signature, certifications, references, and acknowledgement of any solicitation addenda. The vendor shall submit the entire solicitation with all Section 4 entries completed in the number of copies specified to the address specified in this solicitation. The vendor shall also submit any supporting documents (to include proof of insurability and provision of bid bonds as required), samples, and/or descriptive literature required by any of the provisions in Section 2 of the solicitation in a separate sealed envelope/package marked "Literature for Bid (Number)." Do not indicate bid prices on literature.

Specific Completion Directions:

- Pricing shall be completed by inserting the base price and on the schedule of bid items provided in this solicitation.
- Initial and date in **BLUE INK** the appropriate space(s) for each addendum you received for this ITB.
- Complete all certifications included within Section 4 of the solicitation.
- Complete the reference information sheets (include at least three references) contained within the solicitation.
- Complete the vendor information, and sign the bid (IN BLUE INK) in the spaces provided in Section 4 of the solicitation.
- If insurance is required, submit either a certificate of insurance, or evidence of insurability, that is in compliance with the stated insurance requirements.
- Include an acceptable Bid Guaranty instrument, bid bond or certified/cashiers check for 5% of the total bid amount.

15. Furnish and Install Requirements

The specifications and/or statement of work contained within this solicitation describe the various functions and classes of work required under this contract. Any omissions of inherent technical functions or classes of work within the specifications and/or statement of work shall not relieve the bidder from furnishing, installing or performing such work where required for the satisfactory completion of the work.

16. Labor, Materials, and Equipment shall be Supplied by the Vendor

Unless otherwise stated in this solicitation the vendor shall furnish all labor, material and equipment necessary for satisfactory contract performance. When not specifically identified in the technical specifications, such materials and equipment shall be of a suitable type and grade for the purpose. All material, workmanship, and equipment shall be subject to the inspection and approval of the City's representative.

17. Tie Bids

In the case of a tie in the best and final bid/offer between a Local Business Enterprise and a non-local business, contract or purchase award shall be made to the local business. Should there be a tie between one or more Local Business Enterprises the Local Business Enterprise closest to City of

Leesburg City Hall located at 501 West Meadow St. as determined by the Purchasing Manager shall be awarded the contract or purchase.

[End of Section]

SECTION 2 – SPECIFICATIONS & SPECIAL CONDITIONS

SPECIFICATIONS FOR A THE CENTER 69 TO 15 KV SUBSTATION

67 TO 15 KV POWER TRANSFORMER

CITY OF LEESBURG LEESBURG, FLORIDA

SPECIFICATIONS AND BID DOCUMENTS FOR A 67 TO 15 KV POWER TRANSFORMER

TECHNICAL SPECIFICATIONS

1.0 Scope

The work shall include furnishing all equipment and materials, as set forth in the Invitation to Bid and as specified herein.

Bids will be received on one (1) schedule for a power transformer. The Owner intends to purchase one (1), three-phase, 67,000 to 13,090 / 7,560 volt, LTC, power transformer for the Center Substation equipped as evaluated with any or all deducts. The transformer is to be rated 18/24/30/36.6 KNAN/ KNAF/ KNAF (55C) KNAF (65C). The Owner reserves the right to reject any or all Proposals and to select any or all schedules or combinations or portions thereof listed in the Cost Proposal.

2.0 General Conditions

- 2.1 All materials and equipment shall be new and shall be manufactured in the continental United States. Manufacturers must be approved by the Owner's Engineer.
- 2.2 A Panasonic Toughbook Laptop is specified in this specification. It is the intent of the owner to have the factory load the laptop with any and all information about the transformer including: ***all drawings, schematics, software for IED's, photographs of assembly, test results and anything that pertains to the manufacture of the transformer.***
- 2.3 These Specifications describe the type, size, and characteristics of the various materials and equipment required to be furnished, and the Drawings indicate general arrangement, equipment location, and spacing.
- 2.4 Strict adherence to these Specifications and Drawings is requested to facilitate review and consideration of the Proposal.
- 2.5 Proposals shall include the following:

- 2.5.1 For all equipment not directly specified, Catalog numbers, manufacturer, ratings, characteristics, types, sizes, etc., of all materials and equipment included. A simple statement that all necessary materials and equipment will be provided is not satisfactory.
- 2.5.2 Performance data for the several items as set forth in the Technical Specifications.
- 2.5.3 The Bidder shall state in his Proposal the manner in which the transformers will be shipped--namely, truck or rail; whether units shall be oil-filled or dry-air-filled; and whether bushings will be installed or removed.
- 2.5.4 Prices shall include the cost of delivery to the substation site, unloading, and assemble as per these Specifications.
- 2.5.5 Delivery of the power transformer will be made to Center Substation 399 North 14 St., Leesburg, Florida 34748.
- 2.6 It is the intent of these Specifications that each transformer shall be complete and fully operable, once re-assembled. Any details not mentioned in the Specifications but required for satisfactory operation shall be furnished and installed by the Materialman.
- 2.7 Station power available at the Owner's substation will be 120/240 volts ac, 60 Hz, single-phase. Control voltage at the substation site will be 125 volts dc. The equipment on the transformer shall coordinate with these voltages as appropriate.

3.0 Special Conditions

- 3.1 Indemnity Provisions - The Bidder shall hold harmless and indemnify the Owner, its agents, and employees from any and all claims, suits, and proceedings for infringement of any patent or patents covering materials and equipment purchased hereunder. The Bidder shall defend any suit or proceeding brought against the Owner, its agents, or employees based upon a claim that the materials and equipment or any part thereof constitute an infringement of any patent, or if the Bidder shall fail to defend such suit or proceeding, the Owner may do so and the Bidder shall make reimbursement for the expense of such litigation. If the materials and equipment or any part thereof are held to constitute infringement and the use thereof is enjoined, the Bidder shall, at its own expense, either procure for the Owner the right to continue to use the materials and equipment, or such part thereof, or shall replace the materials and equipment, or such part thereof, with non-infringing materials and equipment.
- 3.2 Defective Materials, Equipment, and Workmanship
 - 3.2.1 All materials and equipment furnished hereunder shall be subject to the inspection, tests, and approval of the Owner and the Bidder shall furnish all information required concerning the nature or source of any materials and equipment and provide adequate facilities for testing and inspecting the materials and equipment at the plant of the Bidder.

3.2.2 The materials and equipment furnished hereunder shall become the property of the Owner when delivered (in the case of the transformer ownership is established after delivery, assembly and testing) at the point to which shipment is to be made, provided, however, that the Owner may reject any such materials and equipment that do not comply with the Specifications for materials and equipment and warranties of the Bidder and manufacturers. Recognition and subsequent rejection of any defective materials and equipment may occur either before or after incorporation of such materials and equipment into the facilities, provided such rejection is made within one year of date of delivery of the materials and equipment. Upon any such rejection, the Bidder shall replace the rejected materials and equipment with materials and equipment complying with the materials and equipment and warranties, FOB truck at suitable destination. The Owner shall return the rejected materials FOB truck at the same destination. In the event of the failure of the Bidder to so replace rejected materials and equipment, the Owner may make such replacement, and the cost and expense thereof shall be paid by and recoverable from the Bidder.

3.3 Warranty

The transformer(s) to be provided herein shall include a full five (5) year warranty on the complete transformer together with all parts. The warranty shall extend for five (5) years from the date of acceptance by the City. Bid responses not providing a five (5) year warranty shall be deemed non-responsive and not considered for award. Bidder shall include the cost of the warranty in their bid price.

4.0 Standards

All equipment and materials covered by these Specifications and all tests applied thereto shall, unless otherwise stated herein, be in accordance with the applicable provisions of the latest editions of the Standards of the ASTM, ANSI, AEIC, NEMA, OSHA, IEEE, and the latest revision in the National Electrical Safety Code.

Where the term "Standards" is used in the Specifications, it shall be understood to refer to the above Standards.

5.0 Drawings

5.1 Preliminary

Before proceeding with fabrication, the manufacturer shall submit for approval sufficient Drawings to demonstrate that all parts conform to the requirements and intent of these Specifications. The Drawings shall include four (4) copies each of Outline, Nameplate, Control, and Elementary and Control Wiring Drawings, relay panel front view, bushing and bushing terminal connectors and arresters. Approval Drawings shall be submitted directly to the Owner, Substation Department, City of Leesburg, 2010 Griffin Rd., Leesburg, Florida 34748.

Each sheet of each set of Drawings shall be labeled: "City of Leesburg" in addition to other identifying information.

The Outline Drawings shall show dimensions of equipment, including bushings, radiators and cooling equipment, base, and all other important external features. These Drawings shall show weights, bushings, catalog numbers, and ampere ratings, description of top bushing terminals, and arrangement of all external accessory devices. All dimensions shall be stated in inches or feet and inches.

Approval of Drawings shall not be held to relieve the manufacturer of obligations to meet all requirements of the Specifications, of responsibility for correctness of the Drawings, or responsibility to meet original shipping promise on basis of customer's being allowed two weeks for approval. Receipt of Approval Drawings by the Materialman constitutes authorization for manufacture only, based upon corrections found thereon.

5.2 Final Drawings

Contingent upon Approval Drawing review and product manufacture, the Materialman shall issue final documentation for the transformer as follows:

- 5.2.1 One (1) complete set of all Drawings, revised to "as-built" status, released on paper media.
- 5.2.2 Two (2) complete sets of all Drawings, revised to "as-built" status, released on two (2) separate CD-ROMs, compatible with AutoCad, Release 2009.
- 5.2.3 Five (5) copies of applicable instruction books, including one (1) print each of all Drawings representing physical and electric details as furnished per paragraph 5.2.1.
- 5.2.4 Two (2) copies of certified test reports corresponding to functional performance measurements after final assembly.

All Drawings are to be certified correct and supplied within a reasonable length of time prior to shipment of the equipment. Each set of Drawings and documentation shall include the following information:

- 5.2.5 Outline and Assembly Drawings showing size and location of major components and all principal dimensions.
- 5.2.6 Control and relay panel front view.
- 5.2.7 Details of bushing and bushing terminal connectors.
- 5.2.8 Diagram of bushing current transformers, connection, number of turns, polarity marking, ratios, and bushing orientation.
- 5.2.9 Current transformer performance characteristic curves and data for all relay accuracy CTs.
- 5.2.10 Details of control housing.
- 5.2.11 Panel connection diagram showing exact connection for all components furnished.

- 5.2.12 Ac and dc elementary circuit diagrams for all relay and control equipment furnished.
- 5.2.13 Wiring control and schematic diagrams.
- 5.2.14 Instruction books.
- 5.2.15 Renewal parts catalog.
- 5.2.16 Two (2) copies of certified test reports bound in a binder and an electronic copy.
- 5.2.17 In addition to the above, all drawings, manuals, outlines, curves, details, schematics shall be loaded on the Toughbook Laptop required in this specification.

6.0 Shipping of Transformer

- 6.1 Transformer shall be shipped to Center Substation and installed on the concrete pad (or temporary timbers) by the Bidder. The Bidder will be responsible for the supervision of reassembly, including field-testing of each unit.
- 6.2 The Bidder may choose to use a third-party Materialman to provide equipment and labor to perform dress-out and field testing of the transformer. Only qualified and experienced Materialmen may be so employed. The Bidder will remain responsible for the outcome and quality of the Materialman's work. Field work performed by the Materialman shall be performed under the supervision of the Bidder's Field Service Engineer.
- 6.3 The prices quoted shall include delivery of the equipment F.O.B. Point of Delivery to the substation site and unloading onto a permanent concrete pad (or temporary arrangement of timbers supplied by the Bidder). The Materialman shall include the cost of each unit, complete rigging, and setting in place, utilizing a hydraulic crane of a least twice the capacity of the weight of the transformer. High-voltage bushings, oil, radiators, etc., not installed prior to shipping will be installed by the Materialman, subsequent to delivery. The Materialman shall provide a Field Service Engineer to supervise the dress-out of removed parts and field testing as outlined in the Specifications. All work shall be performed in an active energized station, but on de-energized equipment.
- 6.4 Coordinated shipment shall be made to reduce storage by the City and to facilitate the accumulation of component parts. Small partial shipments at scattered times will not be acceptable. In the event that delays occur, the Materialman shall be responsible for all shipping demurrage unless such delays are caused solely by the City.
- 6.5 Delivery of all items of equipment shall be made at such time as to permit unloading between the hours of 9:00 a.m. and 3:00 p.m., Monday through Thursday, holidays excluded. Ultimate delivery shall be at the discretion of the City. All components for the transformer shall be delivered at one time.
- 6.6 Before shipment, transformer shall be completely assembled to determine that all parts fit properly. Parts removed for shipment shall be marked so as to permit easy identification when reassembling.

- 6.7 Method of packing and loading shall be such as to protect all parts from dampness, corrosion, breakage, or vibration injury that might reasonably be encountered in transportation, storage, and handling.
- 6.8 All Loose Shipped Items (see Section 9.31 and following) are to be sent directly to the City via Fed-EX or UPS. The shipment of this equipment does not have to coordinate with the shipment or delivery of the transformer itself.
- 6.9 Release for shipment is to be granted by either the Owner or the Owner's Engineer based upon the manufacturer's compliance with the following:
1. Three (3) weeks notification of tests, so the Owner may have a representative present for witness of the tests.
 2. Furnishing of the requisite number of copies of the Final Drawings as called for in the Specifications. Furnishing of the requisite number of copies of the test reports as called for in the Specifications.
 3. Thirty (30) days notification of tentative shipping schedule and three (3) days notification prior to delivery.
 4. The Materialman will also disclose to the City, thirty (30) days in advance, the local crane service company selected for off-loading, so the City may contract with this same company for removal of the existing transformer at the Substation.
- 6.10 A three-direction impact recorder shall be installed on the transformer for shipment and shall remain on the unit until it is unloaded on the transformer pad. The impact recorder shall measure longitudinal, lateral, and vertical motion. The impact recorder shall be read prior to unloading, at the rail siding prior to unloading if applicable, on the trailer prior to transportation to the site, and after arrival at the site. This impact recorder is have remote GPS locating. The information as to how to access the GPS location during transit must be supplied before the transformer leaves the factory.

Based on an impact recorder indicating on a scale of 1.0 to 5.0, the following will be utilized as a grading scale:

- 6.10.1 Any reading in any direction past Zone 3.0 will indicate the need for close visual inspection by the manufacturer's representative.
 - 6.10.2 Any reading in any direction past Zone 4.0 may be grounds for internal inspection.
 - 6.10.3 Any reading in any direction past Zone 5.0 may be grounds for return shipment and rejection of the unit.
- 6.11 Transformer shall be shipped by rail or truck, oil-filled (if possible) with the low-voltage bushings installed. Manufacturer shall state method of shipment, if other than specified, and this shall be evaluated when awarding the Contract. The Owner prefers that the transformer be shipped oil-filled with the low-voltage bushings installed. The main tank

will be over-filled to account for the volume of oil required for radiators. If shipped by rail, Hydra-Cushion rail car shall be utilized.

If the transformer is not shipped oil-filled, it shall be shipped dry-air-filled and equipped with proper pipe connections for checking and filling under vacuum. The oil shall be shipped by tanker with the unloading facility (pump) furnished. The unloading facility shall have been flushed free of undesirable contaminants by flushing with the same type oil provided for the transformer. The Materialman shall furnish all equipment, labor and supervision required for oil filling, and the Materialman shall coordinate timing and arrangements.

6.12 Type of shipment (oil-filled or dry-air-filled) shall be specified in the Proposal.

7.0 Manufacturer's Field Representative

The manufacturer shall provide (and include in his base quotation) the services of a Field Service Engineer for a period of five (5) working days at the site. The manufacturer is responsible for all travel time. The duties of the Field Service Engineer shall include supervising installation of component parts removed for shipment, which may include but not be limited to bushings, radiators, lightning arresters, and oil. He shall perform field tests after assembly including (but not limited to) (1.) insulation test, (2.) turns ratio test for all taps, (3.) dielectric tests, (4.) functional testing of alarms and controls, and (5.) PCB Oil Testing (before and after site oil filling, if applicable). The Manufacturer's representative will draw oil sample(s) from the unit, and will be responsible for conducting (1.) ASTM dielectric test and (2.) dissolved gas tests, to establish initial bench mark controls for future transformer maintenance. Reports shall be mailed in duplicate to the Owner and the Owner's Engineer for reference. Additional time required (or credit for time not worked) shall be provided at the per-day rate quoted in the Materialman's Proposal. Exceptions taken to the testing performed, as outlined above, may result in rejection of the Bidder's quotation.

8.0 Transformer

The following requirements shall apply to all Bid Schedules except where explicitly noted otherwise.

8.1 Type and Rating

The transformer shall be 60 Hertz, suitable for outdoor service at an altitude less than one kilometer (3300 feet) above sea level.

For Schedule No. 1, the transformer high voltage shall be 67,000 volts delta at 350 kV BIL. The transformer low voltage shall be 13,090/7,560 volts wye, 110 kV BIL. High voltage shall lead low voltage by 30° phase angle. The transformer will be operated with the neutral tied solidly to ground. All windings shall be copper. Windings shall be cylindrical (no exceptions).

The transformer shall be oil-immersed for continuous self-cooled/forced air/forced air cooled operation KNAN/KNAF/KNAF with two (2) stages of fan cooling and shall be furnished complete with oil. Fans shall be included with the transformer; operating voltage for fans shall be 230 volts, single-phase, and shall be thermally protected against overload failure.

Transformer ratings, when loaded in accordance with the latest ANSI C57.91 "Guide for Loading Oil-Immersed Transformers," shall be as follows:

Cooling	Schedule 1 Rating (kVA)
55°C rise, KNAN	18,000
55°C rise, KNAF	24,000
55°C rise, KNAF/KNAF	30,000
65°C rise, KNAN/KNAF/KNAF	33,600

The transformer shall be capable of carrying rated current continuously at five percent (5%) above rated secondary voltage without exceeding an average winding temperature rise of 55°C above a 40°C maximum ambient and 30°C average ambient over twenty-four hours.

The transformer shall be 55/65°C construction where the winding temperature rise by resistance will not exceed 55°C; hottest -spot winding temperature rise will not exceed 65°C; suitable for loading in accordance with latest edition ANSIC57.91 "Guide for Loading Oil-Immersed Transformers."

Winding temperature rise by resistance will not exceed 65°C; hottest -spot winding temperature rise will not exceed 80°C; suitable for loading in accordance with the latest revision of NEMA "Guide for Loading Oil-Immersed Power Transformers with 65°C Average Winding Rise", Pub. No. TR98.

The transformers to be provided shall have full capacity, high voltage taps, at rated kVA, and shall be provided as follows:

Schedule No. 1
<u>69 kV Taps</u>
70,350 volts
68,675 volts
67,000 volts
65,325 volts
63,650 volts

A weatherproof external hand-operated tap-changing mechanism shall be provided, suitable for de-energized operation, with one (1) external handle that may be operated from the transformer base level and have provision for locking in any position. An external indicator shall clearly display the tap position that is set.

8.2 Case and Cover

8.2.1 The transformer tank design shall observe the following criteria for location of external equipment and accessory hardware:

- 8.2.1.1 The control cabinet housing all low voltage wiring associated with current transformer secondary's, automatic fan control, alarms, LTC control, etc. shall be located on the side of the tank in Segment 1 as identified by ANSI C57.12.10.
- 8.2.1.2 The LTC compartment shall be located on Segment 2 as identified by ANSI C57.12.10.
- 8.2.1.3 The control cabinet arrangement must provide any substation operator a clear and unobstructed view of the LTC position while standing at the control cabinet operating panel. If the mechanical LTC position indicator does not afford this, it may be accomplished by a remote LTC position indicator, including the indication provided on the display of the voltage regulator controller.
 - 8.2.1.4 Auxiliary cooling equipment including radiators, fans, and pumps, shall be located on the side of the tank in either Segment 3 or Segment 4 as identified by ANSI C57.12.10. Placement of radiators shall not obstruct the operator's view of any indicating dial or gauge located within Segment 1 of the transformer.
 - 8.2.1.5 Final placement of the control cabinetry, LTC compartment, LTC position indicator, radiators, and all other external auxiliary equipment shall be subject to the approval of the City or the City's Engineer. Relocation of these components will be required only as necessary to physically comply with standard facilities design for foundations, oil containment systems, and surrounding substation structures.
- 8.2.2 The main tank and LTC compartment shall be designed and braced for full vacuum and shall be suitable for filling with oil under a vacuum of twenty-eight inches (28") of mercury in the field.
- 8.2.3 Containing cases shall not leak oil. Welded joints and seams shall be employed wherever practicable.
- 8.2.4 Main transformer cover shall be welded. Gasketed joints for manhole covers, bushings, and other bolted attachments shall be sealed with a durable and reusable gasket material (ordinary cork or corkprene not approved) and shall be designed to permit their being made oil-tight in reassembly. Mechanical stops shall be provided to prevent crushing (controlled compression).
- 8.2.5 Transformer base shall be suitable for skidding the transformer in a direction parallel to either center line of the tank and shall be capable of supporting the transformer on two (2) pier foundations.
- 8.2.6 All surfaces of case and covers, both exterior and interior, shall be thoroughly cleaned by means of shot-blasting or by any other equally effective method. Primer and at least three (3) coats of exterior

paint are to be applied. Total paint thickness on the transformer tank and control box shall be 5 mils, minimum. Total paint thickness on the transformer radiators shall be 3 mils, minimum. Interior of tank shall be painted white.

- 8.2.7 The exterior surface of all bolts, nuts, and washers shall be primed and painted as above or such parts shall be stainless steel or galvanized. No exposed cadmium-plated or zinc chromate-plated parts will be allowed.
- 8.2.8 Paint shall be standard light gray epoxy, ANSI No. 70, and certified leadfree.
- 8.2.9 The bottom of the transformer tank shall not bear on the concrete pad in the finished installation. The bottom shall be primed and painted as described above. Flat-bottom transformers shall be furnished with supporting spacer beams welded to the tank. The dimensions and locations of these beams shall be shown in the manufacturer's Drawings.
- 8.2.10 Mounting brackets shall be supplied along the transformer tank as necessary to support 4/0 AWG copper grounding conductor from the base of all high-side and low-side surge arresters. The supports must provide for attachment of the grounding conductor from the arresters to the 1/4-inch x 4-inch copper ground bus and to the tank grounding pads located on the front and rear corners of the tank. The grounding conductor shall be 4/0 AWG copper conductor and Anderson Type "TLS" connectors for attachment of the conductor to the support brackets.
- 8.2.11 The transformer tank shall provide two grounding pads suitable for attachment of NEMA two-hole bronze connectors. The pads shall be located on diagonally opposite front and rear corners of the tank, and shall be located approximately twelve (12) inches above the transformer base.
- 8.2.12 A grounding bus (loop configuration) shall be supplied by the manufacturer for each three-phase transformer including attachment to the neutral bushing, the base of all surge arresters and to two tank ground pads.
- 8.2.13 The tank shall include a 1/4-inch x 4-inch minimum copper ground bus to connect on each diagonal corner to the grounding pads located at the base of the transformer. The ground bus shall be supported along the surfaces of the tank by the necessary quantity of 5 kV style insulators. The ground bus shall be connected to the neutral bushing using a 1200-ampere flexible copper shunt to a 4-hole NEMA bushing terminal pad. The ground bus shall be connected to the NEMA 2-hole grounding pad at the base of the transformer using a 600-ampere flexible copper shunt. The copper ground bus shall provide four-hole NEMA drilling at the lower end

for attachment of the substation ground grid. The bus shall also provide two-hole NEMA drilling located appropriately for attachment of bonding conductors from the bases of the transformer-mounted surge arresters.

8.3 Impedance

For Schedule No. 1, the transformer impedance at normal base rating shall be 10.1% with ANSI standard tolerances at 67,000 volts to 13,090 / 7,560 volts.

8.4 Sound Level

The transformer will be designed so that the average sound level will be in accordance with the latest revision of NEMA TR1-1993 (R2000).

8.5 Bushings and Terminals

The three-phase transformer shall be provided with three (3) primary and four (4) secondary cover-type bushings constructed of high strength wet process porcelain.

All high-voltage bushings shall be oil-filled and dimensionally interchangeable between circuit breakers and transformers according to latest revisions of ANSI Standard C76. The high-voltage bushings shall be condenser type and have provisions for power factor testing. Bushings for all schedules shall be draw lead type, rated as follows:

Schedule No.	HV Bushings (kV/kV BIL)	HV Bushings (Amp.)	LV Bushings (kV/kV BIL)	LV Bushings (Amp.)
1	69/350	600	15/110	2000

High-voltage bushings shall be Pcore high voltage bushing or equivalent, provided with an electro tin-plated bronze terminal connector suitable for flat spade connection with NEMA four-hole drilling, either built into the bushing or furnished as a separate item.

Low-voltage bushings shall be Warco low voltage bushing or equivalent provided with an electro tin-plated terminal connector for flat spade connection with NEMA four-hole drilling.

Low-voltage bushing shall be provided with a connection for flat spade connections with NEMA four-hole drilling and connected to a 1/4" x 4" (minimum) copper bus extending from the terminal to a tank ground pad for direct connection to the station ground system.

The bushings shall be spaced to comply with, or exceed, minimum phase-to-phase and phase-to-ground external clearances between live parts in accordance with NEMA Standard TR1. All external bushing mounting hardware shall be stainless steel. All connections shall be suitable for either copper or aluminum connectors.

8.6 Auxiliary Cooling

Cooling equipment shall be furnished in accordance with ANSI standards for transformer self-cooled and forced air-cooled ratings of KNAN/KNAF/KNAF.

Provisions shall be made for cooling radiators to be mounted independently of one another on the transformer, and individually removable from the transformer tank and provided with valves on the transformer tank side so that one cooler may be removed from operation or replaced while the transformer is in service without interfering with the operation of the other coolers (radiators). Radiators shall be designed and braced to withstand all vibration and operating forces.

Radiator mounting flanges on the transformer tank shall each be equipped with valves to permit the removal or replacement of an individual cooling radiator or bank of radiators without loss of either oil or, gas above oil, in the transformer tank.

Each cooling radiator shall be equipped with a plug at the top and a drain valve at the bottom of the unit.

The cooling fans shall be controlled through the transformer monitor. The transformer monitor shall provide automatic control for the operation of all cooling stages based on the sensing of transformer winding temperature. Each fan shall be driven by an enclosed, waterproof induction motor rated 230 volts ac, single-phase, 60-Hertz. Each motor shall be equipped with thermal overload protection. Each fan shall be dynamically balanced for vibration-free operation. All fan guards shall be galvanized steel and meet OSHA Safety Standards.

The coolers shall be mounted independently of each other so that only one cooler may be removed from operation or replaced while the transformer is in service without interfering with the operation of the other coolers. Control of coolers shall be arranged for automatic control through the transformer monitor. Complete control and starting equipment shall be provided for each cooler. Means of indication shall be provided to indicate failure of cooler power supply fans with indication by the transformer monitor. Control for coolers shall be arranged for automatic starting by winding temperature. Cooling will be operated by Owner power supply.

All switching equipment shall be enclosed in the transformer control cabinet, complete with all conduit and inner wiring.

8.7 Current Transformers

Each transformer shall be equipped with bushing type current transformers mounted inside the main case on terminals H₁, H₂, H₃, X₁, X₂, X₃, and X₀ with all secondary leads brought to identified terminals in a control cabinet mounted for nominal working height from ground level. Terminal blocks shall have short circuiting devices, which will maintain a continuous CT secondary circuit while tap positions are being changed. Each CT shall be connected to a separate six-point terminal block, and shall comply with the CT Drawing included with these Specifications.

All bushing type current transformers shall be standard multi-ratio, 5 leads, 10C800 relaying accuracy, except when specified otherwise.

In addition to any CT's needed for the operation and monitoring described elsewhere in this specification, bushing type current transformers shall be furnished on terminals as follows:

A. High Voltage Bushings

Provide 2 each (6 total per power transformer) - 600/5 ampere BCT, 2.0 TF on H₁, H₂ and H₃ bushing with taps for 50, 100, 150, 200, 250, 300, 400, 450, 500, and 600 to 5 ampere ratios.

B. Low Voltage Bushings

Provide 2 each (6 total per power transformer) - 2000/5 ampere BCT, 2.0 TF on X₁, X₂ and X₃ bushing with taps for 300, 400, 500, 800, 1100, 1200, 1500, 1600, and 2000 to 5 ampere ratios.

Provide 1 per power transformer - 2000/5 ampere BCT, 2.0 TF, with 10C800 relaying accuracy in the neutral of the secondary (X₀) with taps for 300, 400, 500, 800, 1100, 1200, 1500, 1600, and 2000 to 5 ampere ratios.

If the current transformers are mounted in a removable current transformer adapter, the current transformer shall be shipped in the main transformer mounted in the adapters. The current transformer secondary leads shall be permanently connected to the terminal blocks in the Control Cabinet. No splicing of secondary current transformer leads shall be required after delivery to the Owner. Marking of leads and locations of shorting-type terminal boards control panel shall be in accordance with the attachment in the Appendices. A CT metal diagram instruction plate shall be provided.

Turns progression and accuracy class of bushing current transformer shall be shown on the nameplate.

8.8 Lightning Arresters

Lightning arresters shall be of the station class type, transformer mounted for the high- and low-voltage side on each phase of the three-phase transformer and shall be rated:

<u>System Voltage</u>	<u>Conventional Arrester Rating (Duty Cycle; RMS)</u>	<u>Metal Oxide (MCOV) Arrester Rating</u>
69 kV, 350 kV BIL	72 kV	57kV
13.09/7.56 kV, 110 kV BIL	10 kV	8.40 kV

Metal oxide lightning arresters are rated either in terms of maximum continuous operating voltage (MCOV) or by the conventional arrester rating (duty cycle), which they replace. MCOV ratings are assumed here for metal oxide arresters. However, metal oxide arresters, which are given conventional ratings (duty cycle), may be furnished if the MCOV equivalent ratings are as specified here.

The lightning arresters shall be located with relation to one another and the bushings to comply with, or exceed, minimum phase-to-phase and phase-to-ground clearances between live parts in accordance with NEMA Standard TR1-0.07.

The lightning arresters shall be provided with connections to the line-side bushing terminals with connections equivalent to the full capacity of the transformer. Ground conductors equivalent at minimum to 1/4" x 4" copper bus shall also be furnished and carried to the transformer ground pads with loop configuration as shown in the Appendices.

The body of the lightning arresters shall be wet process porcelain, light gray, ANSI No. 70.

The lightning arresters shall comply with ANSI Standard C-62.11.

8.9 Control Cabinet

A weatherproof NEMA 3R control cabinet shall be furnished enclosing control circuits, signal circuits, protective relays, individual transformer alarm indicators, a 120-volt ac convenience duplex receptacle, a 40 watt incandescent light with guard, dual door switches and a suitable 230-volt, 60 Hertz heater with double pole terminal circuit breaker.

The cabinet shall be furnished with swing door(s) complete weather stripping, handle, three-point latching mechanism and provisions for padlocking. The door(s) shall be equipped with provisions to fix the swing in

the open position. A collapsible laptop shelf shall be located on the inside of either door such as a Hoffman Shelf AASHLF-1818.

All wire into the control cabinet shall have 600-volt flame-resistant, moisture-proof insulation and shall be enclosed in rigid metallic conduit. All conductors into the control cabinet shall terminate on a clearly marked and properly identified terminal board. Terminal boards for CT leads shall be shorting type, all terminal boards shall be equipped with non-magnetic split type lock washers and ring type compression lugs.

The weatherproof control panel shall be located in Segment 1 per ANSI C57.12.10, approximately 18" off the bottom of the tank. A dead-front control panel in the control cabinet shall contain the necessary switches, circuit breakers, relays, indicating lamps, transformer monitor etc.

All cabinets attached to the transformer shall be solidly grounded to the transformer case.

The control cabinet heater shall be equipped with guards and thermostatically controlled through the transformer monitor, so that the guard temperature cannot exceed 120°F. The 240-volt electric terminals at the heater shall be covered.

All IED's need to be accessible for viewing and operation without the use of stepladders. All IED viewing components (e.g. displays and targets) and control components (e.g. pushbuttons) shall be located between 3'-11" and 5'-0" from the bottom of the transformer.

8.10 Wiring

8.10.1 All power wiring shall be made with #10 AWG stranded tinned copper wire or larger sized wire. The primary insulation jacket of all wiring shall be 600 volt, 90C, water, oil, and flame resistant. Control wiring shall be 45 or 65 mil stranded cable and not smaller in size than #14 AWG tinned copper wire, with the exception that wiring to alarm auxiliary relays and indicating lights may be smaller in size. SIS control wire is recommended. All current transformer leads are to be #10 AWG stranded tinned copper or larger.

- a. Power wiring shall be sized as required in accordance with the National Electrical Code.
- b. All connections for wiring shall be made using silicon bronze, split-type lockwashers.
- c. All wires shall be identified at each end with legible permanent labels.
- d. Wiring connections between fixed and hinged sections shall be minimum 41-stranded wire.

- e. Seven-stranded control wire is not acceptable.
 - f. All terminal connections for conductor sizes #10 AWG in size and smaller shall be made with full-ring tongue compression-type lugs. Lugs shall be Burndy Type YAV, or approved equivalent. Spade-type terminals or slip-on connectors are not acceptable.
 - g. All terminal connections for conductors sizes #2 AWG through #9 AWG shall be made with Burndy Type YAV or approved equivalent.
 - h. All terminal connections for conductor sizes larger than #2 AWG shall be made with two-hole, long-barrel, double-indent, crimp-type lugs: Burndy Hylug Type YA or approved equivalent. (Single-hole lugs may be used only where necessary).
- 8.10.2 Grommets shall be provided for all openings in metal barriers used for wiring.
- 8.10.3 Uninsulated exposed conductor or terminal lug shall not extend beyond the sides of the terminal block or its insulating barriers.
- 8.10.4 All leads for multi-ratio current transformers shall be wired to terminal blocks in the control cabinet. If junction boxes are required in wiring between current transformer and control cabinet, terminal blocks shall be used for wiring connections. In-line-type disconnecting terminals such as American Petroleum Institute (API) No. 32488 or Burndy No. YZ10 will not be acceptable.
- 8.10.5 If accidental short circuiting of certain wires can result in malfunction of equipment, these wires shall not be terminated on adjacent terminal block points.
- 8.10.6 Two (2) wires per terminal point are permissible.

8.11 Terminal Blocks and Fuse holders

- 8.11.1 Molded-type terminal blocks, rated 600 volts and 30 amperes, for all external control connections shall be provided. Terminal blocks with self-contained pressure-type connectors are not acceptable.
- 8.11.2 Marathon 1600 DJ Series or General Electric Type EB-25 terminal blocks or equivalent shall be provided furnished with white marking strips for identification of terminal wires for all connections except current transformers. The terminals shall be identified with legible permanent markings.

- 8.11.3 Marathon 1600 SC or General Electric Type EB-27 terminal blocks or equivalent shall be provided for current transformer leads with at least three shorting screws per terminal block. A separate short-circuit-type terminal block shall be provided for each set of current transformer leads. A States terminal block is not an acceptable substitution.
- 8.11.4 One three-pole terminal block sized for #6 to #2/0 AWG wire for Owner's single-phase, three-wire, 120/240 volt, control power leads shall be furnished.
- 8.11.5 A minimum of 15 percent spare (but not less than 12 points) terminal points shall be provided in the control cabinet. These terminal points shall be furnished with all screws and lockwashers.
- 8.11.6 Fuse holders shall be finger safe fuse holders, Ferraz Shawmut, US3J Series for 30A and US6J series for 60A, Mersen Ultra-safe modular 600 V for class J fuses.

8.12 Alarm Annunciator and Relays

See Section 10.1. for Transformer Monitor specifics.

The transformer shall be equipped with various alarms and an alarm annunciator to provide visual indication of abnormal conditions as designated herein. Each alarm shall be in the form of a normally open contact wired to terminal blocks in the transformer control cabinet via paired wire leads. The alarm annunciator shall be flush-mounted on the control panel within the transformer control cabinet at a height no higher than 4'-5" from transformer bottom and shall be wired to the designated alarms brought to the terminal blocks.

The annunciator shall provide an HMI for alarm and information interrogation. The annunciator shall latch in the "on" state for each alarm detected until manually reset.

The annunciator shall provide dry, normally open contacts so that summary alarms may be remotely annunciated on alarm equipment within the Owner's substation. The auxiliary contacts shall be wired to terminal blocks in the transformer control cabinet for use by the Owner. The annunciator shall provide a minimum of fourteen (14) alarm input points and be for use at 125 Vdc. The annunciator shall be a SEL-2533 as manufactured by Schweitzer Engineering Laboratories, model 2533012130XA2X0.

The following alarms are to be wired to the Annunciator.

8.12.1 Transformer High Oil Temperature from gauge (26Q)

- 8.12.2 Transformer High Winding Temperature from gauge (49T)
- 8.12.3 Transformer Liquid Low/Alarm Level (71Q)
- 8.12.4 LTC Liquid Low/Alarm Level (71Q-LTC)
- 8.12.5 Transformer Pressure Relief (63PR)
- 8.12.6 Transformer Undervoltage (auxiliary power) (27-1)

- 8.12.7 Transformer Gas System - High Tank Pressure (63G-HI)
- 8.12.8 Transformer Gas System - Low Tank Pressure (63G-LO)
- 8.12.9 Transformer Gas System - Low Supply (63G)
- 8.12.10 Transformer Gas System - Temperature Alarm (63T)
- 8.12.11 LTC Raise Limit (33R)
- 8.12.12 LTC Lower Limit (33L)
- 8.12.13 LTC Trouble (e.g. vacuum switch failure)

Alarm Annunciator software to be loaded on the Toughbook Laptop included in this specification.

8.13 Fault Pressure Relay

A fault pressure relay shall be provided on the transformer tank for the detection of rapid rates of positive increase in transformer tank pressure. The fault pressure relay circuit to be provided shall include the necessary auxiliary relays and circuitry that will provide a visual indication (relay target) at the transformer upon fault pressure detection. The fault pressure relaying shall also provide a tripping contacts for the remote initiation of transformer lockout to the Owner. The fault pressure relaying shall also provide contacts for the transformer monitor.

Contacts supplied for alarms and initiation of station lockout shall be dry, normally open, latching operation with manual hand reset. Contacts shall be suitable for use at 125 volts dc. Current shall be limited to 20 amperes resistive.

Contact leads for alarm and trip shall be brought to a terminal block for field connection by the Owner.

All relay coils associated with fault pressure detection shall be driven by the Owner's 125 volts dc power supply.

The fault pressure detection relay shall be Qualitrol 900 mounted in the oil space. The unit shall have a valve to isolate the unit from the main tank in support of maintenance. Auxiliary target relays and latched tripping relays shall be a Qualitrol 909 series. All associated auxiliary relays shall be mounted within the transformer control cabinet.

8.14 Positive Pressure System

The transformer shall be equipped with a positive pressurizing system, N2GEN-200, manufactured by Waukesha, utilizing nitrogen gas to protect the transformer oil in the main tank from oxidation and moisture absorption. The system shall consist of a nitrogen gas generator complete with supply pressure gauge, multi-stage pressure reduction assembly, nitrogen cylinder connection for by-passing the generator, and associated piping and valves to control the flow of gas to and from the tank. The system shall provide alarms for low gas supply, high tank pressure, and low tank pressure conditions. The nitrogen generator, supply pressure gauge, and multi-stage pressure reduction assembly shall be housed in a weatherproof enclosure, mounted on the transformer tank.

The system shall maintain transformer tank pressure at 0.5-psi minimum and 5.0 psi maximum, with appropriate fill and bleed-off regulation. Gas system alarms shall actuate whenever pressure falls below 0 (zero) psi or rises above 5.5 psi or whenever supply pressure falls below 125 psi.

The gas generator system shall include a second supply outlet for connection to a second transformer at the owners substation include shut-off valve for this outlet.

8.15 Transformer Oil/Oil Inhibitor and UL Approved

8.15.1 Insulating oil for the main tank, oil-filled bushings, shall be non-toxic, fire-resistant, bio-based natural ester dielectric fluid. The insulating fluid shall be Factory Mutual, UL classified "Envirotemp FR3" as manufacturing by Cargill, Inc.

8.15.2 All transformer oil supplied shall have antioxidant oil inhibitor added. All performance enhancing additives shall be food-grade compatible with the insulating oil as outlined in 8.15.1.

8.16 Load Tap Changing for Transformer

The Load Tap Changer shall be a Reinhausen RMV-II with the TAPCON 250 controller.

The transformer to be furnished shall be provided with load tap changing equipment in addition to all provisions described heretofore for all Schedules. The tap changing equipment for the transformer must be capable of parallel operation with a second LTC-equipped transformer. Method of parallel operation to be in accordance with ANSI C57.15 standard circulating current method or as agreed to by the City. The second LTC-equipped transformer may utilize the traditional “analog” scheme. Therefore, the TAPCON XPA shall be provided

- 8.16.1 The load tap changing equipment shall be furnished to provide the characteristics and features outlined herein. The equipment shall be designed to withstand full-voltage short-circuit conditions and also to initiate and complete any desired tap change under full-voltage short-circuit conditions. The manufacturer, if he so desires, may submit an alternate Proposal for vacuum switching. The manufacturer will state in his Proposal the guaranteed minimum number of maintenance-free LTC operations of the unit. Units guaranteeing less than 500,000 operations before maintenance will be evaluated as unresponsive.
- 8.16.2 The load tap changing equipment covered by the Specifications and all tests applied thereto shall conform to the latest standards of the IEEE, NEMA, NESC, and ANSI.
- 8.16.3 The LTC circuit and components shall be arranged so that with a constant voltage held on any high voltage rated kVA tap, the tap changer will operate to provide \pm voltage regulation of the low-voltage transformer terminals in sixteen (16) 5/8% steps above and below rated voltage. For voltages above rated position, the transformer will deliver rated kVA. For voltages below rated position, the transformer will deliver at its terminals a current equal to the current at rated kVA and rated voltage.
- 8.16.4 The LTC taps may be located wherever necessary in the windings or circuits to produce the desired result. A series transformer may be used if necessary. The final location of the LTC compartment shall be subject to the approval of the City or the City's Engineer.
- 8.16.5 The main transformer tank shall include:
 1. Series transformer (if required by design).

2. Preventive reactor. (This may be omitted if the tap changer is a resistance-bridging device).
3. Current transformers for line-drop compensator and parallel operation as needed. Primary current determined by rating and design. Secondary current 0.2 amps.
4. Hot spot temperature indicator.

8.16.6 The separate oil-filled compartment shall utilize a free breathing Reinhausen MTRAB DB 100 unit. The compartment shall include:

1. Mechanical stops at limits of switch movement.
2. Gauge indicating compartment seal and/or positive pressure.
3. Liquid-level gauge similar to gauge used on transformer tanks.
4. Drain and filling valve: one-inch (1") screw-end globe valve.

8.16.7 The separate air-filled compartment shall include:

8.16.7.1 Motor control equipment, including:

- (a) Drive motor 120 volts to be supplied from station power supply.
- (b) Provision for manual operation with electrical interlock with drive motor.
- (c) Position indicator equipped with *electrically resettable* drag hands and with electrical limit switches. The position indicator shall be graduated for each step position (16L-0-16R), and shall be located for unobstructed visibility to any personnel attending the main control compartment of the transformer. The electrical limit switches shall be interconnected to the motor control circuit for automatic cutoff at the end of the raise and lower tap range. The limit switch at either end of the range shall also provide one spare normally-open contact for annunciation of end-of-range LTC position.
- (e) Neutral indicator light.
- (f) Motor drive power-supply switch with thermal breaker.
- (h) Lamp with manual switch for compartment illumination.

- (i) Convenience outlet.
- (j) Strip heater.
- (k) Terminal blocks for customer connection.
- (l) Conduit entrance in bottom of compartment.
- (m) Necessary terminal blocks and wiring.

8.16.8 LTC equipment to be mounted in the Transformer Main Control cabinet

8.16.8.1 Motor supply input terminals and disconnect switch

8.16.8.2 Potential input terminals and circuit breaker

8.16.8.3 TAPCON 250 voltage regulator.

8.16.8.3.1 TAPCON – Control system Windows-based software factory loaded on the Toughbook Laptop included in this specification.

8.16.8.3.2 Optional TAPCON 250 fiber optic port.

8.16.8.3.3 Optional TAP CON Analog input / Output module. Analog outputs shall be wired to terminal blocks for customer use. Positive tap position input to the TAPCON 250 shall be provided.

8.16.8.4 TAPCON XPA shall be provided.

8.16.8.5 Neutral indicator light.

8.16.8.6 Include a separate remote/local switch, auto/manual switch and raise/lower switch mounted below the Tapcon 250.

8.16.8.7 Drag hand Reset Button

8.16.8.8 Voltage control circuitry and circulating current protection for automatic parallel operation of two (2) units on the same substation bus. Circulating current CTs shall be provided in the line-drop compensator circuit to permit this and other similar units at this

location to operate in parallel automatically with minimum circulating current.

8.16.9 Remote LTC Control

The load tap changer shall be quoted including the installation of equipment for remote operation and indication by a supervisory system. The necessary contacts and/or devices shall be included to provide the following functions or indications:

1. Provisions for the supervisory initiation of “raise”, “lower”, or “auto/manual” commands to the LTC control. The circuitry shall be designed so as to allow supervisory raise and lower only when the LTC control is set for supervisory control. In the “auto” mode, automatic voltage regulation control of the LTC shall be enabled.
2. Provisions for the connection of a remote indicator lamp to annunciate the position of the local/remote/auto LTC control switch in the "supervisory" position.
3. Provisions for the connection of a remote indicator lamp to annunciate the actuation of the LTC motor contactor pick-up for each tap change during supervisory operation.

8.17 Special Control/Indication Requirement

Voltage regulation control of the LTC shall be provided, including voltage regulation and compensation function, LTC paralleling function, circulating overcurrent protection function, and overvoltage protection function by the TAPCON 250 Controller and TAPCON XPA – external paralleling assistant.

8.17.1 Current Transformers

The current transformer ratio for line-drop compensation shall be noted in the proposal.

8.17.2 Potential Transformers

Sensing voltage for the LTC control panel will be supplied by a City-furnished externally mounted potential transformer having a line-to-neutral voltage ratio of 60:1.

- 8.17.3 Indication of maximum raise and lower positions as an alarm condition wired to terminals for remote indication in the control house.
- 8.17.4 Integrity control failure alarm (vacuum unit only).
- 8.17.5 Vacuum contact failure alarm (vacuum unit only).
- 8.17.6 The communications between the load tap changer control and the supervisory systems shall be hard wired with a fiber optic connection for future use.
- 8.17.7 Remote LTC Position Indication

LTC is to be equipped with a Selsyn Synchro transmitter and a Incon 1250B position indicator. The Incon 1250B itself is to be shipped loose for installation in the Utility control house. The Selsyn Synchro transmitter should be integrated into the LTC mechanism and wired out to terminal blocks in the main transformer control cabinet.

9 Additional Features

The transformer shall include, but is not limited to, the following mechanical and electrical features:

- 9.1 Two-(2) ground pads per the latest ANSI C57.12-10 with connectors for 4/0 through 500 kcmil, 37-strand copper conductor.
- 9.2 Ground bus and grounding accessories, consisting of two (2) transformer tank grounding pads with connectors for 4/0 through 500 kcmil, 37-strand copper conductor; 0appropriate mounting brackets; 4/0 Cu bonding conductors; and 1/4-inch x 4-inch copper ground bars to connect the X₀ bushing to the tank grounding pad and station ground grid.
- 9.3 Main transformer core ground pad with connection through top manhole.
- 9.4 Magnetic liquid level gauge with alarm contacts. (Liquid temperature indicator.) Unit shall be Messko MTO-series.
- 9.5 Dial type top oil thermometer hermetically sealed with resettable maximum temperature pointer and equipped with alarm contacts. Unit shall be mounted at eye level. Unit shall be Messko Compact Series Type MT-ST160SK. ALL Contact points are to be wired out to terminal blocks in the control cabinet.
- 9.6 Transformer winding temperature gauge to be Messko Contact Series Type MT-ST160W series with all connections alarms and trip signals. ALL Contact points are to be wired out to terminal blocks in the control cabinet.

- 9.7 Pressure vacuum gauge and bleeder device with sampling and purging valve. Devices shall be mounted at eye level. Unit shall be Qualitrol 50-35-E.
- 9.8 Pressure relief device with alarm contacts and visual alarm on top of unit. Messko MPreC series LMPRD 8.
- 9.9 Upper valve for filter-press connection, one-inch, with NPT threads and pipe plug.
- 9.10 Combination lower valve for filter-press connection, with 3/8-inch oil sampling device, and two-inch (2") drain and filter valve, with NPT threads and pipe plug.
- 9.11 One or more hand holes or manholes in cover. Round manholes shall have a diameter of 22-inches minimum. Oval or rectangular manholes shall be dimensioned 12 inches x 18 inches minimum.
- 9.12 Lifting lugs on tank, lifting eyes on cover, and provisions for jacking. Location of jack bars shall be a minimum of 13" above the transformer base line.
- 9.13 Nameplates in accordance with ANSI Standards, located on the main tank and in control box, shall be non-corrosive.
- 9.14 Non-corrosive diagram instruction plate. Turn progression and accuracy class of bushing current transformers shall be shown on nameplate. Mounted on control cabinet door interior above shelf
- 9.15 Tap Changer instruction nameplate, stainless steel for the high-voltage tap changers. Mounted on control cabinet door interior above shelf.
- 9.16 Undervoltage relay to detect and alarm for the loss of all phases of cooling power. These alarms shall be inputs to the transformer monitor.
- 9.17 All valves shall have silicone rubber (or better) packing to prevent leaking.
- 9.18 Bio-based, natural ester "Envirotemp FR3" insulating oil with appropriate oxide inhibitor and associated PCB certification and nameplate as per General Conditions.
- 9.19 Single-phase, 60 Hertz, 230 volts cooling fans.
- 9.20 Two (2) sets of 600:5-ampere MR current transformers of relaying accuracy on each high voltage bushing with leads brought down to control cabinet.
- 9.21 Two (2) sets of 2000:5-ampere MR current transformers of relaying accuracy on each low-voltage phase bushing with leads brought down to shorting terminal blocks in control cabinet.

- 9.22 One (1) 2000:5-ampere MR current transformer of relaying accuracy on the X₀ neutral bushing, with leads brought down to control cabinet.
- 9.23 All alarm contacts shall be dual-rated, suitable for 125 volts dc for all units. All control wiring and CT terminals to be equipped with nonmagnetic split type lock washers and ring type compression lugs. All current transformer leads to be No. 10 or larger and terminated on shorting type terminal blocks in the control cabinet.
- 9.24 Each removable cooling radiator shall be provided with a fill valve and a drain connected at top and bottom for transformer valves for detachable tank mounted radiators. The quantity of oil in each radiator shall be included on the nameplate.
- 9.25 All transformer oil supplied shall have antioxidant oil inhibitor, appropriate for “Envirotemp FR3” bio-based oil.
- 9.26 *No tripping relays shall be mounted on a swinging panel. All tripping relays shall have covers.***
- 9.27 Each cooler (removable radiator) shall be provided with drain valve on the bottom and vent plugs connected at top for detachable radiators, coolers, and/or pumps.
- 9.28 All equipment required for positive pressure gas regulation system, including alarms.
- 9.29 A Schweitzer SEL-2414 Transformer Monitor shall be mounted in the control cabinet.
- 9.30 A Schweitzer SEL-2533 annunciator shall be mounted in the control cabinet.
- 9.31 A Schweitzer SEL-2523 Annunciator will be included. Catalog No.252301313A0AXXX, ship loose.
- 9.32 A Schweitzer SEL-387E Current Differential Overcurrent Relay will be included. Catalog No. 0387E013X534X41, ship loose.
- 9.33 A Schweitzer SEL 351S Relay will be included. Catalog No. 0351S7X3D4B5421, ship loose.
- 9.34 A Panasonic Toughbook Laptop (Cat.No.CF-31UFM731M) pre-loaded with all software necessary to program and interrogate the IED’s included herein. The Laptop should contain at least a 500 gb hard-drive with 8gb of ram, a readable-writable dvd super drive and be loaded with all software to make it a completely functional device. A list of base software should include Windows 7 Professional 64-bit operating system, Microsoft Office, AutoCad LT 2013

and all software for the IED's including the Transformer Monitor, Load Tap Changer Control.

- 9.35 A quantity of two (2) each Waukesha third stage regulator mini N2 system part number MN2-0A0133 shall be included, ship loose.

10 Transformer Monitor / Control Equipment

10.1.1 Transformer Monitor shall be mounted in the control panel and connect all sensors, alarms, controlled devices. The Transformer Monitor shall be a SEL-2414 and manufactured by Schweitzer Engineering Laboratories, catalog number 241421ACA9X3A851130. Provide and connect all sensors, provide all software. Verify the I/O is compatible with all sensors and controlled devices. The monitor system shall provide the following:

10.1.1.1 RTD temperature sensors (100 Ohm Platinum preferred)

10.1.1.2 Winding hot spot calculation for each winding

10.1.1.3 Transformer Liquid Low-low/Trip Level (71Q)

10.1.1.4 LTC Liquid Low-low/Trip Level (71Q-LTC)

10.1.1.5 Automatic fan bank control with failsafe (normally closed) contacts.

10.1.1.6 Loss of power cooling fans

10.1.1.7 Loss of life calculation

10.1.1.8 Capture through fault-current.

10.1.1.9 Retain at least 512 sequential events of digital input transitions.

10.1.1.10 Extensive ac metering and monitoring to include voltage, current, power, energy, power factor, frequency, demand/peak demand metering and minimum/maximum metering are to be measured and recorded.

10.1.2 The monitor shall include I/O for at least 5 RTD sensors, including

10.1.2.1 Transformer Top Oil

10.1.2.2 Transformer Bottom Oil

10.1.2.3 LTC Top Oil

- 10.1.2.4 Ambient temperature
- 10.1.2.5 The monitor shall interface with the cooling system and provide the following;
- 10.1.2.6 Alarm fan failure
- 10.1.2.7 Display fan run hours
- 10.1.2.8 Alarm cooling contactor failure
- 10.1.2.9 Cooling breaker trip/loss of power
- 10.1.2.10 Smart cooling control with transformer thermal models and all input data.
- 10.1.2.11 Automatic exercise of cooling fans.
- 10.1.3 TCP/IP Ethernet with DNP 3.0, connections for RS-232 for local connection. Fiber optic connection to supervisory controller.
- 10.1.4 All software required for programming and interrogation to be factory loaded on the included Toughbook Laptop.

11 Tests

The transformer shall be tested in accordance with the latest ANSI C57-12.90 Standards Test Code, and test reports shall be furnished to the Owner's Engineer immediately following their completion. The transformer shall be tested and results reported as follows:

10.1 Tests in Factory

- a. Routine tests listed in the latest ANSI C57-12.00, paragraph 8.2.1.
 - 1. Resistance measurements of all windings on the rated voltage tap and at the tap extremes of the first unit made on new design.
 - 2. Ratio tests on the rated voltage connection and on all tap connections.
 - 3. Polarity and phase relation tests on the rated voltage connection.
 - 4. No-load losses and excitation current at 100% and 110% rated voltage and frequency on the rated voltage connection.

These tests shall be performed both before and after impulse tests.

5. Impedance voltage and load loss at rated current and rated frequency on the rated voltage connection, and at the tap extremes of the first unit of a new design.
- b. Dielectric tests shall be applied and measured in accordance with the latest IEEE Standard C57-12.90 as follows:
1. Lightning impulse tests shall be applied to each terminal in the following order:

One reduced full-wave, two front-of-waves, two chopped-waves, and one full-wave, except the neutral, which shall receive one reduced-wave and two full-wave impulses.
 2. Induced voltage test shall be performed as described in 10.8 of the latest IEEE Standard C57-12.90.
 3. Applied-voltage test shall be applied in accordance with the latest IEEE Standard C57-12.90, paragraph 10.6, at test level specified in the latest C57-12.00.
 4. Two (2) copies of oscillograms and two (2) formal reports will be submitted as a record of the tests.
- c. Transformer sound level shall be tested in accordance with NEMA TR1-1993(R2000), "Audible Sound Level Tests".
- d. The loss measurement system used to measure losses shall state in the test report the measurement error traceable to the National Bureau of Standards by means of a procedure described in NBS Technical Note 1204 or an approved equivalent procedure. This shall be applicable to the test system used to measure both the no-load and load losses for the transformer specified herein. The approach outlined in NBS Technical Note 1204 or an approved equivalent procedure shall be used to insure the traceability of measurements. The measurement error determined through the procedure outlined in Technical Note 1204 or an equivalent procedure will be added to the measured losses determined during the test prior to the determining if the loss guarantee has been met. Should the Bidder (manufacturer) be unable to comply with this provision, he shall clearly so state in the section entitled "Form of Exceptions".

All transformer losses, including auxiliary losses, shall be shown on the test reports.

- e. Insulation power factor tests shall be made and shall be one percent (1%) or less corrected to 20°C by the IEEE temperature correction curve.
- f. Prior to shipment, the assembled transformer shall be liquid-filled with “Envirotemp FR3” or compatible fluid, and pressure-tested for at least eight (8) hours at the maximum operating pressure for detecting the presence of leaks.
- g. The transformer core ground strap is to be made accessible so that it may be removed when making the core ground tests. Tests for core grounds are to be performed after tanking and just prior to leaving the factory using a 1000-volt megger. Resistances measured are to be included in a certified test report and reported to the Engineer prior to shipment. The Bidder may offer in his quotation deductions for substitution of manufacturers' standard tests in lieu of those specified. However, the basic quotation must include all tests specified.
- h. No transformer will be accepted for shipment until approved by the Owner or the Owner's Engineer.
- i. Temperature (heat run) tests along with Total Combustible Gas (TCG) analysis are to be made on the unit in accordance with IEEE Standards. (Deduct may be offered at time of bid for elimination of this test with submittal of test data for similar design in lieu thereof.)
- j. A full Sweep Frequency Response Analysis is to be completed in the factory and the field to verify no internal shifting during transit and creating a base line for future testing.

The Owner reserves the option of having a representative present to inspect the core and coils prior to tanking and to witness any or all tests.

The manufacturer shall take digital photographs of the core and coils from both high-voltage and low-voltage sides. Two (2) copies of the photographs will be furnished with the test reports.

In addition to requirements above all testing data and photographs to be factory loaded and included in the Toughbook Laptop.

10.2 **Tests in Field**

1. The manufacturer's field engineer **shall** perform a series of tests on the transformer after installation at the substation. These tests shall include bushing power factor tests, transformer turns ratio tests for all tap positions, insulation megger tests, current transformer checks (polarity, turns ratio, and connections), and oil tests as follows: specific gravity, dielectric, moisture

content, acidity, interfacial tension, and PCB content. The manufacturer shall provide complete dissolved gas in oil analysis on the oil installed in the transformer after final assembly. To accurately establish a benchmark for the base gas level, samples of oil shall be drawn from the transformer each quarter for the first year of service beginning thirty (30) days after final assembly. The manufacturer's field engineer shall give approval for energizing the transformer, and a manufacturer's representative shall be on site to observe the entire energization process.

2. A full Sweep Frequency Response Analysis is to be completed in the factory and the field to verify no internal shifting during transit.

10.3 **Additional Requirements**

10.3.1 **Transformer Short-Circuit Strength**

Without limiting in any way any obligation of the Bidder under this agreement, the Bidder shall demonstrate to the satisfaction of the Owner that the transformer proposed to be furnished under this Specification shall have sufficient mechanical strength to withstand without failure all fault currents. The Bidder shall demonstrate that the transformer meets this requirement by one of the following methods:

- a. Certified test data showing that a transformer with a core and coil identical in design and construction and identical or similar with respect to kVA capacity, kV ratings, BIL, impedance and voltage taps has been tested without failure for short-circuit strength. A description of the test code under which the transformer was tested for short-circuit strength will be provided by the Bidder.
- b. A history of successful experience with transformers of identical or similar ratings, design, and construction. The Bidder shall list all transformers in service with core and coils which are essentially identical in design, construction, and manufacture to the transformer covered by this specification and provide information on the date of installation, location, and failures, if any. Where such transformers have not been built or the cumulative service record is less than twenty (20) transformer years, a list of transformers in service which represent the closest approximation to the transformer covered by this specification shall be submitted. The information submitted shall be representative of the total experience of the manufacturer with the design of the transformer it proposes to furnish and shall include the dates of installation or shipping, the ratings of the transformers, and the failures and causes of failure, if any have been experienced.
- c. The Bidder shall submit with his Proposal a complete listing of all full-size transformers of his manufacture, in ratings 10,000 through 300,000 kVA, which have been short-circuit tested. The list shall include all full-size units tested, whether they were development tests or tests of customer units. Complete ratings shall be given of each unit and each shall be noted as to whether copper or aluminum windings were used for comparison with that winding material offered on this bid.

In the case of units tested for or by the ultimate customer, indication shall be given on each unit as to whether the test was successful or unsuccessful and, if tested more than once, each subsequent test shall be so listed and appropriate comments given as to design changes made, if any.

- d. If the Bidder cannot furnish such test data, he shall so state on the Proposal.

10.3.2 Transformer Data

- a. Cooling fans, (or oil pumps) H.P. rating, and voltage.
- b. Net weight including insulating oil plus weights of tank and oil separately.
- c. Shipping weight.
- d. Gallons of oil required per transformer, listed by: (1) main tank, (2) LTC compartment, and (3) radiators.
- e. Limiting dimensions of transformer including tank wall thickness.

12 Guarantees

Included with the data on transformer to be submitted by the Manufacturer with his Proposal shall be the following:

- a. Efficiencies at 1/4, 1/2, 3/4 and full load at unity power factor and 75°C.
- b. No-load loss in watts.
- c. Total full-load loss in watts at KNAN, KNAN/KNAF, KNAN/KNAF/KNAF rating at 55°C rise and KNAN/ KNAF/ KNAF rating at 65°C rise, including auxiliary losses.
- d. Full load regulation at 100 percent and 80 percent power factor.
- e. Exciting current at rated frequency in percent of the rated voltage and rated kVA.
- f. Certification that the transformer and all oil-filled equipment meet all EPA requirements and each unit shall be certified as operational with less than one part per million, PCB.

13 Transformer Bid Evaluation

Bids submitted for each Schedule shall be evaluated for "Cost of Ownership" utilizing initial cost, transformer losses, and the cost of financing over a 20-year evaluation of ownership. The formula is as follows:

$$\text{"Cost of Ownership"} = \text{Unit Cost}^* + (\text{No-Load Losses} \times \text{A Factor}) + (\text{Load Losses} \times \text{B Factor})$$

* Including escalation if any and cost of insurance if less than a five-year warranty is quoted and cost of complete assembly of the transformer.

The Cost of Losses will be evaluated for each schedule using the following charge per kW of losses:

	Cost per kW No-Load Losses	Cost Per kW Load Losses
<u>MVA</u>	<u>(A Factor)</u>	<u>(B Factor)</u>
18.0 MVA Units	\$ 3,623	\$ 486

The Owner reserves the right to change at any time the no-load loss and winding loss charge values given above insofar as these values are used to evaluate bids. Such changes might be necessary to reflect changed conditions and are not expected to be more than $\pm 20\%$ of the values shown above. Nevertheless, liquidated damages as described below will be based on the values given above.

The No Load and Winding Losses quoted by the Bidder are of the essence of the Contract. Should the Bidder neglect, refuse, or fail to meet the quoted losses herein provided, in the event and in view of the difficulty of estimating with exactness damages caused by such delay, the Owner shall have the right to deduct from and retain out of such monies which may be then due or which may become due and payable to the Bidder the sum equal to the difference in quoted loss values and the actual loss values as verified by the certified test reports provided after manufacture computed in dollars utilizing the No Load Loss and Winding Loss values listed above as liquidated damages and not as a penalty. In no event shall the adjustment factor under this provision result in a net price increase to the Owner. If the amount due and to become due from the Owner to the Bidder is insufficient to pay in full any such liquidated damages, the Bidder shall pay to the Owner the amount necessary to effect such payment in full, provided, however, that the Owner shall promptly notify the Bidder in writing of the manner in which the amount retained, deducted, or claimed as liquidated damages was computed.

[END OF SECTION]

SECTION 3 - GENERAL TERMS & CONDITIONS

1. **DEFINITIONS**

- 1.1. **Addenda:** A written change to a solicitation or Request for Proposal.
- 1.2. **Contract:** The agreement to provide the goods or perform the services set forth in this solicitation.
- 1.3. **Performance of Services –** The contract will be comprised of the Agreement between the City and the vendor, the solicitation document, any addenda, and other attachments incorporated into the agreement.
- 1.4. **Contractor:** The vendor to whom award has been made.
- 1.5. **City:** Shall refer to City of Leesburg, Florida.
- 1.6. **Firm:** A general reference to any entity responding to this solicitation or performing under any resulting contract.
- 1.7. **Request for Proposal (RFP):** Shall mean this solicitation document, including any and all addenda. An RFP contains well-defined terms and conditions and is awarded based on the evaluation criteria and other factors as detailed in the Special Terms and Conditions. of this solicitation.
- 1.8. **Modification:** A written change to a contract.
- 1.9. **Proposal or Response:** Shall refer to any offer(s) or proposal submitted in response to this Request for Proposal.
- 1.10. **Responsible:** Refers to a vendor that has the capacity and capability to perform the work required under an Invitation to Bid, and is otherwise eligible for award.
- 1.11. **Respondent:** Shall refer to anyone submitting a response to a Request for Proposal.
- 1.12. **Responsive:** Refers to a Respondent that has taken no exception or deviation from the terms, conditions, and specifications set forth in a Request for Proposal. Their bid proposal or response conforms to the instructions and format specified in the solicitation document.
- 1.13. **Solicitation:** The written document requesting either bids or proposals from the marketplace.
- 1.14. **Vendor:** A general reference to any entity responding to this solicitation or performing under any resulting contract.
- 1.15. **In Writing –** Unless otherwise designated 'In Writing' includes submitting documents or questions through the electronic bid system, BidSYNC, currently used by the City.
- 1.16. **Shall / Must / Will -** The City has established for purposes of this Request for Proposal (RFP) that the words "shall", "must", or "will" are equivalent in this ITB and indicate a mandatory requirement or condition, the material deviation from which shall not be waived by the City. A deviation is material if, in the City's sole discretion, the deficient response is not in substantial accord with this RFP's mandatory requirements. The words "should" or "may" are equivalent in this RFP and indicate very desirable conditions or requirements, but are permissive in nature.

2. **INSTRUCTIONS TO RESPONDENTS**

- 2.1. **Sealed Proposals –** All proposals are to be submitted in a sealed envelope or other container. Envelopes/containers MUST be marked with the proposing firms name and the RFP Number and Name.
- 2.2. **Respondent Qualification –** It is the policy of the City to encourage full and open competition among all available qualified vendors. All vendors. All vendors regularly engaged in the type of work specified in the solicitation are encouraged to submit bids. Vendors may enroll with the City to be included on a mailing list for selected categories of goods and services. To be recommended for award the City requires that vendors provide evidence of compliance with the requirements below upon request:
- 2.3. **Contents of Solicitation and Proposers' Responsibilities –** It is the responsibility of the proposer to become thoroughly familiar with the requirements, terms, and conditions of this solicitation. Please of ignorance of these matters by the bidder will not be accepted as a basis for varying the requirements of the City of the amount to be paid to the vendor.
- 2.4. **Request for Additional Information -** Any communication or inquiries, except for clarification of process or procedure already contained in the solicitation, are to be made in writing to the attention of the procurement representative identified in the solicitation no later than five (5) working days prior to the bid opening date. *Oral answers will not be authoritative.*
- 2.5. **Requests/Questions –** Interested firms are encouraged to submit their questions electronically through Public Purchase. If this is not possible questions may be faxed to the attention of the Purchasing Department at (352)326-6618 or submitted via e-mail at purch@leesburgflorida.gov. You must reference the RFP number in the subject line. All requests for information or questions should be clearly marked and must be received no later than the time and date indicated on the summary sheet.
- 2.6. **Addenda –** The Purchasing Division may issue an addendum in response to any inquiry received, prior to bid opening, which changes, adds to, or clarifies the terms, provisions, or requirements of the solicitation. The bidder

should not rely on any representation, statement or explanation whether written or verbal, other than those made in this solicitation document or in any addenda issued. Where there appears to be a conflict between this solicitation and any addenda, the last addendum issued shall prevail. It is the bidder's responsibility to ensure receipt of all addenda and any accompanying documentation. The bidder is required to submit with its bid a signed "acknowledgement of Addenda" form when any addenda have been issued. Failure to acknowledge each addendum may prevent the bid from being considered for award.

2.7. **Restricted Discussions** – From the date of issuance of this solicitation until final City action (contract execution), vendors should **NOT** discuss the solicitation or any part thereof with any employee, agent, or any other representative of the City except as expressly authorized by the designated procurement representative. The only communications that shall be considered pertinent to this solicitation are appropriately signed written documents from the vendor to the designated procurement representative and any relevant written document promulgated by the designated procurement representative.

2.8. **Questions Regarding Specifications Or Proposal Submittal Process** - To ensure fair consideration for all parties, the City prohibits communication to or with any department, division, employee, or city representative from the date of issuance of this solicitation until final City action.

All questions relative to interpretation of specifications, scope of services or the Proposal Response process shall be addressed **in writing** as indicated below, in ample time before the period set for the receipt and opening of the proposals. No inquiries, if received after the deadline for questions will be given any consideration. Any interpretation made to prospective respondents will be expressed in the form of an addendum to the Request for Proposal which, if issued, will be made available to all prospective Bidders no later than two (2) days before the date set for receipt of the Bid Responses.

It will be the responsibility of the Bidder to contact the Purchasing Department prior to submitting a Bid Response to ascertain if any addenda have been issued, to obtain all such addenda, and return executed addenda with the Bid Response.

2.9. **Public Entity Crimes** – Pursuant to Section 287.133(12)(a) of the Florida Statutes, a person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a Bid Response on a contract to provide any goods or services to a public entity, may not submit a bond on a contract with a public entity for the construction or repair of a public building or public work, may not submit Bid Responses on leases of real property to a public entity may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity, and may not transact business with any public entity in excess of the threshold amount provided in Section 287.017 for Category Two (\$25,000) for a period of 36 months from the date of being placed on the convicted vendor list."

3. **Assignment** – The vendor shall not assign or transfer any contract resulting from this solicitation, including any rights title or interest therein, or its power to execute such contract to any person, company or corporation without the prior written consent of the City.

4. **Cancellation of Solicitation** – The City reserves the right to cancel, in whole or in part, any solicitation when it is in the best interest of the City.

5. **Collusion Among Firms** - If it is believed that collusion exists among interested firms, the Proposal Responses of all participants on such collusion will be rejected.

6. **Conflict of Interest** - The award hereunder is subject to Chapter 112, Florida Statutes. All respondents must disclose with their response the name of any officer, director, or agent who is also an employee of the City of Leesburg. Further, all Bidders must disclose the name of any City of Leesburg employee who owns, directly or indirectly, an interest of five percent (5%) or more of the respondents firm or any of its branches.

7. **Continuation of Work** – Any work that commences prior to and will extend beyond the expiration date of the current contract period shall, unless terminated by mutual written agreement between the City and the vendor, continue until completion without change to the then current prices, terms and conditions.

8. **Contract Extension** – The City has the unilateral option to extend any contract resulting from this solicitation for up to ninety (90) calendar days beyond the current contract period. In such event, the City will notify the vendor(s) in writing of such extensions. The contract may be extended beyond the initial ninety (90) day extension upon mutual agreement between the City and the vendor(s). Exercise of the above options requires the prior approval of the Purchasing Manager.
9. **Vendor Qualification** - Eligibility requirements for contract award.
 - 9.1. Have NO delinquent indebtedness to the City of Leesburg or other federal, state, or municipal agencies;
 - 9.2. Have adequate financial resources, or the ability to obtain such resources as required during performance of the contract;
 - 9.3. Be able to comply with the required or proposed delivery or performance schedule;
 - 9.4. Have a satisfactory record of performance. Vendors who are or have been seriously deficient in current or recent contract performance (when the number of contracts and the extent of the deficiency of each are considered, in the absence of evidence to the contrary or circumstances properly beyond the control of the contractor) shall be presumed unable to meet this requirement. Past unsatisfactory performance will ordinarily be sufficient to justify a finding of non-responsibility;
 - 9.5. Have a satisfactory record of integrity and business ethics; and
 - 9.6. Be otherwise qualified and eligible to receive an award under applicable laws and regulations or as required in other sections of this document.
10. **Copeland "Anti-Kickback" Act** - The Contractor must comply with the Copeland "Anti-Kickback" Act, 18 USC 874 as supplemented in Department of Labor regulations, 29 CFR Part 3, prohibiting employers from inducing any person employed to give up any part of the compensation to which he or she is otherwise entitled.
11. **Damage to Facilities** - Any damage to facilities, equipment or property, due to the incompetence or negligence of the contractor's personnel including subcontractors that occurs, shall be responsibility of the Contractor. The Contractor shall reimburse the owner of the damaged facility, equipment or property for any cost to repair damage, beyond reasonable wear, caused by the Contractor.
12. **Disputes** - In case of any doubt or differences of opinion as to the items to be furnished hereunder, the decision of the City of Leesburg Purchasing Division shall be final and binding on both parties.
13. **Execution of Contract** – The firm to whom a Contract is awarded will be required to execute two (2) original contract documents within ten (10) days from the date of notice of acceptance of the Bid, and deliver these executed instruments to the City of Leesburg Purchasing Division.
14. **Governing Law/Jurisdiction** – The interpretation, effect, and validity of any contract(s) resulting from this solicitation shall be governed by the laws and regulations of the State of Florida. Venue of any court action shall be in Lake County, Florida. In the event that a suit is brought for the enforcement of any term of the contract(s).
15. **Interpretation of Contract Documents** - Each Bidder shall thoroughly examine the Response Form, and all other papers comprising the Contract Documents. He shall also examine and judge for himself all matters relating to the location and the character of the proposed work. If the Bidder should be of the opinion that the meaning of any part of the specifications is doubtful or obscure, or that they contain errors or reflect omissions, he should report such opinion or opinions in writing for an interpretation thereof to Purchasing Department, P.O. Box 490630, Leesburg, Florida 34748, Email to: purch@leesburgflorida.gov, (352) 728 9880, FAX (352) 326-6618 at least seven (7) days before the date of the formal opening of Bid Responses in order that appropriate addenda may be issued by the Purchasing Manager, if necessary, to all prospective Bidders.
 - 15.1. Any such interpretation will be made only through the issuance of a written addendum, a copy of which will be so mailed or delivered to each prospective Bidder who has received Bid Response documents. The Purchasing Manager will not be responsible for oral interpretation given either by him or by a member of his staff, the issuance of a written addendum being the only official method whereby such an interpretation will be given. The failure of the Bidder to direct the attention of the Purchasing Manager to errors or discrepancies will not relieve the Bidder, should he be awarded the contract, of responsibility of performing the work to the satisfaction of the City of Leesburg.

16. **Inspection and Acceptance Of Materials Or Services** - The material and/or services provided under any contract awarded in accordance with this solicitation shall remain the property of the seller until a physical inspection and actual usage of this material and/or services is made and thereafter accepted to the satisfaction of the City. Materials and/or services must comply with all the terms herein. In the event the material and/or service supplied to the City is found to be defective or does not conform to the specifications, the City reserves the right to cancel the order upon written notice to the seller. Materials shall be returned to the seller at the seller's expense. The City may take up to 15 days to complete their inspection of materials or services. The inspection period will be used to determine if the item meets the specifications requested and is fit for its intended use. Payment will be authorized upon final acceptance.
17. **Rules, Regulations and Licenses** – The vendor shall comply with all federal, state, county, and local laws ordinances, rules and regulations applicable to provision of the goods and/or services specified in this solicitation. Lack of knowledge by the Bidder will in no way be relief from responsibility.
18. **Liability** - The vendor shall hold and save the City of Leesburg, its officers, agents, and employees harmless from liability of any kind in the performance of or fulfilling the requirements of the Purchase Order or Agreement which may result from this Bid Response.
19. **Non-appropriation** – The vendor understands and agrees any and every Purchase Agreement is subject to the availability of funds to the City to purchase the specified products/services. As used herein, a “non-appropriation” shall be defined as an occurrence wherein the City, in any fiscal period, does not allocate funds in its budget for the purchase of the specified products/services or other amounts owed pursuant to any Contract, from the source of funding which the City anticipates using to pay its obligations hereunder, and the City has no other funds, from sources other than ad valorem taxes, which it deems to be available to pay its obligations under Contract. The City may terminate a Purchase Agreement, with no further liability to the vendor, effective the first day of a fiscal period provided that:
 - 19.1. A non-appropriation has occurred, and
 - 19.2. The City has provided the vendor with written notice of termination not less than fifteen (15) days before the proposed termination date.
 - 19.3. Upon the occurrence of such non-appropriation the City shall not be obligated for payment for any fiscal period for which funds have not been appropriated.
20. **Conflicts**
 - 20.1. **Within the Solicitation** – Where there appears to be a conflict between the General Terms and Conditions, Special Terms and Conditions, the Statement of Work, the Pricing Section, or any addendum issued, the order of precedence shall be the last addendum issued, the Bid Price Section, the Statement of Work, the Special Terms & Conditions, and then the General Terms & Conditions. In addition, in the case of a conflict between any term or provision contained in contract documents which cannot be resolved by the order of precedence set forth previously, the term or condition that is more stringent and/or specific shall govern and apply.
 - 20.2. **Websites & Electronic Information** - Conflicts between this document and the City's Website – Where there appears to be a conflict between information common to this document and the City's Website the information contained in this document shall likely prevail. The decision of the City in resolving discrepancies of information shall be final. Submittal of a proposal is your firm's acceptance of this term.
21. **Price Bid** - The unit prices, lump sum(s) and total price bid for the work shall be stated in figures in the appropriate places on the prescribed Bid Form, and shall be firm for 90 calendar days after the bid opening date. In the case of a discrepancy between the unit cost and extended cost the unit cost quoted will take precedence.
22. **Qualifications of Respondents** - The City of Leesburg reserves the right before awarding the contract, to require the respondent to submit such evidence of his qualifications and experience as it may deem necessary, and may consider any evidence available to it of the financial, technical and other qualifications and abilities of a respondent.
 - 22.1. The respondent is assumed to be familiar with all Federal, State or local laws, codes, ordinances, rules and regulations that in any manner affect the work, and to abide thereby if awarded the Contract. Ignorance of legal requirements on the part of the Bidder will in no way relieve him of responsibility.

- 22.2. Any respondent may be required to show to the complete satisfaction of the City of Leesburg that he has the necessary personnel, facilities, abilities, and financial resources to perform the work in a satisfactory manner and within the time specified.
- 22.3. Respondents must possess any and all required licenses to perform and complete the work necessary in this project. The respondent must be licensed at the time of submitting their bid and the license must be in effect for the entire period of the project.
23. **Quantities** – The City reserves the right to adjust quantities stated in this proposal document. Available funding versus prices quoted may affect actual quantities ordered. The City may choose to increase or decrease quantities stated in the documents depending on the circumstance. The City is not obligated to place any order for a given amount subsequent to the award of this solicitation. The City may use any stated estimated quantities in the award evaluation process. Estimated quantities do not contemplate or include possible additional quantities that may be ordered by other government, quasi-governmental or non-profit entities utilizing this contract. In no event shall the City be liable for payments in excess of the amount due for quantities of goods or services actually ordered.
24. **Responsibility of Respondent To Inform Himself As To All Conditions Relating To Project** - The respondent, by and through the submission of his response, agrees that he shall be held responsible for having theretofore examined the site, the location and/or route of all proposed work and for having satisfied himself as to the character of such location and/or route of surface and underground obstructions, the nature of the ground and water table conditions and all other physical characteristics of the job, in order that he may include in the prices which he proposes, all costs pertaining to the work and thereby provide for the satisfactory completion thereof, including the removal, relocation or replacement of any objects or obstructions which will be encountered in doing the proposed work.
25. **Responsiveness** – Solicitation responses shall conform in all material respects to the Solicitation in order to be considered for award. Any bid which fails to conform to the Solicitations essential requirements shall be rejected.
26. **Right to Accept or Reject Proposal Responses** – Proposal responses which are incomplete, unbalanced, conditional, obscure or which contain additions not required, or irregularities of any kind, or which do not comply in every respect with the Request for Proposal, and the Contract Documents, may be rejected at the option of the City of Leesburg (also see RFP Definitions).
- 26.1. The City of Leesburg does not bind itself to accept the lowest bid for the minimum specifications stated herein, but reserves the right to accept any response which in the judgment of the City will best serve the needs and interests of the City of Leesburg. If, at the time this contract is to be awarded, the lowest base Bid Response submitted by a responsible Bidder having acceptable qualifications and abilities to perform the work, does not exceed the amount of funds then estimated by the City as available to finance the contract, the contract will be awarded for that base Bid Response. If such bid exceeds such amount, the City may reject all Bid Responses or may award the contract on the base bid less such deductible alternates or schedules of work which are listed in the Bid Response Forms, as produces a net amount which is within the available funds.
27. **State Registration Requirements** – Any corporation submitting a bid in response to this Solicitation shall either be registered or have applied for registration with the Florida Department of State in accordance with the provisions of Chapter 607, Florida Statutes. A copy of the registration/application may be required prior to award of a contract. Any partnership submitting a response to this Solicitation shall have complied with the applicable provisions of Chapter 620, Florida Statutes. For additional information on these requirements, please contact the Florida Secretary of State's Office, Division of Corporations, (800) 755-5111 (<http://www.dos.state.fl.us>).
28. **Signature Of Vendor** - The vendor shall sign the proposal response form (Proposers Certification) in the space provided for the signature. If the Bidder is an individual, the words, "Doing Business As (business name)", or "Sole Owner" shall appear beneath his signature. In the case of partnership, the signature of at least one of the partners shall follow the firm name and the words, "Member of Firm", should be written beneath such signature. If the Bidder is a corporation, the title of the office signing the Bid Response in behalf of the corporation shall be stated and evidence of his authority to sign the Bid Response shall be submitted. The Bidder shall state in the Bid Response the name and address of each person interested herein.
29. **Subcontracting** – Unless otherwise specified in this solicitation, the vendor shall not subcontract any portion of the work without prior written consent of the City. The ability to subcontract may be further limited by the Special Terms and Conditions. Subcontracting without the prior consent of the City may result in termination of the contract for default.

30. **Time Allowed** - Time is of the essence and the successful vendor shall deliver the item(s) within the total number of calendar days as provided for in the Bid Response submitted.
31. **Wage Rates/Equal Employment Opportunity** - Wage rates for laborers, mechanics and apprentices shall not be less than those established by the Florida Department of Labor and Employment Security and/or the United States Department of Labor for this work, as may be attached hereto. The Contractor must insure Equal Employment Opportunity as part of the awarded contract and also subcontracts awarded by the contractor.
32. **Withdrawal of Proposal Responses** - Any response to this RFP may be withdrawn **prior** to the due date and time specified in the Request for Proposal document and any addenda.

[END OF SECTION]

SECTION 4 - FORMS

Complete ALL the forms in this section and submit them in a sealed envelope as your bid response.

SOLICITATION NO:	130351		
TITLE:	FURNISH & INSTALL POWER TRANSFORMER		
General Vendor Information			
Company Name:	_____		
Physical Address:	_____		
Mailing Address:	_____		
Phone No.:	_____	Fax No.:	_____
FEIN No.:	_____		

Provide information regarding who may be contacted regarding the solicitation response.

Additional Contact			
Name:	_____		
Title:	_____		
Address:	_____		
Phone No.:	_____	Fax No.:	_____
		Mobile Phone No.:	_____
e-Mail Address:	_____		
Additional Contact			
Name:	_____		
Title:	_____		
Address:	_____		
Phone No.:	_____	Fax No.:	_____
		Mobile Phone No.:	_____
e-Mail Address:	_____		

BIDDER'S CERTIFICATION

I have carefully examined the Invitation to Bid, Instructions to Bidders, General and/or Special Conditions, Specifications, Bid Proposal and any other documents accompanying or made a part of this invitation.

I hereby propose to furnish the goods or services specified in the Invitation to Bid at the prices or rates quoted in my bid. I agree that my bid will remain firm for the period established in the bid document in order to allow the City adequate time to evaluate the bids and make award. Furthermore, I agree to abide by all conditions of the bid.

I certify that all information contained in this bid is truthful to the best of my knowledge and belief. I further certify that I am duly authorized to submit this bid on behalf of the vendor / contractor as its act and deed and that the vendor / contractor is ready, willing and able to perform if awarded the bid.

I further certify that this bid is made without prior understanding, agreement, connection, discussion, or collusion with any person, firm or corporation submitting a bid for the same product or service; no officer, employee or agent of the City of Leesburg or of any other bidder interested in said bid; and that the undersigned executed this Bidder's Certification with full knowledge and understanding of the matters therein contained and was duly authorized to do so.

I further certify that having read and examined the specifications and documents for the designated services and understanding the general conditions for contract under which services will be performed, does hereby propose to furnish all labor, equipment, and material to provide the services set forth in the Proposal.

I hereby declare that the following listing states any clarifications, any and all variations from and exceptions to the requirements of the specifications and documents. The undersigned further declares that the "work" will be performed in strict accordance with such requirements, and understands that any exceptions to the requirements of the specifications and documents may render the bidder's proposal non-responsive.

NO EXCEPTIONS WILL BE ALLOWED AFTER THE BID IS SUBMITTED.

Please check one:

- I take NO exceptions
- I take the exceptions listed here:
- (If more space is needed, please indicate exceptions here and attach additional pages as needed)

ADDENDUM ACKNOWLEDGMENT

No Addendum were issued.

The undersigned acknowledges receipt of the following addenda to the Invitation to Bid (indicate number and date of each):

Addendum No.	Dated:	Addendum No.	Dated:
Addendum No.	Dated:	Addendum No.	Dated:

FAILURE TO SUBMIT ACKNOWLEDGEMENT OF ANY ADDENDUM THAT AFFECTS THE BID PRICES IS CONSIDERED A MAJOR IRREGULARITY AND MAY BE CAUSE FOR REJECTION OF THE BID.

LOCAL VENDOR STATUS DECLARATION

The responding firm and firm that will enter into an agreement with the City, if selected, declares the following selected Local Vendor status.

- My Firm Qualifies as a Tier I - Local Vendor for this solicitation**
 “Tier I Local Vendor” shall be defined as the primary Business Office or a Full Time Sales Office of the vendor being located within the City of Leesburg or the vendor receiving one or more Utility Services (excluding communications/Internet) from the City of Leesburg.
- My Firm Qualifies as a Tier II - Local Vendor for this solicitation**
 “Tier II Local Vendor” shall be defined as the primary Business Office or a Full Time Sales Office of the vendor not meeting the definition of a Tier I Local Vendor but nonetheless being located within the 20-Mile Radius as defined in this policy.
- My Firm does not qualify as a local vendor**

SIGNATURES

 Name of Business

 Telephone Number

By:

 Fax Number

 Signature

 e-mail Address

 Printed Name & Title

 Mailing Address

 City, State, Zip Code

Bid Number: 130351

Bid Name: Furnish & Install Power Transformer

SCHEDULE OF BID ITEMS
Bid No: 130351

Power Transformer for Center Substation

Your Bid MUST BE submitted on this form.

Submitting Vendor Name: _____

Item No.	Item Description	Quantity	Total Unit Cost
1	Three Phase 67,000 to 13,090 / 7,560 volt LTC power transformer in accordance with the specifications	1 each	\$
2	Installation including all materials and labor	1 each	\$
3	Freight Charge	1 each	\$
TOTAL BID PRICE			\$
Cost of Ownership			
Factor	(A) KW Loss	(B) Cost per KW	(A x B) Cost of Losses
No-Load Losses Factor A		\$3,623	\$
Load Losses Factor B		\$486	\$
SUBTOTAL LOSSES			\$
TOTAL COST OF OWNERSHIP (TOTAL BID PRICE + SUBTOTAL LOSSES)			\$

**Double check the Bid prices.
Amounts cannot be changed following the Bid due date and time.**

STATEMENT OF EXPERIENCE – Part 1

Company Name:			
No. of years in business:		Years at current address:	
PRINCIPALS			
Name		Title	
Describe the type of work normally performed by your company:			
Financial Status: <input type="checkbox"/> Poor <input type="checkbox"/> Good <input type="checkbox"/> Excellent			
No. of Personnel Currently Employed:		No. of Personnel Available for this Project:	
List Equipment To Be Used On This Project			

STATEMENT OF EXPERIENCE – Part 2
“SIMILAR” PROJECT EXPERIENCE

List all SIMILAR projects your firm has completed. Copy this sheet if additional pages are needed. You must use this form. Attaching a separate listing may cause your bid to be deemed non-responsive and rejected.

Project Name/ Location:			
Project Owner:		Date Completed:	
Project Description and Specific Scope: <i>Be Descriptive. Use additional pages.</i>			
Contract Amounts:	Original \$	At Completion:	\$
Briefly Explain Any Variance:			
Contact Person:			
Phone Number:		Fax Number:	
Contact e-mail:			
Project Name/ Location:			
Project Owner:		Date Completed:	
Project Description and Specific Scope: <i>Be Descriptive. Use additional pages.</i>			
Contract Amounts:	Original \$:	At Completion:	\$
Briefly Explain Any Variance:			
Contact Person:			
Phone Number:		Fax Number:	
Contact e-mail:			
Project Name/ Location:			
Project Owner:		Date Completed:	
Project Description and Specific Scope: <i>Be Descriptive. Use additional pages.</i>			
Contract Amounts:	Original \$:	At Completion:	\$
Briefly Explain Any Variance:			
Contact Person:			
Phone Number:		Fax Number:	
Contact e-mail:			

“SIMILAR” PROJECT EXPERIENCE (cont)

Project Name/ Location:			
Project Owner:		Date Completed:	
Project Description and Specific Scope: <i>Be Descriptive. Use additional pages.</i>			
Contract Amounts:	Original \$	At Completion:	\$
Briefly Explain Any Variance:			
Contact Person:			
Phone Number:		Fax Number:	
Contact e-mail:			
Project Name/ Location:			
Project Owner:		Date Completed:	
Project Description and Specific Scope: <i>Be Descriptive. Use additional pages.</i>			
Contract Amounts:	Original \$:	At Completion:	\$
Briefly Explain Any Variance:			
Contact Person:			
Phone Number:		Fax Number:	
Contact e-mail:			
Project Name/ Location:			
Project Owner:		Date Completed:	
Project Description and Specific Scope: <i>Be Descriptive. Use additional pages.</i>			
Contract Amounts:	Original \$:	At Completion:	\$
Briefly Explain Any Variance:			
Contact Person:			
Phone Number:		Fax Number:	
Contact e-mail:			

SUB-CONTRACTOR LISTING

Bidders using their own forces for all divisions bid for the work may skip Section I. If subcontractors are listed below, the Bidder acknowledges that they have fully investigated each subcontractor listed and has in their files evidence each subcontractor has engaged successfully in his line of work for a reasonable period of time, and that the subcontractor maintains a fully equipped organization capable, technically and financially, of performing the work required.

If more space is needed use copies of this form.

Section I - Trade Sub-Contractors		
Sub-Contractor Name and Address	Type of Work	Amount of Sub-Contract

Section II - Material Suppliers or Manufacturers		
Supplier or Manufacturer Name and Address	Type of Material / Supplies	Amount of Sub-Contract

AFFIDAVIT ON PUBLIC ENTITY CRIMES

(SWORN STATEMENT PURSUANT TO SECTION 287.133(3) (a), FLORIDA STATUTES)

THIS FORM MUST BE SIGNED AND SWORN TO IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICIAL AUTHORIZED TO ADMINISTER OATHS.

1. This sworn statement is submitted to the City of Leesburg

by _____
(individual’s printed name and title)

for _____ whose business address
(name of company submitting sworn statement)

is _____

- I. I understand that a “public entity crime” as defined in Paragraph 287.133(1)(g), Florida Statutes, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or of the United States, including, but not limited to, any bid or contract for goods or services to be provided to any public entity or an agency or political subdivision of any other state or of the United States and involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, or material misrepresentation.
- II. I understand that “convicted” or “conviction” as defined in Paragraph 287.133(1)(b), Florida Statutes, means a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in any federal or state trial court of record relating to charges brought by indictment or information after July 1, 1989, as a result of a jury verdict, non-jury trial, or entry of a plea of guilty or nolo contendere.
- III. I understand that an “affiliate” as defined in Paragraph 287.133(1)(a), Florida Statutes, means:
 - 1. A predecessor or successor of a person convicted of a public entity crime; or
 - 2. An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term “affiliate” includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The ownership by one person of shares constituting a controlling interest in another person, or a pooling of equipment or income among persons when not for fair market value under an arm’s length agreement, shall be a prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.
- IV. I understand that a “person” as defined in Paragraph 287.133(1)(e), **Florida Statutes**, means any natural person or entity organized under the laws of any state or of the United States with the legal power to enter into a binding contract and which bids or applies to bid on contracts for the provision of goods or services let by a public entity, or which otherwise transacts or applies to transact business with a public entity. The term “person” includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in management of an entity.

[rest of page intentionally left blank]

V. Based on information and belief, THE STATEMENT WHICH I HAVE MARKED BELOW is true in relation to the entity submitting this sworn statement.

___ Neither the entity submitting this sworn statement, nor any of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, nor any affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

___ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

___ The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989. However, there has been a subsequent proceeding before a Hearing Officer of the State of Florida, Division of Administrative Hearings and the Final Order entered by the Hearing Officer determined that it was not in the public interest to place the entity submitting this sworn statement on the convicted vendor list. (Attach a copy of the final order)

I UNDERSTAND THAT THE SUBMISSION OF THIS FORM TO THE CONTRACTING OFFICER FOR THE PUBLIC ENTITY IDENTIFIED IN PARAGRAPH 1 (ONE) ABOVE IS FOR THAT PUBLIC ENTITY ONLY AND, THAT THIS FORM IS VALID THROUGH DECEMBER 31 OF THE CALENDAR YEAR IN WHICH IT IS FILED. I ALSO UNDERSTAND THAT I AM REQUIRED TO INFORM THE PUBLIC ENTITY PRIOR TO ENTERING INTO A CONTRACT IN EXCESS OF THE THRESHOLD AMOUNT PROVIDED IN SECTION 287.017, FLORIDA STATUTES FOR CATEGORY TWO OF ANY CHANGE IN THE INFORMATION CONTAINED IN THIS FORM.

(Signature) (Date)

STATE OF _____)

COUNTY OF _____)

PERSONALLY APPEARED BEFORE ME, the undersigned authority,

_____ who, after first being sworn by me, affixed his/her signature
(Name of individual signing)

in the space provided above on this _____ day of _____, 20_____.

Attest: _____
(Notary Public)

My commission expires: _____ (Notary Seal)

BID BOND

KNOW ALL MEN BY THESE PRESENTS: that we _____

as Principal, hereinafter called Principal, a corporation partnership individual duly authorized by law to do business as a construction contractor in the state of Florida, and _____ a corporation organized and existing under the laws of the State of _____, having its primary Administrative Offices at _____ and currently licensed to do business in the State of Florida, hereinafter called the Surety, are held firmly bound unto the City of Leesburg, Lake County, Florida, as Obligee, hereinafter called Obligee, in the sum of:

_____ Dollars \$ _____ OR _____ % of the bid.

For the payment of which sum well and truly made, and the said Principal and the said Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal contemplates submitting or has submitted a Bid to the CITY for: _____

NOW, THEREFORE, if the Obligee shall accept the bid of the Principal and the Principal shall enter into a Contract with the Obligee in accordance with the terms of such bid, and give such bond or bonds as may be specified in the bidding or Contract Documents with good and sufficient surety for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof, or in the event of the failure of the Principal to enter such Contract and give such bond or bonds, if the Principal shall pay to the Obligee the difference not to exceed the penalty hereof between the amount specified in said bid and such larger amount for which the Obligee may in good faith contract with another Party to perform the Work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect.

Signed and sealed this ____ day of _____, 20__.

In the Presence of:

(Principal) (Seal)

By: _____
(Title)

(Surety) (Seal)

By: _____
(Attorney-in-Fact)

Printed: _____

CERTIFICATE AS TO CORPORATE PRINCIPAL

** For Corporations Only **

This form to be completed and accompany the foregoing Bid Bond for corporations only.

I, _____,
(Individuals Name – Corporate Office Holder)

certify that I am the _____,
(Office Held – Usually the Secretary)

of the _____
(Corporation Name)

(Corporation Name)

named as principal in the foregoing bond, that the person who signed the said bond on behalf of principal was or were then incumbent(s) in the position(s) shown above of said corporation that I know his or her signature(s), and his or her signature(s) thereto is or are genuine, and that said bond was duly signed, sealed and attested for and in behalf of said corporation by authority of its governing body.

Date: _____

(Signature of Secretary or Other Officer as above)

(Corporate Seal)