ITB TITLE: POWER TRANSFORMER FOR EAST SUBSTATION

ITB Number: 110121  Contracting Buyer: Armida Jones
Bid Due Date: April 5, 2011  Pre-Bid Date: (Not applicable)
Bid Due Time: 2:00 P.M.  Issue Date: March 7, 2011

TABLE OF CONTENTS
SECTION 1: Special Terms and Conditions  Page 1 – 6
SECTION 2: Scope of Work/Specs  Page 7 – 39
SECTION 3: General Terms and Conditions  Page 40 - 44
SECTION 4: Forms/Pricing  Page 45 - 56

SPECIFIC SOLICITATION REQUIREMENTS ARE AS NOTED BELOW

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<tr>
<td>Bid Bond</td>
<td>Section 1, Item 7, 8 &amp; 10</td>
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<td>Payment/Performance Bond</td>
<td>Section 1, Item 9 &amp; 10</td>
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Bids will be accepted until the date and time specified above, or as amended by written addendum. All bids received will accepted for consideration. A public bid opening will NOT be held. The names of the bidders submitting bids will be made available shortly after the due date and time. Per State of Florida Public Records Statute 119, bids will be available for inspection in the Purchasing Division during normal business hours 10 working days after the official bid due date and time.
SECTION 1 – Special Terms and Conditions

CITY OF LEESBURG, FLORIDA
INVITATION TO BID (ITB)
No: 110121
“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.

The City of Leesburg uses BidSync (www.bidsync.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.bidsync.com to view and/or obtain RFP documents or for further information.

1. Information or Clarification
   For information concerning procedures for responding to this ITB, technical specifications, etc., utilize the question & answer feature provided by BidSync. 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 BidSync 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 three (3) 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. BID 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 East 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.

Armida Jones, 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. Method of Award - To a Single Vendor in the Aggregate
Bids will be evaluated based on the ‘Cost of Ownership’ calculation defined in Item 14 of the Technical Specifications. The City will award to a single vendor.

6. 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.

7. 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.

8. 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.

9. 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.

10. 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.

11. 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.

12. 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.

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<tr>
<th>Delivery IN PERSON</th>
<th>THIRD PARTY CARRIER</th>
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<tr>
<td>PURCHASING DIVISION</td>
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<td>CITY OF LEESBURG</td>
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<td>204 N. 5TH STREET</td>
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<td>LEESBURG, FLORIDA</td>
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<td>34748</td>
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FACSIMILE (FAX) OR ELECTRONIC SUBMISSIONS (E-MAIL) WILL NOT BE ACCEPTED.

13. 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.

14. 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.

15. 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.

16. 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.

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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 East Substation equipped as evaluated with any or all deducts. 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. The laptop will become the permanent property of the City of Leesburg upon acceptance of the delivered and installed 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 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 installation as per these Specifications.

2.5.5 Delivery of the power transformer will be made to East Substation 501 East North Blvd, 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 so do 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 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. This warranty shall extend for five (5) years from the date of energization [or sixty-six (66) months from delivery]. A deduct may be offered for the utilization of manufacturer's standard twelve- (12) month or three- (3) year warranty in lieu of the five- (5) year warranty. However, any base bid not including at least a full five- (5) year warranty shall be considered less responsive.

The following adders will be applied per unit during the evaluation process for any quotation having a warranty of less than five- (5) years.

- One- (1) year warranty in lieu of five- (5) years = $7,200.00
- Three- (3) year warranty in lieu of five- (5) years = $4,500.00

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.

5.2.17 In addition to the above all drawings, manuals, outlines, curves, details, schematics to be installed on a ruggedized laptop computer required in this specification. The laptop computer will become property of the City of Leesburg upon acceptance of the transformer and successful installation.

6.0 Shipping of Transformer

6.1 Transformer shall be shipped to East Substation and installed on the concrete pad (or temporary timbers) by the Bidder. The Materialman will then be responsible for the supervision of reassembly, including field-testing of each unit. Materialman will provide equipment and labor to perform dress-out, under the supervision of the Field Service Engineer.

6.2 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 at 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.

6.3 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.

6.4 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.

6.5 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.

6.6 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.
6.7 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.

6.8 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.

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

6.8.1 Any reading in any direction past Zone 3.0 will indicate the need for close visual inspection by the manufacturer’s representative.

6.8.2 Any reading in any direction past Zone 4.0 may be grounds for internal inspection.

6.8.3 Any reading in any direction past Zone 5.0 may be grounds for return shipment and rejection of the unit.

6.9 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.

6.10 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 test (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 ONAN/ONAF/ONAF 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:

<table>
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<th>Cooling</th>
<th>Schedule 1 Rating (kVA)</th>
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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 the latest edition ANSI C57.91 "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

<table>
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<tr>
<th>69 kV Taps</th>
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<tr>
<td>70,350 volts</td>
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<td>68,675 volts</td>
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<tr>
<td>67,000 volts</td>
</tr>
<tr>
<td>65,325 volts</td>
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<tr>
<td>63,650 volts</td>
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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 the side of the tank in either Segment 1 or Segment 4 as identified by ANSI C57.12.10.

8.2.1.3 The control cabinet and the LTC compartment must be positioned to provide any substation operator a clear and unobstructed view of the LTC position indicator while standing at the control cabinet operating panel.

8.2.1.4 Auxiliary cooling equipment including radiators, fans, and pumps, shall be located on the side of the tank in either Segment 2 or Segment 3 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, ANSI No. 70, and certified as lead free. Epoxy preferred.

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 8.5% 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:

<table>
<thead>
<tr>
<th>Schedule No.</th>
<th>HV Bushings (kV/kV BIL)</th>
<th>HV Bushings (Amp.)</th>
<th>LV Bushings (kV/kV BIL)</th>
<th>LV Bushings (Amp.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>69/350</td>
<td>600</td>
<td>15/110</td>
<td>2000</td>
</tr>
</tbody>
</table>

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 ONAN/ONAF/ONAF.
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.

The temperature monitor shall monitor amperage for each fan, total amperage and fan cycling.

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

All cooling fans shall be located at sufficient height to permit their operation when the transformer is embedded in snow up to 30 inches from its base.

8.7 Current Transformers

Each transformer shall be equipped with bushing type current transformers mounted inside the main case on terminals $H_1$, $H_2$, $H_3$, $X_1$, $X_2$, $X_3$, and $X_0$ 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.

Bushing type current transformers to be furnished on terminals shall be 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 50, 100, 150, 200, 250, 300, 400, 450, 500, and 600 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:

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

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, 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 AC Shelf 1212SS.

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 centrally located in Segment 1 or near the corner between segment 1 and segment 4 per ANSI C57.12.10, near the bottom of the tank at a location to be approved by the Owner. A dead-front control panel in the control cabinet shall contain the necessary switches, circuit breakers, relays, indicating lamps, transformer monitor etc.

Breathers for the control cabinet shall be Messko MTraB®.

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 covered.

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, 90°C, 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.


8.12 Alarms and Relays
See Section 10.1. for monitor specifics.

The transformer shall be equipped with various alarms and an alarm monitor 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
monitor shall be flush-mounted on the control panel within the transformer control cabinet and shall be wired to the designated alarms brought to the terminal blocks.

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

The various alarms shall provide a second dry, normally open contact so that 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 monitor shall provide a minimum of fourteen (14) alarm input points and be for use at 125 Vdc.

The following alarms are to be identified:

8.12.1 Transformer High Oil Temperature (26Q)
8.12.2 Transformer Sudden Pressure (63FP)
8.12.3 Transformer High Winding Temperature (49T)
8.12.4 Transformer Liquid Level (71Q)
8.12.5 Transformer Pressure Relief (63PR)
8.12.6 Transformer Undervoltage (auxiliary power) (27-1)
8.12.7 Transformer Fans Run (88F)*
8.12.8 Transformer Fan Failure (49-88F)
8.12.9 Transformer Gas System - High Pressure (63G-HI)
8.12.10 Transformer Gas System - Low Pressure (63G-LO)
8.12.11 Transformer Gas System (63G)
8.12.12 LTC Raise Limit (33R)
8.12.13 LTC Lower Limit (33L)

* Monitor to reset to normal automatically upon change in condition.

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

8.13 Fault Pressure Relay
See optional accessory Section 11.3 for fault relay specifics;
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 contacts for the remote alarm and 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 930 with 3 sensors. Auxiliary target relays and latched tripping relays shall be similar or equal to General Electric HAA16B, HEA 61, and Electroswitch LOR. 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 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.

8.15 Transformer Oil/Oil Inhibitor and UL Approved

8.15.1 Insulating oil for the main tank, oil-filled bushings, and LTC shall be non-toxic, fire-resistant, bio-based natural ester dielectric fluid. The insulating fluid shall be Factory Mutual, UL classified “Envirotex FR3” as manufacturing by Cooper Industries.
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 ± 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. However, the physical location of the load tap changing compartment must provide an unobstructed view of the LTC position indicator to any operator attending the main control
compartment. 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 transformer for line-drop compensator. 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 non-breathing or pressurized design. 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 Static control equipment, including:
(a) TAPCON 250 voltage regulator
(b) TAPCON – trol system Windows-based software factory loaded on the Toughbook Laptop included in this specification.
(c) Optional TAPCON 250 fiber optic port.
(d) Optional TAP CON Analog input / Output module. Analog outputs shall be wired to terminal blocks for customer use.
(e) Positive tap position input to the TAPCON 250 shall be provided.
(f) TAPCON XPA shall be provided.
(g) Potential circuit breaker
(h) Potential supply input terminals and disconnect switch

8.16.7.2 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) Current transformers for parallel operation.

(n) 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.

(o) Necessary terminal blocks and wiring.

8.16.8 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. Indication of maximum raise and lower positions as an alarm condition wired to terminals for remote indication in the control house.
2. Integrity control failure alarm (vacuum unit only).

3. Vacuum contact failure alarm (vacuum unit only).

4. The communications between the load tap changer control and the supervisory systems shall be fiber optic.

5. Provisions for the supervisory initiation of “raise”, “lower”, or “auto” 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.

6. 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.

7. 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 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

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

8.17.1 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.

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; appropriate 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 as shown in the Appendices.

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

9.6 Transformer winding temperature gauge to be Messko Contact Series Type MT-ST160W series with all connections for fan control, alarms and trip signals

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 Pressure-vacuum bleeder.

9.12 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. Core ground shall be brought to manhole for testing.

9.13 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.

9.14 Nameplates in accordance with ANSI Standards, located on the main tank and in control box, shall be non-corrosive.

9.15 Non-corrosive diagram instruction plate. Turn progression and accuracy class of bushing current transformers shall be shown on nameplate.

9.16 Tap Changer instruction nameplate, stainless steel for the high-voltage tap changers.

9.17 Undervoltage relay to detect and alarm for the loss of all phases of cooling power. These alarms shall be inputs to the transformer monitor.
9.18 All valves shall have silicone rubber (or better) packing to prevent leaking.

9.19 Bio-based, natural ester “Envirotemp FR3” insulating oil with appropriate oxide inhibitor and associated PCB certification and nameplate as per General Conditions.

9.20 Single-phase, 60 Hertz, 230 volts cooling fans.

9.21 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.

9.22 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.

9.23 One (1) 600:5-ampere MR current transformer of relaying accuracy on the $X_o$ neutral bushing and on the $H_oX_o$ neutral bushing, with leads brought down to control cabinet.

9.24 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.

9.25 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.

9.26 All transformer oil supplied shall have antioxidant oil inhibitor, appropriate for “Envirotemp FR3” bio-based oil.

9.27 No tripping relays shall be mounted on a swinging panel. All tripping relays shall have covers.

9.28 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.

9.29 All equipment required for positive pressure gas regulation system, including alarms.

9.30 Core ground pocket bushing with protective cover.

9.31 A Schweitzer SEL-3530 Real Time Automation Controller will be included. Catalog No. 3530HA0XX21; ship loose
9.32 A Schweitzer SEL-2523 Annunciator will be included. Catalog No.252301313A0AXXX, ship loose.

9.33 A Schweitzer SEL-387E Current Differential Overcurrent Relay will be included. Catalog No. 0387E013X534X41, ship loose.

9.34 A Schweitzer SEL 2414 Transformer Monitor will be included. Catalog No. 241421ACA913A851130.

9.35 A Schweitzer SEL 351S Relay will be included. Catalog No. 0351S7X3D4B5421, ship loose.

9.36 A Panasonic Toughbook Laptop (Cat.No.-CF-31ATA731M) pre-loaded with all software necessary to program and interrogate the IED’s included herein. The Laptop should contain at least a 160 gb hard drive with 4gb of ram and be loaded with all software to make it a completely functional device. A list of base software should include Windows XP Pro SP2, Microsoft Office, AutoCad True-view and all software for the IED’s including the Dissolved Gas Analyzer, Transformer Monitor, Load Tap Changer Control, Bushing Monitor and Fault Pressure Relay.

10 Transformer Monitor / Control Equipment

10.1.1 Transformer monitor shall be mounted in the control panel and connect all sensors, alarms, controlled devices. 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 Top oil temperature

10.1.1.2 Ambient temperature

10.1.1.3 Winding hot spot calculation for each winding

10.1.1.4 Hot Spot temperature

10.1.1.5 Main tank oil level alarm

10.1.1.6 LTC oil level alarm

10.1.1.7 Automatic fan bank control.

10.1.1.8 Loss of power cooling fans

10.1.1.9 Loss of pressure alarm

10.1.1.10 Low nitrogen alarm-tank.

10.1.1.11 Low nitrogen system alarm
10.1.1.12  Loss of life calculation
10.1.1.13  Capture through fault-current.
10.1.1.14  Retain at least 512 sequential events of digital input transitions.
10.1.1.15  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.

The monitor shall include I/O for at least 5 RTD sensors, Top Oil, Bottom Oil and Hot Spot. The monitor shall include a RTD for ambient temperature.

10.1.2  The monitor shall interface with the cooling system and provide the following:

10.1.2.1  Alarm fan failure
10.1.2.2  Display fan run hours
10.1.2.3  Alarm cooling contactor failure
10.1.2.4  Cooling breaker trip/loss of power
10.1.2.5  Cooling power switch
10.1.2.6  Smart cooling control with transformer thermal models and all input data.
10.1.2.7  Automatic exercise of cooling fans.
10.1.2.8  Monitor amperage of fans.

10.1.3  The monitor shall be capable of loss of life calculation and through fault calculation.

10.1.4  TCP/IP Ethernet with DNP 3.0, connections for RS-232 for local connection. Fiber optic connection to supervisory controller.

10.1.5  All software required for programming and interrogation to be factory loaded on the included Toughbook Laptop.

11  Optional Accessories
Optional accessories are to be priced out separately and are to include purchasing, installation, setup and integration.

11.1  Dissolved Gas/Moisture Analysis
11.1.1 A composite combustible gas/moisture monitor shall be mounted at 5 foot on the side of the transformer and connect to all sensors and alarms. Provide and connect all sensors. Provide and configure all software. Provide with the following options Isolated Ethernet kit, all software, quick connect sampling tube, 10 copies of installation and operating manuals on paper and CD ROM, quick connect dust plug. Two year manufacturer’s warranty. Shall be a Morgan And Schaeffer Calisto 2. All software required for programming and interrogation to be factory loaded on the included Toughbook Laptop.

11.2 On-line Bushing monitoring Equipment
The Bushing Monitor shall be a Doble IDD complete with all cables, sensors, and software to completely install the IDD in the control cabinet.

11.2.1 Features the Bushing Monitor shall include:
11.2.1.1 Inputs- Up to 12 bushings (4 sets of 3), Up to 3 Moisture in Oil sensors, Up to 3 Dissolved gas sensor, 2 via SCADA- Acknowledge and reset alerts.
11.2.1.2 Outputs- 4 via SCADA- Action alert, Warning alert, Information alert and self-monitoring
11.2.1.3 Communications – Ethernet TCP/IP, RS 485 (DNP3 and ASCII), Modem, RS232(DNP3 and ASCII), Supervisory I/O
11.2.1.4 Operating Environment - -40° to +65°C, 5 to 95% RH
11.2.1.5 Power Supply- 100 to 280 VDC, 90 to 264 VAC
11.2.1.6 Software: The provided software must be able to be used to configure the bushing monitor as well as upload all data and store it in a database.

Software must be provided with the unit and have the following features:

Ability to communicate with the monitor by Direct connection to the monitor via the RS 485, USB and TCP port

All software required for programming and interrogation to be factory loaded on the included Toughbook Laptop.

11.3 Rapid Rise Relay
The rapid rise relay shall be a Qualitrol 930 Electronic Pressure Monitor. Multi-function, electronic pressure monitor with adjustable pressure sensitive sensors that provide rapid pressure rise detection combined with seal-in relay
functionality and static pressure monitoring and control. Include three sensors for monitoring. Provide all cables, through plates, fittings, software. All software to be factory loaded on the included Toughbook Laptop

12 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:

12.1 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.)

**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.

12.2 Tests in Field
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.

3. 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 to the Owner's Engineer.

b. A history of successful experience with transformers of identical transformers 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.

13 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 ONAN, ONAN/ONAF, ONAN/ONAF/ONAF rating at 55°C rise and ONAN/ONAF/ONAF 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. Cooling fans, (or oil pumps) H.P. rating, and voltage.

g. Net weight including insulating oil plus weights of tank and oil separately.
h. Shipping weight.

i. Gallons of oil required per transformer, listed by: (1) main tank, (2) LTC compartment, and (3) radiators.

j. Limiting dimensions of transformer including tank wall thickness.

k. Four (4) copies of the transformer test reports shall be furnished to the Owner's Engineer at the time the transformers are shipped.

l. 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.

14 **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:

"Cost of Ownership" = Unit Cost* + (No-Load Losses x A) + (Load Losses x B)

* 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:

<table>
<thead>
<tr>
<th>MVA</th>
<th>No-Load Losses (A Factor)</th>
<th>Load Losses (B Factor)</th>
</tr>
</thead>
<tbody>
<tr>
<td>18.0 MVA Units</td>
<td>$ 4,466</td>
<td>$ 1,212</td>
</tr>
</tbody>
</table>

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 ±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.

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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 firm's 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 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 BidSYNC. 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. **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.

14.1. 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.

15. **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.

16. **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.

17. **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.

18. **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:

18.1. A non-appropriation has occurred, and
18.2. The City has provided the vendor with written notice of termination not less than fifteen (15) days before the proposed termination date.
18.3. 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.

19. **Conflicts**

19.1. **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.

19.2. **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.

20. **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.

21. **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.

21.1. 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.
21.2. 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.
21.3. 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.
22. **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.

23. **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.

24. **Responsiveness (Sealed Proposals)** – Proposal responses shall conform in all material respects to the Request for Proposal (RFP) in order to be considered for award. Any bid which fails to conform to the RFP's essential requirements shall be rejected.

25. **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).

25.1. 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.

26. **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 on 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.

27. **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.

28. **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.

29. **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.

30. **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.
Section 4 - Forms
BIDDER’S CERTIFICATION

By signing and submitting this bid or proposal the respondent attests and certifies that:
- It satisfies all legal requirements (as an entity) to do business with the City.
- The undersigned vendor acknowledges that award of a contract may be contingent upon a determination by the City that the vendor has the capacity and capability to successfully perform the contract.
- The bidder hereby certifies that it understands all requirements of this solicitation, and that the undersigned individual is duly authorized to execute this bid document and any contract(s) and/or other transactions required by award of this solicitation.
- I have carefully examined the full solicitation document and any other documents accompanying or made a part of this solicitation.
- 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 a period of up to ninety (90) days in order to allow the City adequate time to evaluate the bids. Furthermore, I agree to abide by all conditions of the solicitation and/or resulting contract.
- 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.
- 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 bid or proposal.
- The work, services, or goods will be provided in strict accordance with the requirements of this solicitation, and understands that any exceptions to the requirements of the specifications and documents may render the bid or proposal non-responsive.

Exceptions – No Exceptions will be allowed after the solicitation due date and time.

___ I take NO exceptions to this solicitation and all related documents.

The following exception(s) is/are taken:

(If more space is needed, please indicate exceptions here and attach additional pages as needed)

General Vendor Information and Signature

Firm Name: ____________________________________________

Physical Address: ______________________________________

Mailing Address: ______________________________________

Phone No.: ___________ Fax No.: ___________ Mobile Phone No.: ___________

FEIN No.: ___________ e-Mail Address: __________________

Printed name: __________________________ Title: ______________

Signature: __________________________ Date: ______________

ITB 110121 Power Transformer for East Substation
City of Leesburg – Purchasing Division
ADDITIONAL CONTACT INFORMATION

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

<table>
<thead>
<tr>
<th>Additional Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name:</td>
</tr>
<tr>
<td>Title:</td>
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<tr>
<td>Address:</td>
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<td>Phone No.:</td>
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<td>Fax No.:</td>
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<tr>
<td>Mobile Phone No.:</td>
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<tr>
<td>e-Mail Address:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Additional Contact</th>
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</thead>
<tbody>
<tr>
<td>Name:</td>
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<tr>
<td>Mobile Phone No.:</td>
</tr>
<tr>
<td>e-Mail Address:</td>
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</table>

ACKNOWLEDGEMENT OF ADDENDA

INSTRUCTIONS: Complete Part I or Part II, whichever applies. Failure to complete this acknowledgement section may be considered a major irregularity and may be cause for rejection of the bid.

Part I:

The bidder must list below the dates of issue for each addendum received in connection with this solicitation:

Addendum #1, Dated: ________________
Addendum #2, Dated: ________________
Addendum #3, Dated: ________________
Addendum #4, Dated: ________________
Addendum #5, Dated: ________________

Part II:

☐ No Addendum was received in connection with this solicitation.
# SCHEDULE OF BID ITEMS

**Bid No: 110121**

**Power Transformer for East Substation**

Your Bid **MUST BE** submitted on this form.

Submit Vendor Name: _______________________________________________________

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Item Description</th>
<th>Quantity</th>
<th>Total Unit Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Three Phase 67,000 to 13,090 / 7,560 volt LTC power transformer</td>
<td>1</td>
<td>$</td>
</tr>
<tr>
<td>2</td>
<td>Installation including all materials and labor</td>
<td>1</td>
<td>$</td>
</tr>
<tr>
<td>3</td>
<td>Freight charge</td>
<td>1</td>
<td>$</td>
</tr>
</tbody>
</table>

**TOTAL COST**  
$  

Double check the Bid prices. Amounts cannot be changed following the Bid due date and time.
## STATEMENT OF EXPERIENCE – Part 1

<table>
<thead>
<tr>
<th>Company Name:</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>No. of years in business:</td>
<td>Years at current address:</td>
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</tbody>
</table>

### PRINCIPALS

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
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</tbody>
</table>

Describe the type of work normally performed by your company:

Financial Status: □ Poor □ Good □ Excellent

<table>
<thead>
<tr>
<th>No. of Personnel Currently Employed:</th>
<th>No. of Personnel Available for this Project:</th>
</tr>
</thead>
<tbody>
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</table>

### List Equipment To Be Used On This Project

<table>
<thead>
<tr>
<th>Equipment</th>
<th></th>
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<tbody>
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</tbody>
</table>
# 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.

<table>
<thead>
<tr>
<th>Project Name/Location:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Project Owner:</strong></td>
<td>Date Completed:</td>
</tr>
<tr>
<td><strong>Project Description and Specific Scope:</strong> Be Descriptive. Use additional pages.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Contract Amounts: Original $</th>
<th>At Completion: $</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Briefly Explain Any Variance:</strong></td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Contact Person:</th>
<th></th>
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<tbody>
<tr>
<td><strong>Phone Number:</strong></td>
<td>Fax Number:</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Project Name/Location:</th>
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</thead>
<tbody>
<tr>
<td><strong>Project Owner:</strong></td>
<td>Date Completed:</td>
</tr>
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<td><strong>Project Description and Specific Scope:</strong> Be Descriptive. Use additional pages.</td>
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<td><strong>Phone Number:</strong></td>
<td>Fax Number:</td>
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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.

<table>
<thead>
<tr>
<th>Section I - Trade Sub-Contractors</th>
</tr>
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<tbody>
<tr>
<td>Sub-Contractor Name and Address</td>
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<table>
<thead>
<tr>
<th>Section II - Material Suppliers or Manufacturers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supplier or Manufacturer Name and Address</td>
</tr>
<tr>
<td>--------------------------------------------------</td>
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ITB 110121 Power Transformer for East Substation
City of Leesburg – Purchasing Division
AFFIDAVIT OF NON-COLLUSION

I state that I am __________________________ of __________________________ and that I

(title) (name of company)
am authorized to make this affidavit on behalf of my firm, and its owners, directors, and officers. I am the person responsible in my

firm for the price(s) and the amount of this Offer.

I state that:

1. The price(s) and amount of this Offer have been arrived at independently and without consultation, communication or agreement with any other Proposer or potential Proposer.

2. That neither the price(s) nor the amount of this Offer, and neither the approximate price(s) nor approximate amount of this Offer, have been disclosed to any other firm or person who is a Proposer or potential Proposer, and they will not be disclosed before Solicitation opening.

3. No attempt has been made or will be made to induce any firm or person to refrain from bidding on this contract, or to submit an Offer higher than this Offer, or to submit any intentionally high or noncompetitive Offer or other form of complementary Offer.

4. The Offer of my firm is made in good faith and not pursuant to any agreement or discussion with, or inducement from, any firm or person to submit a complementary or other noncompetitive Offer.

5. __________________________, its affiliates, subsidiaries, officers, directors and employees

(name of company)

are not currently under investigation by any governmental agency and have not in the last four years been convicted of or found liable for any act prohibited by State or Federal law in any jurisdiction, involving conspiracy or collusion with respect to bidding on any public contract, except as described in the attached appendix.

I state that __________________________ understands and acknowledges that the above

(name of company)

representations are material and important, and will be relied on by the City of Leesburg in awarding the contract(s) for which this Offer is submitted. I understand and my firm understands that any misstatement in this affidavit is and shall be treated as fraudulent concealment from the City of Leesburg of the true facts relating to the submission of Offers for this solicitation or contract.

__________________________________________

(Authorized Signature) (Title)

NOTICE: State name of Bidder followed by name of authorized individual (and title) who is signing as Affiant. If Bidder is an individual, state name of Bidder only.

__________________________________________

(Name of Company)

Sworn to and subscribed to before me this _______ day of __________________, 20___, in the state of

__________________________, County of ____________________________.

Attest: ____________________________

Notary Public

My Commission Expires: ____________________________

Notary Seal
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 ______________________________________

(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. 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) (Title)

________________________________________________________________________
(Surety) (Seal)

By:

(Printed):

__________________________
(Attorney-in-Fact)
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 positions(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)