

## AGREEMENT FOR SUPPLY, DELIVERY, INSTALLATION, AND TESTING OF POWER TRANSFORMERS

THIS AGREEMENT FOR SUPPLY, DELIVERY, INSTALLATION, AND TESTING OF POWER TRANSFORMERS (Agreement") is entered into by and between the **CITY OF OCALA**, a Florida municipal corporation ("City"), and **VIRGINIA TRANSFORMER CORP.**, a foreign for-profit corporation duly organized in Virginia and authorized to do business in the state of Florida (EIN: 54-0895926) ("Contractor").

### **R E C I T A L S :**

**WHEREAS**, on October 24, 2023, City issued an Invitation to Bid ("ITB") for the provision, delivery, installation, and testing of three (3) power transformers and one (1) lot of spare transformer parts for the Airport Substation site located at 509 SW 49<sup>th</sup> Avenue, Ocala, Florida, ITB No.: ELE/240044 (the "Solicitation"); and

**WHEREAS**, a total of three (3) firms responded to the Solicitation and, after consideration of price and other evaluation factors set forth in the Solicitation, Virginia Transformer Corp. was chosen as the intended awardee to supply, deliver, install, and test three (3) power transformers and one (1) lot of spare transformer parts (the "Project"); and

**WHEREAS**, Contractor certifies that Contractor and its subcontractors are qualified and possess the required licensure and skill to perform the work required for the Project; and

**NOW THEREFORE**, in consideration of the foregoing recitals, the following mutual covenants and conditions, and other good and valuable consideration, City and Contractor agree as follows:

### **T E R M S   O F   A G R E E M E N T :**

1. **RECITALS.** City and Contractor hereby represent, warrant, and agree that the Recitals set forth above are true and correct and are incorporated herein by reference.
2. **CONTRACT DOCUMENTS.** The Contract Documents which comprise the entire understanding between City and Contractor shall only include: (a) this Agreement; (b) those documents listed in this section as Exhibits to this Agreement; (c) the City's Solicitation for the Project and Contractor's response to same (the "Solicitation Documents"); and (d) those documents identified in the Project Specifications section of this Agreement. Each of these documents are incorporated herein by reference for all purposes.

If there is a conflict between the terms of this Agreement and the Contract Documents, then the terms of this Agreement shall control, amend, and supersede any conflicting terms contained in the remaining Contract Documents.

A. **Exhibits to Agreement:** The Exhibits to this Agreement are as follows:

- Exhibit A: Scope of Work (A-1 through A-4)
- Exhibit B: General Requirements (B-1 through B-27)
- Exhibit C: Technical Specifications (C-1 through C-27)
- Exhibit D: Proposed Guaranteed Loss Ratings (D-1 through D-4)
- Exhibit E: Proposed Delivery Date & Subcontractors (E-1 through E-2)

Exhibit F: Price Proposal (F-1)

Exhibit G: Contractor's Proposal (G-1 through G-24)

If there is a conflict between the individual Exhibits regarding the scope of work to be performed, then any identified inconsistency shall be resolved by giving precedence in the following order: (1) Exhibit A, then (2) Exhibit B then (3) Exhibit C, then (4) Exhibit D then (5) Exhibit E, then (6) Exhibit F, then (7) Exhibit G.

- B. **Project Specifications:** In addition to the Contract Documents and up-to-date copies of shop drawings, this project will require the Contractor to have the following specifications and documents, which are incorporated by reference:

- (1) **City of Ocala "Standard Specifications for Construction of Streets, Stormwater, Traffic, Water and Sewer Infrastructure"** available at:

[www.ocalafl.gov/home/showpublisheddocument/24606](http://www.ocalafl.gov/home/showpublisheddocument/24606).

3. **SCOPE OF SERVICES.** Contractor shall provide all materials, labor, supervision, tools, accessories, equipment, permits, fees, testing, inspections, certifications, and all other things necessary for Contractor to perform its obligations under this Agreement as set forth in the attached **Exhibit A - Scope of Work** and the Solicitation Documents. The Scope of Work under this Agreement may only be adjusted by written amendment executed by both parties.

- A. **Delivery Schedule.** Transformers shall be delivered to the City no later than **SEVENTY-TWO to SEVENTY-SIX WEEKS** from the date of contract execution, in accordance with **Exhibit E – Proposed Delivery Date**. If the material and/or equipment covered by this Agreement is not delivered within the Delivery Schedule, the City reserves the right to cancel the order for said material and equipment. The Contractor expressly waives any charges or liquidated damages for cancellation due to failure to deliver specified material and equipment within the time stated herein.

- B. **Rescheduling.** Contractor acknowledges and agrees that it will not propose a delivery date between June 1<sup>st</sup> and September 30<sup>th</sup> of any relevant year. City acknowledges and agrees that any extended delays requested by City which result in the loss of the scheduled production slot will be subject to a re-scheduling fee of **THIRTY PERCENT (30%)** of the specific order value.

- C. **Storage.** Contractor acknowledges and agrees that it will not propose a delivery date between June 1<sup>st</sup> and September 30<sup>th</sup> of any relevant year. City acknowledges and agrees that in the event a unit is put into storage at the request of the City, it is agreed that title will pass to City and City will be invoiced and will pay the invoices due the later the day the unit is put into storage or the requested delivery date. City further agrees that any unit put into storage will be afforded a minimum of **THREE (3) WEEKS** advanced notice before requested delivery out of storage.

4. **COMPENSATION.** City shall pay Contractor up to a maximum limiting amount of **FIVE MILLION, SEVEN HUNDRED TWENTY-SIX THOUSAND, FIVE HUNDRED SIXTY-EIGHT AND NO/100 DOLLARS (\$5,726,568)** (the "Contract Sum") as full and complete compensation for the timely and satisfactory completion of the work in compliance with the firm Unit Pricing and other requirements set forth below and in the Contract Documents. The pricing under this Agreement may only be adjusted by written amendment executed by both parties.

- A. **Lump Sum Unit Pricing.** The lump sum unit pricing set forth below is inclusive of all direct and indirect costs to compete the Project. Final payment after the equipment is placed in service will constitute full compensation for all work required and specified.

Description	Qty.	Unit Price	Total
Lump sum pricing to furnish, deliver and install new 25/33.3/41.6 MVA Power Transformer at the Airport Substation site.	3	\$1,892,556.00	\$5,677,668.00
Lump sum pricing to furnish and deliver one (1) lot of spare parts for 25/33.3/41.6 MVA Power Transformer to Ocala Electric Utility Warehouse	1	\$48,900.00	\$48,900.00
<b>CONTRACT SUM</b>			<b>\$5,726,568.00</b>

- B. **Surcharge.** In the event any components such as, electricity, freight, labor, core steel, etc. (excluding copper and mineral oil) are subject to abnormal price increases, that raise the overall cost of the unit by **TWO PERCENT (2%)** or more, and Contractor is not able to otherwise mitigate these increases during the period between the proposal date and the shipment date, Contractor may pass along those specific incremental cost increases which shall not exceed **SIX PERCENT (6%)** of the total cost of the unit. Contractor will provide evidence of the specific cost increases, in the event they occur, and adjustment is sought.
- C. **Invoicing.** All invoices submitted by Contractor shall include the City Contract Number, an assigned Invoice Number, and an Invoice Date. Contractor shall submit the original invoice through the responsible City Project Manager at: **City of Ocala Electric Utility, Attn: Lisa Crouthamel, 1805 NE 30<sup>th</sup> Avenue, Bldg. 400, Ocala, Florida 34470**, E-Mail: [lcrouthamel@ocalafl.gov](mailto:lcrouthamel@ocalafl.gov). The City Project Manager must review and approve all invoices prior to payment. City Project Manager's approval shall not be unreasonably withheld, conditioned, or delayed.
- D. **Payment Terms/Schedule.** Payment of the amounts due under this Agreement shall be made on an agreed upon schedule. Payments will be made by the City at the time of invoice, as follows:
- (1) **TWENTY PERCENT (20%)** of the purchase order with the initial order, **THIRTY PERCENT (30%)** after receipt of approved drawings (ARAD), and **FORTY PERCENT (40%)** at confirmed shipment (post-factory test).
  - (2) **Retainage. TEN PERCENT (10%)** of the amount due shall be retained until all required submittals have been approved, not to exceed thirty (30) days from date of delivery.
  - (3) Payment by the City shall not relieve Contractor of the obligation to comply with the requirements of this Agreement.
- E. **Suspension of Payment.** Should Contractor fail to perform the service required then City may, at its option, retain payment otherwise due until any service discrepancies are corrected. Repeated service discrepancies on behalf of the vendor shall entitle the City to terminate services in accordance with the Termination provisions set forth in this Agreement.
- F. **City's Right to Withhold Payment.** In the event City becomes informed that any representations of Contractor provided in its billing are wholly or partially inaccurate, City may withhold payment until the inaccuracy, and the cause thereof, is corrected. In the event City questions some element of an invoice, that fact shall be made known to Contractor

immediately in writing. Contractor shall help effect resolution and transmit a revised invoice, if necessary. Amounts not questioned by City shall be paid to Contractor.

- G. **Excess Funds.** If due to mistake or any other reason Contractor receives payment under this Agreement in excess of what is provided for by the Agreement, Contractor shall promptly notify City upon discovery of the receipt of the overpayment. Any overpayment shall be refunded to City within **THIRTY (30)** days of Contractor's receipt of the overpayment or must also include interest calculated from the date of the overpayment at the interest rate for judgments at the highest rate as allowed by law.
- H. **Amounts Due to the City.** Contractor must be current and remain current in all obligations due to the City during the performance of services under this Agreement. Payments to Contractor may be offset by any delinquent amounts due to the City or fees and/or charges owed to the City.
- I. **Tax Exemption.** City is exempt from all federal excise and state sales taxes (State of Florida Consumer's Certification of Exemption 85-8012621655C-9). The City's Employer Identification Number is 59-60000392. Contractor shall not be exempted from paying sales tax to its suppliers for materials to fulfill contractual obligations with the City, nor will Contractor be authorized to use City's Tax Exemption Number for securing materials listed herein.

6. **LIQUIDATED DAMAGES.**

- A. The parties agree that it would be extremely difficult and impracticable under the presently known facts and anticipated circumstances to ascertain and fix the actual damages that City and its residents would incur should Contractor fail to deliver the material and/or equipment covered by this Agreement within the time specified for delivery herein.
- B. If the material and/or equipment covered by this Agreement is not delivered within the time specified for delivery herein, the City of Ocala reserves the right to cancel the order for said material and/or equipment. By submitting its response to the solicitation, Contractor expressly waived any charges or liquidated damages for cancellation due to Contractor's failure to deliver the material and/or equipment within the time stated for delivery herein.
- C. In addition to the foregoing and subject to the stipulations set forth herein, the City and Contractor agree that in the event Contractor fails to deliver material and/or equipment within the time specified for delivery herein, or by any authorized extension hereof, Contractor shall pay to the City as liquidated damages (and not as a penalty), **FIVE HUNDRED AND NO/100 DOLLARS (\$500) PER DAY** for the 25/33.3/41.6 MVA power transformer(s).
- D. As a matter of definition, the "Delivery Date", which establishes the basis for the payment of liquidated damages, shall be the date on which the last item in each of the individual categories of equipment and materials is delivered.
- E. Contractor shall schedule operations so that delivery will be made to the substations in accordance with the equipment delivery schedule stated in **Exhibit E -Proposed Delivery Date & Subcontractors**. Delivery, as defined herein, shall be completed no later than the date stated in the column headed "Proposed Delivery Date" in **Exhibit E**, unless a further extension shall be approved by the City under the conditions stated herein. Failure to complete delivery by the stated date, or any authorized extension thereof, will result in the imposition of liquidated damages as stated in the preceding paragraphs.
- F. In the event the Contractor requests an extension of time, and the time is approved by the City of Ocala, a corresponding adjustment will be made in the "Proposed Delivery Date."
- G. Liquidated damages shall not exceed **FIVE PERCENT (5%)** of the offending unit contract value.

- H. **No Waiver of Rights or Liabilities.** Permitting Contractor to continue and finish the work, or any part thereof, beyond the dates specified shall not operate as a waiver on the part of the City of any of its rights under this Agreement. Any liquidated damages assessed pursuant to this section shall not relieve Contractor from liability for any damages or costs of other contractors caused by a failure of Contractor to complete the work as agreed.
  - I. **Right to Withhold or Deduct Damages.** When liquidated damages are due and owing, City shall have the right to: (1) deduct the liquidated damages from any money in its hands or from any money otherwise due or to become due to Contractor; or to (2) initiate any applicable dispute resolution procedure for the recovery of liquidated damages within the times specified under this Agreement.
  - J. **Additional Costs.** In addition to the liquidated damages set forth under this section, Contractor agrees to pay all costs and expenses incurred by City due to Contractor's delay in performance to include inspection fees, superintendence costs, and travel expenses.
  - K. **Injunctive Relief.** The parties acknowledge that monetary damages may not be a sufficient remedy for Contractor's failure to deliver equipment in accordance with the terms of this Agreement, and that City shall be entitled, in addition to all other rights or remedies in law and equity, to seek injunctive relief.
7. **PERFORMANCE AND PAYMENT BOND.** Contractor shall furnish a Performance and Payment Bond in the amount of **FIVE MILLION, SEVEN HUNDRED TWENTY-SIX, FIVE HUNDRED SIXTY-EIGHT AND NO/100 DOLLARS (\$5,726,568)** as security for the faithful performance of the work as required and set forth in the Contract Documents within the time set forth for performance under this Agreement and for prompt payments to all persons defined in section 713.01, Florida Statutes, who furnish labor, services, or materials for the completion of the work provided for herein.
8. **FORCE MAJEURE.** Neither party shall be liable for delay, damage, or failure in the performance of any obligation under this Agreement if such delay, damage, or failure is due to causes beyond its reasonable control, including without limitation: fire, flood, strikes and labor disputes, acts of war, acts of nature, terrorism, civil unrest, acts or delays in acting of the government of the United States or the several states, judicial orders, decrees or restrictions, or any other like reason which is beyond the control of the respective party ("Force Majeure"). The party affected by any event of force majeure shall use reasonable efforts to remedy, remove, or mitigate such event and the effects thereof with all reasonable dispatch.
- A. The party affected by force majeure shall provide the other party with full particulars thereof including, but not limited to, the nature, details, and expected duration thereof, as soon as it becomes aware.
  - B. When force majeure circumstances arise, the parties shall negotiate in good faith any modifications of the terms of this Agreement that may be necessary or appropriate in order to arrive at an equitable solution. Contractor performance shall be extended for a number of days equal to the duration of the force majeure. Contractor shall be entitled to an extension of time only and, in no event, shall Contractor be entitled to any increased costs, additional compensation, or damages of any type resulting from such force majeure delays.
9. **INSPECTION AND ACCEPTANCE OF THE WORK.** Contractor shall report its progress to the City Project Manager as set forth herein. All services, work, and materials provided by Contractor under this Agreement shall be provided to the satisfaction and approval of the Project Manager.
- A. The Project Manager shall decide all questions regarding the quality, acceptability, and/or fitness of materials furnished, or workmanship performed, the rate of progress of the work,

the interpretation of the plans and specifications, and the acceptable fulfillment of the Agreement, in his or her sole discretion, based upon both the requirements set forth by City and the information provided by Contractor in its Bid. The authority vested in the Project Manager pursuant to this paragraph shall be confined to the direction or specification of what is to be performed under this Agreement and shall not extend to the actual execution of the work.

- B. Neither the Project Manager's review of Contractor's work nor recommendations made by Project Manager pursuant to this Agreement will impose on Project Manager any responsibility to supervise, direct, or control Contractor's work in progress or for the means, methods, techniques, sequences, or procedures of construction or safety precautions or programs incident Contractor's furnishing and performing the work.

#### 10. **TERMINATION AND DEFAULT.**

- A. **Cancellation and Termination by City for Contractor Default.** This Agreement is critical to the City and City reserves the right to immediately cancel or annul, in whole or in part, any offer due to failure of Contractor to carry out any obligation term or condition of the Agreement. Cancellation shall be for acting or failing to act as in any of the following:
  - (1) Contractor provides material that does not meet the specifications of the agreed to offer;
  - (2) Contractor fails to adequately perform the services set forth in the specifications of the solicitation and offer;
  - (3) Contractor fails to complete the work required or furnish the materials required within the time stipulated without providing a plan to cure that is mutually agreed upon by Contractor and City; and/or
  - (4) Contractor fails to make progress in the performance of the work and fails to provide a plan to cure that is mutually agreed upon by Contractor and City, or cannot perform the requirements.
- B. **City's Remedies for Contractor Default.** In addition to all other rights and remedies available under this Agreement or at law, City may resort to any single or combination to the following remedies:
  - (1) Cancellation of the contract award;
  - (2) Reserve all rights or claims to damage for breach of any covenants of this Agreement;
  - (3) Perform any test or analysis on materials for compliance with the specifications noted.
  - (4) Reserve the right to purchase materials, or to complete the required work in accordance with the needs of the City.
  - (5) Recover any actual excess costs from the Vendor by: (i) deduction from an unpaid balance; (ii) collection against the bid and/or performance bond; or (iii) any combination of the foregoing or any other remedies as provided by law.
- C. **Cancellation and Termination by Contractor for City Default.** Contractor, in addition to all other rights and remedies under this Agreement or at law, shall have the right to cancel and terminate City's order for breach by City including, but not limited to:
  - (1) City's failure to make payment as due; or
  - (2) If City is adjudicated bankrupt, files a petition in bankruptcy, makes an assignment for the benefit of creditors or if action under any law for the relief of debtors is taken.
  - (3) In the event of cancellation and termination of this order for breach of the provisions hereof by Owner, Contractor shall have no further liability to City and Contractor shall not be liable for any costs of cancellation, special, incidental, or consequential damages



(including punitive or exemplary damages) for any cause or of any nature whatsoever and such cancellation and termination.

- D. **Charges Assessed for Contractor Cancellation.** All cancellations or terminations by Contractor for City's breach shall be subject to the following cancellation or termination charges:
  - (1) 30 % of order amount after order entry by Manufacturer.
  - (2) Additional 15 % of order amount after outline drawing completion / submission.
  - (3) If manufacturing has begun, charges will be based upon commitments for materials and percent completion in addition to the 45% for engineering and order entry.
- E. **Charges Assessed for City Cancellation.** In the event City cancels its order, City shall be responsible to Contractor for the cancellation charges set forth in the paragraph above, which City shall pay Contractor upon such cancellation.
- F. **Non-Funding Clause.** In the event sufficient budgeted funds are not available or are depleted, City shall notify Contractor of such occurrence, and services shall terminate without penalty or expense to the City.

#### 11. **WARRANTY.**

- A. For the period set forth in this Section, Contractor warrants that each newly manufactured item sold hereunder, and such portion of a repaired/refurbished item that has been repaired or replaced by Contractor under this Warranty, shall be free from defects in material, workmanship, or title at the time of shipment and shall perform during the warranty period in accordance with the specifications incorporated herein.
- B. Should any failure to conform to these Warranties (excluding any defects in title) be discovered and brought to Contractor's attention during the warranty period and be substantiated by examination at Contractor's factory or by authorized field personnel, then Contractor shall correct such failure, at Contractor's exclusive option, by:
  - (1) repair or replacement of the nonconforming item or portion thereof with City promptly making product available to be worked by Contractor's personnel or agents without interference at no additional cost to the Contractor; or
  - (2) City making product available F.O.B. to Contractor's plant with Contractor's written return authorization, for repair or replacement of the nonconforming item or portion thereof.
- C. City agrees that this remedy shall be its sole and exclusive remedy against Contractor under this Section and that no other remedy shall be available or pursued by City against Contractor. In no event shall Contractor be liable for any costs or expenses more than those described in this Section and expressly excluding any liability or damages for special, incidental, or consequential damages.
- D. The Warranty period for newly manufactured items shall extend **60 MONTHS** from the date of first energization or **60 MONTHS** from the date of shipment whichever occurs first or unless a different warranty period is agreed to by Contractor. The warranty period for repaired/refurbished articles shall extend for the unexpired warranty period of the item repaired or replaced or for **90 DAYS**, whichever is longer. This warranty shall be voided and not extend to any item that upon examination by Contractor is found to have been subject to:
  - (1) mishandling, misuse, negligence, or accident;
  - (2) storage, installation, operation, testing, or maintenance that either was not in accordance with Contractor's specifications, instructions, manuals, or otherwise improper, or contrary to industry standards;

- (3) tampering as evidenced for example by broken seals, damaged packaging containers, etc.;
  - (4) testing of equipment above normally accepted field tests;
  - (5) repair or alteration by anyone other than Contractor without Contractor's express advance written approval; or
  - (6) payment(s) not received per terms of sale.
- E. Failure to promptly notify Contractor in writing upon discovery of any non-conforming items during the warranty period shall void the warranty as to such items. City shall describe any such nonconformity in detail, expressing its position as to return of any article under the remedy provided herein.
- F. No returns shall be accepted without prior approval by Contractor.
- G. No back charges shall be accepted without the prior written consent of Contractor's authorized representative. Where a failure cannot be corrected by Contractor's reasonable efforts, the parties shall mutually agree upon an equitable adjustment in price. The preceding sets forth the exclusive remedies for claims (except as to title) based on defect whether in contract or tort (including negligence or strict liability) and however instituted.
- H. THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ANY OTHER WARRANTIES, EITHER EXPRESSED OR IMPLIED INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND BIDDER DISCLAIMS IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.
- I. **Contractor's Installation Warranty.** Contractor warrants that all work hereunder shall be performed in accordance with the standards employed by Contractor in performing the same or similar services for itself. Contractor disclaims any and all other representations or warranties expressed or implied including without limitation any representation or warranty that (a) any unauthorized entry, burglary, theft, embezzlement, or any other crimes will be prevented by the equipment and/or installation thereof or that (b) any particular purpose or standard of care intended or desired or any particular results to be achieved by City through the installation and operation of the items to be delivered hereunder. Contractor's installation services and installation warranty does not include or imply any assistance for system field troubleshooting and no back charges for such services shall be accepted without the prior written consent of Contractor's authorized representative.
- J. **Extended Warranty Period Option for Core and Coil.** When purchased, the warranty period may be extended by the period specified in such purchase covering core and coils only against failure occurring with respect to normal operation and within the parameters for which the transformer was designed. For the extended Warranty period, to endure validity of Extended Warranty period coverage, Contractor requires Dissolved Gas Analysis (DGA) reports of the supplied unit to be provided every year for the period of extended warranty coverage. The annual DGAs shall be emailed to: [fieldservice@vatransformer.com](mailto:fieldservice@vatransformer.com). Failure to conduct annual DGAs and to provide the reports to Contractor may void the purchased extended warranty. Except for the extended time period all other provisions, terms, conditions, and limitations set forth above shall apply to the extended warranty period. In case of any disturbance in the system that causes the transformer to trip off-line, the following information shall be forwarded to Virginia Transformer Corp. within **FORTY-EIGHT (48) HOURS**: (i) event summary with relevant data, protection system data, overvoltage conditions (if any), fault data (if any); and (ii) offset timing with peak current value, loading, environmental



and atmospheric conditions. Failure to timely provide this information may void the extended warranty.

- K. **Extended Bumper to Bumper Warranty Period Option:** When purchased, the warranty for the extended period specified will cover the entire transformer including core and coils and all associated transformer accessories against failure occurring with respect to normal operation and within the parameters for which the transformer was designed. Bumper to Bumper Warranty does not cover normal wear and tear including paint and gaskets beyond five years. For the extended warranty period, to ensure validity of Extended Warranty period coverage, Virginia Transformer requires Dissolved Gas Analysis (DGA) reports of the supplied unit to be provided every year for the period of extended warranty coverage, and the additional data as stated above. The annual DGAs should be emailed to: [fieldservice@vatransformer.com](mailto:fieldservice@vatransformer.com). Failure to conduct annual DGAs and provide the reports to Contractor may void the purchased extended warranty. Except for the extended time, all other provisions, terms, conditions, and limitations set forth herein shall apply to the extended warranty period.
12. **LIMITATION OF LIABILITY.** Neither party shall be liable to the other for any incidental, indirect, special, punitive, or consequential damages regardless of whether liability would arise under contract or tort (including negligence and strict liability), warranty, indemnity, or otherwise. Neither party's liability on any claim for loss or damage arising out of this contract or from the performance or breach thereof shall exceed the price of the item giving rise to the claims for loss or damage in the event more than one item is included in this contract/order with distinct pricing being allocated to each item in arriving at the total contract/order price. Manufacturer shall not be obligated to indemnify City, or any other indemnified party, if the claim was caused by the negligence or reckless or intentional act of the indemnified party.
13. **PERFORMANCE EVALUATION.** At the end of the contract, City may evaluate Contractor's performance. Any such evaluation will become public record.
14. **NOTICE REGARDING FAILURE TO FULFILL AGREEMENT.** Any contractor who enters into an Agreement with the City of Ocala and fails to complete the contract term, for any reason, shall be subject to future bidding suspension for a period of **ONE (1)** year and bid debarment for a period of up to **THREE (3)** years for serious contract failures.
15. **CONTRACTOR REPRESENTATIONS.** Contractor expressly represents that:
  - A. Contractor has read and is fully familiar with all the terms and conditions of this Agreement, the Contract Documents, and other related data and acknowledges that they are sufficient in scope and detail to indicate and convey understanding of all terms and conditions of the work to be performed by Contractor under this Agreement.
  - B. Contractor has disclosed, in writing, all known conflicts, errors, inconsistencies, discrepancies, or omissions discovered by Contractor in the Contract Documents, and that the City's written resolution of same is acceptable to Contractor.
  - C. Contractor is satisfied with the site conditions that may affect cost, progress, and performance of the work, as observable or determinable by Contractor's own investigation.
  - D. Contractor is familiar with all local, state, and Federal laws, regulations, and ordinances which may affect cost, progress, or its performance under this Agreement whatsoever.
  - E. **Public Entity Crimes.** Neither Contractor, its parent corporations, subsidiaries, members, shareholders, partners, officers, directors or executives, nor any of its affiliates, contractors, suppliers, subcontractors, or consultants under this Agreement have been placed on the

convicted vendor list following a conviction of a public entity crime. Contractor understands that a "public entity crime" as defined in section 287.133(1)(g), Florida Statutes, is "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 with the United States..." Contractor further understands that any person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime: (1) may not submit a bid, proposal, or reply on a contract: (a) to provide any goods or services to a public entity; (b) for the construction or repair of a public building or public work; or (c) for leases of real property to a public entity; (2) may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity; and (3) may not transact business with any public entity in excess of the threshold amount provided in section 287.017, Florida Statutes, for CATEGORY TWO for a period of 36 months from the date of being placed on the convicted vendor list.

16. **CONTRACTOR RESPONSIBILITIES.** Except as otherwise specifically provided for in this Agreement, the following provisions are the responsibility of the Contractor:
  - A. Contractor shall competently and efficiently supervise, inspect, and direct all work to be performed under this Agreement, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the work in accordance with the Contract Documents.
  - B. Contractor shall be solely responsible for the means, methods, techniques, sequences, or procedures and safety precautions or programs incident thereto.
  - C. Contractor shall be responsible to see that the finished work complies accurately with this Agreement and the intent thereof.
  - D. Contractor shall comply with all local, state, and Federal laws, regulations, and ordinances which may affect cost, progress, or its performance under this Agreement, including, but not limited to obtaining all permits, licenses, and other authorizations necessary for the prosecution of the work and be responsible for all costs associated with same.
  - E. Contractor shall continue its performance under this Agreement during the pendency of any dispute or disagreement arising out of or relating to this Agreement, except as Contractor and City may otherwise agree in writing.
17. **NO EXCLUSIVITY.** It is expressly understood and agreed by the parties that this is not an exclusive agreement. Nothing in this Agreement shall be construed as creating any exclusive arrangement with Contractor or as prohibit City from either acquiring similar, equal, or like goods and/or services or from executing additional contracts with other entities or sources.
18. **RESPONSIBILITIES OF CITY.** City or its representative shall issue all communications to Contractor. City has the authority to request changes in the work in accordance with the terms of this Agreement and with the terms in **Exhibit A – Scope of Work**. City has the authority to stop work or to suspend any work.
19. **COMMERCIAL AUTO LIABILITY INSURANCE.** Contractor shall procure, maintain, and keep in full force, effect, and good standing for the life of this Agreement a policy of commercial auto liability insurance with a minimum combined single limit of One Million Dollars (\$1,000,000) per occurrence for bodily injury and property damage arising out of Contractor's operations and covering all owned, hired, scheduled, and non-owned automobiles utilized in said operations. If Contractor does not own vehicles, Contractor shall maintain coverage for hired and non-owned

automobile liability, which may be satisfied by way of endorsement to Contractor's Commercial General Liability policy or separate Commercial Automobile Liability policy.

20. **COMMERCIAL GENERAL LIABILITY INSURANCE.** Contractor shall procure, maintain, and keep in full force, effect, and good standing for the life of this Agreement a policy of commercial general liability insurance with limits not less than:
  - A. One Million Dollars (\$1,000,000) per occurrence and Two Million Dollars (\$2,000,000) aggregate (or project aggregate, if a construction project) for bodily injury, property damage, and personal and advertising injury; and
  - B. One Million Dollars (\$1,000,000) per occurrence and Two Million Dollars (\$2,000,000) aggregate (or project aggregate, if a construction project) for products and completed operations.
  - C. Policy must include coverage for contractual liability and independent contractors.
  - D. The City, a Florida municipal corporation, and its officials, employees, and volunteers are to be covered as additional insureds with a CG 20 26 04 13 Additional Insured – Designated Person or Organization Endorsement or similar endorsement providing equal or broader Additional Insured Coverage with respect to liabilities arising out of activities performed by or on behalf of Contractor. This coverage shall contain no special limitation on the scope of protection to be afforded to the City, its officials, employees, and volunteers.
21. **WORKERS' COMPENSATION AND EMPLOYER'S LIABILITY.** Contractor shall procure, maintain, and keep in full force, effect, and good standing for the life of this Agreement adequate workers' compensation and employer's liability insurance covering all of its employees in at least such amounts as required by Chapter 440, Florida Statutes, and all other state and federal workers' compensation laws, including the U.S. Longshore Harbor Workers' Act and the Jones Act, if applicable. Contractor shall similarly require any and all of its subcontractors to afford such coverage for all of its employees as required by applicable law. Contractor shall waive and shall ensure that Contractor's insurance carrier waives, all subrogation rights against the City of Ocala and its officers, employees, and volunteers for all losses or damages. Contractor's policy shall be endorsed with WC 00 03 13 Waiver of our Right to Recover from Others or its equivalent. **Exceptions and exemptions to this Section may be allowed at the discretion of the City's Risk Manager on a case-by-case basis in accordance with Florida Statutes and shall be evidenced by a separate waiver.**
22. **BUILDERS RISK INSURANCE.** Contractor, with sole liability for payment of premiums, shall purchase and maintain property insurance upon the Work at the site in the amount of the full Project value, including soft costs. This insurance shall include the interests of the City, Contractor, subcontractors, City Engineer, and the officers, directors, partners, employees, agents, and other consultants and subcontractors of each and any of them, each of whom is deemed to have an insurable interest and shall be listed as Additional Insureds; be written on a Builder's Risk "all-risk" or open peril or special causes of loss policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, false work, and materials and equipment in transit, and shall insure against at least the following perils or causes of loss: fire, lightning, wind, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage, flood, and damage caused by frost and freezing with no co-insurance clause; include expenses incurred in the repair or replacement of any insured property (including, but not limited to, fees and charges of engineers and architects); cover materials and equipment while in transit

or while stored at the site or at another location that was agreed to in writing by the City prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by the City or the City Engineer; allow for partial utilization of the Work by the City; include testing and startup; and be maintained in effect until final payment is made unless otherwise agreed to in writing by the City, Vendor, and City Engineer, with 30 days' written notice to each other named insured to whom a certificate of insurance has been issued.

23. **INSTALLATION FLOATER INSURANCE.** Installation Floater Insurance shall be provided by the Contractor to cover damages or destruction to equipment being installed or otherwise being handled or stored by the Contractor. The amount of coverage shall be adequate to provide full replacement value of the equipment, otherwise being handled or stored on or off premises or in transit. All risks coverage shall be provided either in a single policy or in a combination of underlying and umbrella on excess policies.

24. **MISCELLANEOUS INSURANCE PROVISIONS.**

- A. Contractor's insurance coverage shall be primary insurance for all applicable policies. The limits of coverage under each policy maintained by Contractor shall not be interpreted as limiting Contractor's liability or obligations under this Agreement. City does not in any way represent that these types or amounts of insurance are sufficient or adequate enough to protect Contractor's interests or liabilities or to protect Contractor from claims that may arise out of or result from the negligent acts, errors, or omissions of Contractor, any of its agents or subcontractors, or for anyone whose negligent act(s) Contractor may be liable.
- B. No insurance shall be provided by the City for Contractor under this Agreement and Contractor shall be fully and solely responsible for any costs or expenses incurred as a result of a coverage deductible, co-insurance penalty, or self-insured retention to include any loss not covered because of the operation of such deductible, co-insurance penalty, self-insured retention, or coverage exclusion or limitation.
- C. Certificates of Insurance. No work shall be commenced by Contractor under this Agreement until the required Certificate of Insurance and endorsements have been provided nor shall Contractor allow any subcontractor to commence work until all similarly required certificates and endorsements of the subcontractor have also been provided. Work shall not continue after expiration (or cancellation) of the Certificate of Insurance and work shall not resume until a new Certificate of Insurance has been provided. **Contractor shall provide evidence of insurance in the form of a valid Certificate of Insurance (binders are unacceptable) prior to the start of work contemplated under this Agreement to: City of Ocala. Attention: Procurement & Contracting Department, Address: 110 SE Watula Avenue, Third Floor, Ocala Florida 34471, E-Mail: [vendors@ocalafl.org](mailto:vendors@ocalafl.org).** Contractor's Certificate of Insurance and required endorsements shall be issued by an agency authorized to do business in the State of Florida with an A.M. Best Rating of A or better. The Certificate of Insurance shall indicate whether coverage is being provided under a claims-made or occurrence form. If any coverage is provided on a claims-made form, the Certificate of Insurance must show a retroactive date, which shall be the effective date of the initial contract or prior.
- D. City as an Additional Insured. The City of Ocala shall be named as an Additional Insured and Certificate Holder on all liability policies identified in this Section with the exception of Workers' Compensation and Professional Liability policies.

- E. Notice of Cancellation of Insurance. Contractor's Certificate of Insurance shall provide **THIRTY (30) DAY** notice of cancellation, **TEN (10) DAY** notice if cancellation is for non-payment of premium. In the event that Contractor's insurer is unable to accommodate the cancellation notice requirement, it shall be the responsibility of Contractor to provide the proper notice. Such notification shall be in writing by registered mail, return receipt requested, and addressed to the certificate holder. Additional copies may be sent to the City of Ocala at [vendors@ocalafl.org](mailto:vendors@ocalafl.org)
  - F. Failure to Maintain Coverage. The insurance policies and coverages set forth above are required and providing proof of and maintaining insurance of the types and with such terms and limits set forth above is a material obligation of Contractor. Contractor's failure to obtain or maintain in full force and effect any insurance coverage required under this Agreement shall constitute material breach of this Agreement.
  - G. Severability of Interests. Contractor shall arrange for its liability insurance to include, or be endorsed to include, a severability of interests/cross-liability provision so that the "City of Ocala" (where named as an additional insured) will be treated as if a separate policy were in existence, but without increasing the policy limits.
27. **SAFETY/ENVIRONMENTAL.** Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Contractor shall make an effort to detect hazardous conditions and shall take prompt action where necessary to avoid accident, injury or property damage. EPA, DEP, OSHA and all other applicable safety laws and ordinances shall be followed as well as American National Standards Institute Safety Standards. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:
- A. All employees on the work and other persons that may be affected thereby;
  - B. All work, materials and equipment to be incorporated therein, whether in storage on or off the site; and
  - C. Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.
- All, injury, or loss to any property caused, directly or indirectly, in whole or in part, by Contractor, any subcontractor, or anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, shall be remedied by Contractor. Contractor's duties and responsibilities for the safety and protection of the work shall continue until such time as the work is completed and accepted by City.
28. **TRAFFIC CONTROL AND BARRICADES.** The Contractor shall mitigate impact on local traffic conditions to all extents possible. The Contractor is responsible for establishing and maintaining appropriate traffic control and barricades. The Contractor shall provide sufficient signing, flagging and barricading to ensure the safety of vehicular and pedestrian traffic at all locations where work is being done under this Agreement.
- A. In addition to the requirements set forth in its bid, the Contractor shall maintain at all times a good and sufficient fence, railing or barrier around all exposed portions of said work in such a manner as to warn vehicular and pedestrian traffic of hazardous conditions.
  - B. Should Contractor fail to properly barricade his work or stored material sites in the manner outlined above, the City may have the necessary barricading done, and all cost incurred for said barricading shall be charged to the Contractor.



29. **WORK SITE AND CLEANUP.** Daily, during the progress of the work, Contractor shall keep the premises free from accumulations of waste materials, rubbish, and all other debris resulting from the work. At the completion of the work, Contractor shall remove all waste materials, rubbish, and debris from and about the premises, as well as all tools, appliances, construction equipment and machinery, and surplus materials, and shall leave the site clean and ready for occupancy by City. Contractor shall provide an inventory listing of all surplus materials in an area designated by City. Contractor shall restore to their original condition those portions of the site not designated or alteration by the Contract.
30. **NON-DISCRIMINATORY EMPLOYMENT PRACTICES.** During the performance of the contract, the Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, ancestry, national origin, sex, pregnancy, age, disability, sexual orientation, gender identity, marital or domestic partner status, familial status, or veteran status and shall take affirmative action to ensure that an employee or applicant is afforded equal employment opportunities without discrimination. Such action shall be taken with reference to, but not limited to: recruitment, employment, termination, rates of pay or other forms of compensation and selection for training or retraining, including apprenticeship and on-the-job training.
31. **COMPLIANCE WITH F.S. 287.135.** City may terminate Agreement immediately upon discovering that Contractor: (A) has been placed on the Scrutinized Companies that Boycott Israel List; (B) is engaged in a boycott of Israel; (C) has been placed on the Scrutinized Companies with Activities in Sudan List; (D) has been placed on the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List; or (E) has been engaged in business operations in Cuba or Syria. This Agreement may also be terminated immediately if the Contractor falsely certified they are eligible to bid and contract with local government entities under F.S. 287.135.
32. **SUBCONTRACTORS.** Nothing in this Agreement shall be construed to create, impose, or give rise to any duty owed by City or its representatives to any subcontractor of Contractor or any other persons or organizations having a direct contract with Contractor, nor shall it create any obligation on the part of City or its representatives to pay or seek payment of any monies to any subcontractor of Contractor or any other persons or organizations having a direct contract with Contractor, except as may otherwise be required by law. City shall not be responsible for the acts or omissions of any Contractor, subcontractor, or of any of their agents or employees, nor shall it create any obligation on the part of City or its representatives to pay or to seek the payment of any monies to any subcontractor or other person or organization, except as may otherwise be required by law.
33. **EMERGENCIES.** In an emergency affecting the welfare and safety of life or property, Contractor, without special instruction or authorization from the City Project Manager, is hereby permitted, authorized and directed to act at its own discretion to prevent threatened loss or injury. Except in the case of an emergency requiring immediate remedial work, any work performed after regular working hours, on Saturdays, Sundays or legal holidays, shall be performed without additional expense to the City unless such work has been specifically requested and approved by the City Project Manager. Contractor shall be required to provide to the City Project Manager with the names, addresses and telephone numbers of those representatives who can be contacted at any time in case of emergency. Contractor's emergency representatives must be fully authorized and equipped to correct unsafe or excessively inconvenient conditions on short notice by City or public inspectors.



34. **INDEPENDENT CONTRACTOR STATUS.** Contractor acknowledges and agrees that under this Agreement, Contractor and any agent or employee of Contractor shall be deemed at all times to be an independent contractor and shall be wholly responsible for the manner in which it performs the services and work required under this Agreement. Neither Contractor nor its agents or employees shall represent or hold themselves out to be employees of City at any time. Neither Contractor nor its agents or employees shall have employee status with City. Nothing in this Agreement shall constitute or be construed to create any intent on the part of either party to create an agency relationship, partnership, employer-employee relationship, joint venture relationship, or any other relationship which would allow City to exercise control or discretion over the manner or methods employed by Contractor in its performance of its obligations under this Agreement.
35. **ACCESS TO FACILITIES.** City shall provide Contractor with access to all City facilities as is reasonably necessary for Contractor to perform its obligations under this Agreement.
36. **ASSIGNMENT.** Neither party may assign its rights or obligations under this Agreement to any third party without the prior express approval of the other party, which shall not be unreasonably withheld.
37. **RIGHT OF CITY TO TAKE OVER CONTRACT.** Should the work to be performed by Contractor under this Agreement be abandoned, or should Contractor become insolvent, or if Contractor shall assign or sublet the work to be performed hereunder without the written consent of City, the City Project Manager shall have the power and right to hire and acquire additional men and equipment, supply additional material, and perform such work as deemed necessary for the completion of this Agreement. Under these circumstances, all expenses and costs actually incurred by City to accomplish such completion shall be credited to City along with amounts attributable to any other elements of damage and certified by the Project Manager. The City Project Manager's certification as to the amount of such liability shall be final and conclusive.
38. **PUBLIC RECORDS.** The Contractor shall comply with all applicable provisions of the Florida Public Records Act, Chapter 119, Florida Statutes. Specifically, the Contractor shall:
  - A. Keep and maintain public records required by the public agency to perform the service.
  - B. Upon request from the public agency's custodian of public records, provide the public agency with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in Chapter 119, Florida Statutes, or as otherwise provided by law.
  - C. Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the contract term and following completion of the contract if the Contractor does not transfer the records to the public agency.
  - D. Upon completion of the contract, transfer, at no cost, to the public agency all public records in possession of the Contractor or keep and maintain public records required by the public agency to perform the service. If the Contractor transfers all public records to the public agency upon completion of the contract, the Contractor shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the Contractor keeps and maintains public records upon completion of the contract, the Contractor shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the public agency, upon request from

the public agency's custodian of public records, in a format that is compatible with the information technology systems of the public agency.

**IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT: CITY OF OCALA, OFFICE OF THE CITY CLERK; 352-629-8266; E-mail: [clerk@ocalafl.org](mailto:clerk@ocalafl.org); City Hall, 110 SE Watula Avenue, Ocala, FL 34471.**

39. **AUDIT.** Contractor shall comply and cooperate immediately with any inspections, reviews, investigations, or audits relating to this Agreement as deemed necessary by the Florida Office of the Inspector General, the City's Internal or External auditors or by any other Florida official with proper authority.
40. **PUBLICITY.** Contractor shall not use City's name, logo, seal or other likeness in any press release, marketing materials, or other public announcement without City's prior written approval.
41. **E-VERIFY.** Pursuant to section 448.095, Contractor shall register with and use the U.S. Department of Homeland Security's ("DHS") E-Verify System, accessible at <https://e-verify.uscis.gov/emp>, to verify the work authorization status of all newly hired employees. Contractor shall obtain affidavits from any and all subcontractors in accordance with paragraph 2(b) of section 448.095, Florida Statutes, and maintain copies of such affidavits for the duration of this Agreement. By entering into this Agreement, Contractor certifies and ensures that it utilizes and will continue to utilize the DHS E-Verify System for the duration of this Agreement and any subsequent renewals of same. Contractor understands that failure to comply with the requirements of this section shall result in the termination of this Agreement and Contractor may lose the ability to be awarded a public contract for a minimum of one (1) year after the date on which the Agreement was terminated. Contractor shall provide a copy of its DHS Memorandum of Understanding upon City's request. Please visit [www.e-verify.gov](http://www.e-verify.gov) for more information regarding the E-Verify System.
42. **CONFLICT OF INTEREST.** Contractor is required to have disclosed, with the submission of their bid, the name of any officer, director, or agent who may be employed by the City. Contractor shall further disclose the name of any City employee who owns, directly or indirectly, any interest in Contractor's business or any affiliated business entity. Any additional conflicts of interest that may occur during the contract term must be disclosed to the City of Ocala Procurement Department.
43. **WAIVER.** The failure or delay of any party at any time to require performance by another party of any provision of this Agreement, even if known, shall not affect the right of such party to require performance of that provision or to exercise any right, power or remedy hereunder. Any waiver by any party of any breach of any provision of this Agreement should not be construed as a waiver of any continuing or succeeding breach of such provision, a waiver of the provision itself, or a waiver of any right, power or remedy under this Agreement. No notice to or demand on any party in any circumstance shall, of itself, entitle such party to any other or further notice or demand in similar or other circumstances.
44. **SEVERABILITY OF ILLEGAL PROVISIONS.** Wherever possible, each provision of this Agreement shall be interpreted in such a manner as to be effective and valid under the applicable law. Should

any portion of this Agreement be declared invalid for any reason, such declaration shall have no effect upon the remaining portions of this Agreement.

**45. INDEMNITY.**

- A. Contractor shall indemnify City and its elected officials, employees and volunteers against, and hold City and its elected officials, employees and volunteers harmless from, all damages, claims, losses, costs, and expenses, which City or its elected officials, employees or volunteers may sustain, or which may be asserted against City or its elected officials, employees or volunteers, arising out of the activities contemplated by an Agreement including, harm or personal injury to third persons during the term of this Agreement to the extent attributable to the actions of Contractor, its agents, and employees.
- B. Neither party shall be liable to the other for any incidental, indirect, special, punitive, or consequential damages regardless of whether liability would arise under contract or tort (including negligence and strict liability), warranty, indemnity or otherwise. Neither party's liability on any claim for loss or damage arising out of this Agreement or from the performance or breach thereof shall exceed the price of goods involved in the order. To the fullest extent permitted by law, Contractor shall indemnify and hold harmless the City, its agents, employees and representatives, from and against all claims, losses costs, and damages, including but not limited to attorney's fees, arising out of or resulting from performance of Contractor's work, provided that such claim, damage, loss or expense is attributable to bodily injury, sickness, disease or death or to injury to or destruction of property, but only to the extent caused by the negligent acts or omissions of Contractor, a subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, except the Contractor shall not be obligated to indemnify the City, or any other indemnified party, if the claim was caused by the negligence or reckless or intentional act of the indemnified party.

**46. NO WAIVER OF SOVEREIGN IMMUNITY.** Nothing herein is intended to waive sovereign immunity by the City to which sovereign immunity may be applicable, or of any rights or limits of liability existing under Florida Statute § 768.28. This term shall survive the termination of all performance or obligations under this Agreement and shall be fully binding until any proceeding brought under this Agreement is barred by any applicable statute of limitations.

**47. NOTICES.** All notices, certifications or communications required by this Agreement shall be given in writing and shall be deemed delivered when personally served, or when received if by facsimile transmission with a confirming copy mailed by registered or certified mail, postage prepaid, return receipt requested. Notices can be concurrently delivered by e-mail. All notices shall be addressed to the respective parties as follows:

If to Contractor:

Virginia Transformer Corp.  
 Attention: Michael Hudson  
 220 Glade View Drive NE  
 Roanoke, Virginia 24012  
 Phone: 540-682-5152  
 E-mail: [Michael\\_hudson@vatransformer.com](mailto:Michael_hudson@vatransformer.com)

If to City of Ocala:

Daphne M. Robinson, Esq., Contracting Officer  
City of Ocala  
110 SE Watula Avenue, Third Floor  
Ocala, Florida 34471  
Phone: 352-629-8343  
E-mail: [notices@ocalafl.gov](mailto:notices@ocalafl.gov)

Copy to:

William E. Sexton, Esq., City Attorney  
City of Ocala  
110 SE Watula Avenue, Third Floor  
Ocala, Florida 34471  
Phone: 352-401-3972  
E-mail: [cityattorney@ocalafl.gov](mailto:cityattorney@ocalafl.gov)

48. **JURY WAIVER.** IN ANY CIVIL ACTION, COUNTERCLAIM, OR PROCEEDING, WHETHER AT LAW OR IN EQUITY, WHICH ARISES OUT OF, CONCERNS, OR RELATES TO THIS AGREEMENT, ANY AND ALL TRANSACTIONS CONTEMPLATED HEREUNDER, THE PERFORMANCE HEREOF, OR THE RELATIONSHIP CREATED HEREBY, WHETHER SOUNDING IN CONTRACT, TORT, STRICT LIABILITY, OR OTHERWISE, TRIAL SHALL BE TO A COURT OF COMPETENT JURISDICTION AND NOT TO A JURY. EACH PARTY HEREBY IRREVOCABLY WAIVES ANY RIGHT IT MAY HAVE TO A TRIAL BY JURY. NEITHER PARTY HAS MADE OR RELIED UPON ANY ORAL REPRESENTATIONS TO OR BY ANY OTHER PARTY REGARDING THE ENFORCEABILITY OF THIS PROVISION. EACH PARTY HAS READ AND UNDERSTANDS THE EFFECT OF THIS JURY WAIVER PROVISION.
49. **GOVERNING LAW.** This Agreement is and shall be deemed to be a contract entered and made pursuant to the laws of the state of Florida and shall in all respects be governed, construed, applied and enforced in accordance with the laws of the state of Florida.
50. **JURISDICTION AND VENUE.** The parties acknowledge that a majority of the negotiations, anticipated performance and execution of this Agreement occurred or shall occur in Marion County, Florida. Any civil action or legal proceeding arising out of or relating to this Agreement shall be brought only in the courts of record of the State of Florida in Marion County or the United States District Court, Middle District of Florida, Ocala Division. Each party consents to the exclusive jurisdiction of such court in any such civil action or legal proceeding and waives any objection to the laying of venue of any such civil action or legal proceeding in such court and/or the right to bring an action or proceeding in any other court. Service of any court paper may be effected on such party by mail, as provided in this Agreement, or in such other manner as may be provided under applicable laws, rules of procedures or local rules.
51. **REFERENCE TO PARTIES.** Each reference herein to the parties shall be deemed to include their successors, assigns, heirs, administrators, and legal representatives, all whom shall be bound by the provisions hereof.
52. **MUTUALITY OF NEGOTIATION.** Contractor and City acknowledge that this Agreement is a result of negotiations between Contractor and City, and the Agreement shall not be construed in

favor of, or against, either party because of that party having been more involved in the drafting of the Agreement.

53. **SECTION HEADINGS.** The section headings herein are included for convenience only and shall not be deemed to be a part of this Agreement.
54. **RIGHTS OF THIRD PARTIES.** Nothing in this Agreement, whether express or implied, is intended to confer any rights or remedies under or because of this Agreement on any persons other than the parties hereto and their respective legal representatives, successors and permitted assigns. Nothing in this Agreement is intended to relieve or discharge the obligation or liability of any third persons to any party to this Agreement, nor shall any provision give any third persons any right of subrogation or action over or against any party to this Agreement.
55. **AMENDMENT.** No amendment to this Agreement shall be effective except those agreed to in writing and signed by both parties to this Agreement.
56. **COUNTERPARTS.** This Agreement may be executed in counterparts, each of which shall be an original and all of which shall constitute the same instrument.
57. **ELECTRONIC SIGNATURE(S).** Contractor, if and by offering an electronic signature in any form whatsoever, will accept and agree to be bound by said electronic signature to all terms and conditions of this Agreement. Further, a duplicate or copy of the Agreement that contains a duplicated or non-original signature will be treated the same as an original, signed copy of this original Agreement for all purposes.
58. **ENTIRE AGREEMENT.** This Agreement, including exhibits, (if any) constitutes the entire Agreement between the parties hereto with respect to the subject matter hereof. There are no other representations, warranties, promises, agreements or understandings, oral, written or implied, among the Parties, except to the extent reference is made thereto in this Agreement. No course of prior dealings between the parties and no usage of trade shall be relevant or admissible to supplement, explain, or vary any of the terms of this Agreement. No representations, understandings, or agreements have been made or relied upon in the making of this Agreement other than those specifically set forth herein.
59. **LEGAL AUTHORITY.** Each person signing this Agreement on behalf of either party individually warrants that he or she has full legal power to execute this Agreement on behalf of the party for whom he or she is signing, and to bind and obligate such party with respect to all provisions contained in this Agreement.

**[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK. SIGNATURE PAGE TO FOLLOW.]**



**IN WITNESS WHEREOF**, the parties have executed this Agreement on \_\_\_\_\_.

**ATTEST:**

**CITY OF OCALA**

\_\_\_\_\_  
Angel B. Jacobs  
City Clerk

\_\_\_\_\_  
Barry Mansfield  
City Council President

**Approved as to form and legality:**

**VIRGINIA TRANSFORMER CORP.**

\_\_\_\_\_  
William E. Sexton, Esq.  
City Attorney

\_\_\_\_\_  
(Signature)

By: \_\_\_\_\_  
(Printed Name)

Title: \_\_\_\_\_  
(Title of Authorized Signatory)



**BACKGROUND**

Contractor shall furnish **THREE (3)** 25/33.3/41.6 MVA power transformers as herein specified: including delivery of power transformer(s) to the designated site(s), installation of the power transformer(s) on existing concrete foundation pads (8' X 14') and testing of transformer(s). Contractor shall also furnish **ONE (1)** lot of spare parts per the specifications and Scope of Work.

The City of Ocala Electric Utility reserves the right to approve manufacturers. **Transformers must be manufactured in a North American Free Trade Agreement (NAFTA) country.**

Contractor must comply with North American Electric Reliability Corporation (NERC) Supply Chain Standards.

The Supply Chain Standards focus on the following four security objectives:

- Software integrity and authenticity.
- Contractor remote access protections.
- Information system planning; and
- Contractor risk management and procurement controls.

Services provided by Contractor shall be coordinated with the City Project Manager, Lisa Crouthamel, at Ocala Electric Utility Department, 1805 NE 30th Ave, Bldg. 400, Ocala, Florida 34470, Telephone 352-317-3151, and E-Mail: [lcrouthamel@ocalafl.gov](mailto:lcrouthamel@ocalafl.gov).

**REQUIREMENTS**

1. Contractor is responsible for all City, County, and Florida Department of Transportation (FDOT) road use permits, and any other special support shall be provided at the expense of the Contractor.
2. Contractor acknowledges and agrees to comply with all local, state, and Federal laws, regulations, ordinances, and permitting requirements related to the provision of the required goods and services and that said laws, regulations, ordinances, and permitting requirements are incorporated herein by reference.

**DELIVERY**

1. **Transformer #1: 25/33.3/41.6 MVA POWER TRANSFORMER** shall be delivered and installed at the Airport Substation site, located at 509 SW 49th Avenue, Ocala, FL 34474. Delivery to the destination shall be no later than **the manufacturer's standard lead times (96 to 136 Weeks)**. FOB DESTINATION, PREPAID & ALLOWED.
2. **Transformer #2: 25/33.3/41.6 MVA POWER TRANSFORMER** shall be delivered and installed **four (4) weeks** later to 509 SW 49th Avenue, Ocala, FL 34474, FOB DESTINATION, PREPAID & ALLOWED
3. **Transformer #3: 25/33.3/41.6 MVA POWER TRANSFORMER** shall be delivered and installed **four (4) weeks** after transformer #2, to TBD (delivery site will be no farther than 5 miles from 509 SW 49th Avenue, Ocala, FL 34474, FOB DESTINATION, PREPAID & ALLOWED.
4. **One (1) Lot of Spare Parts** for 25/33.3/41.6 MVA power transformer shall be delivered to the City of Ocala, Electric Utility Warehouse, 1805 NE 30th Avenue, Building #700, Ocala, FL 34470. All items must be at the destination no later than the **manufacturer's standard lead time**.

5. Contractor shall provide 30 days' notice prior to delivery, and it is the Contractor's responsibility to unload all equipment at the listed site.

*The articles furnished hereunder shall be delivered with ALL transportation charges paid by the supplier to the destination.*

**CONTRACTOR EMPLOYEES AND EQUIPMENT**

1. Contractor must utilize competent employees in performing the work. Employees performing the work must be properly licensed or qualified as required by the scope/project.
2. Contractor shall provide an assigned project manager, who will be the primary point of contact. The Contractor must always provide a valid telephone number and address to the City Project Manager. The telephone must be answered during normal working hours or voicemail must be available to take a message.
3. At the request of the City, Contractor must replace any incompetent, unfaithful, abusive, or disorderly person in their employment. City and Contractor must each be promptly notified by the other of any complaints received.
4. Contractor's employees must wear suitable work clothes and personal protective equipment as defined by OSHA. Employees shall be clean and in as good appearance as the job conditions permit.
5. Contractor will operate as an independent contractor and not as an agent, representative, partner, or employee of the City of Ocala, and shall control their operations at the work site, and be solely responsible for the acts or omissions of their employees.
6. No smoking is allowed on City property or projects.
7. Contractor must possess/obtain all required equipment to perform the work. A list of equipment shall be provided to the City upon request.
8. All company trucks must display a visible company name/logo on the outside of the vehicle.

**CITY OF OCALA RESPONSIBILITIES**

1. City will furnish the following services/data to Contractor for the performance of services:
  - A. Access to City buildings and facilities to perform the work.
  - B. Provide access to drawings, specifications, schedules, reports, and other information prepared by/for the City of Ocala pertinent to the Contractor's responsibilities.
2. City reserves the right to purchase any materials for Contractor to use. Contractor shall not charge a mark-up fee for material furnished by City.

**CONTRACTOR RESPONSIBILITIES**

1. Contractor shall complete all work performed under this solicitation in accordance with the policies and procedures of the City of Ocala and all applicable State and Federal laws, policies, procedures, and guidelines.
2. Contractor shall obtain and pay for any licenses, additional equipment, dumping and/or disposal fees, etc., required to fulfill this Agreement.
3. Installation shall be performed in compliance with all requirements and instructions of applicable manufacturers.

4. Contractor is responsible for any and all damages including but not limited to buildings, curbing, pavement, landscaping, or irrigation systems caused by their activity. Should any public or private property be damaged or destroyed, the Contractor at their expense, shall repair or make restoration as acceptable to the City of destroyed or damaged property no later than one (1) month from the date damage occurred.
5. If Contractor is advised to leave a property by the property owner or their representative, Contractor shall leave at once without altercation. Contractor shall then contact the City Project Manager within 24 hours and advise of the reason for not completing the assigned project.
6. Data collected by Contractor shall be in a format compatible with, or easily converted to the City's databases. A sequential naming convention shall be applied to the files and documentation provided to the City.
7. Contractor shall ensure that all documents prepared under this Agreement have been prepared on a Windows-based operating system computer using the most current version of Microsoft Office, which includes: Word, Excel, PowerPoint, Access, or any other software as specified and approved by City staff.
8. City County and Florida Department of Transportation road-use permits. Any other special support shall be provided at the Contractor's expense.

#### SUB-CONTRACTORS

Contractor has thoroughly investigated each subcontractor and has evidence on file that each subcontractor has engaged successfully in their respective line of work for a reasonable period, maintains a fully equipped organization capable, technically, and financially, of performing the work required, and has made similar installations. The Contractor acknowledges and accepts responsibility for the performance of any subcontractor.

#### SITE HOUSEKEEPING AND CLEANUP

1. **Cleanup:** Contractor shall always keep the premises free from the accumulation of waste materials and rubbish caused by operations and employees. Such responsibilities shall include but not be limited to:
  - A. Periodic cleanup to avoid hazards or interference with operations at the site, and to leave the site in a reasonably neat condition.
  - B. The work site will be completely cleaned after each day of work.
  - C. Contractor shall dispose of debris in a legal manner.
2. **Final Cleaning:** Upon completion of work, clean the entire work area as applicable.
  - A. All furnishings and equipment shall be placed back in their original locations.
  - B. All work areas must be returned to their original condition.
  - C. The Contractor shall clean and remove from the premises, all surplus and discarded materials, rubbish, and temporary structures, and shall restore in an acceptable manner all property, both public and private, which has been damaged during the prosecution of the work and shall have the work in a neat and presentable condition. *Note: Any and all debris shall be removed from the premises. New construction debris, trash, etc., shall not be left or buried on site.*

**SAFETY**

1. Contractor shall be fully responsible for the provision of adequate and proper safety precautions meeting all OSHA, local, state, and national codes concerning safety provisions for their employees, sub-contractors, all building and site occupants, staff, public, and all persons in or around the work area.
2. In no event shall the City be responsible for any damages to any of the Contractor's equipment, materials, property, or clothing lost, damaged, destroyed, or stolen.
3. Prior to completion, storage and adequate protection of all material and equipment will be the Contractor's responsibility.

**MEASUREMENT AND PAYMENT****1. Transformers**

- A. Measurement shall consist of furnishing and delivering three (3) new POWER TRANSFORMERS to their foundations (8' X 14') at the Airport Substation site, and if the third power transformer is accepted, to a site to be determined as per the scope of work and specifications, including all submittals except for field test results, excluding spare parts, installation, and testing.
- B. Payment for completion of all work required of the Contractor shall be as stated in the Contract Documents and per all specifications, at the price shown in **Exhibit G – Contractor's Proposal**. Final payment after the equipment is placed in service shall constitute full compensation for all work required and specified.

**2. Transformer - Spare Parts**

- A. Measurement shall consist of furnishing spare parts for the power transformer per the requirements of **Exhibit C – Technical Specifications**.
- B. Payment for spare parts furnished by the Contractor shall be at the price shown in **Exhibit G – Contractor's Proposal** and constitute total compensation for the materials and all related work.
- C. Payment for completion of all work required of the Contractor shall be as outlined in the Contract Documents at the price shown in **Exhibit G – Contractor's Proposal**. Payment in this amount will constitute full compensation for all work required and specified.

POWER TRANSFORMERS -GENERAL REQUIREMENTS

**PART 1 -GENERAL**

**1.01 WORK INCLUDED**

- A. The work consists of furnishing a Power Transformer(s) as herein specified, delivering transformer to the designated site, and installing the new transformer on the existing concrete foundation (8' X 14').

This section outlines equipment standards, and requirements for the transformer tank, weatherproofing and painting, oil preservation equipment, insulating oil, progress photographs, submittal requirements, and shipping, delivery, installation and field testing.

**1.02 RELATED SECTIONS**

- A. Division 0 of these specifications is a part of this section as if incorporated herein.
- B. Other related sections are as listed below.

- 1. Section 16-003, Power Transformers - Category III.

**1.03 REFERENCES**

The transformer, accessories and equipment shall be of a design accepted as standard except as otherwise specifically stated herein. The work shall, as a minimum, conform to applicable provisions of the latest edition or revision of the following standards, except as modified herein.

A. American National Standards Institute/Institute of Electrical and Electronics Engineers (ANSI/IEEE):

- C57.12.00 General Requirements for Liquid-Immersed Distribution, Power and Regulating Transformers.
- C57.12.10 Requirements for Transformers 230 kV and Below 833/958 through 8333/10417 kVA, Single-Phase a 750/862 through 60,000/80,000/100,000 kVA, Three-Phase (Includes Supplement ANSI C57.12.10a)
- C57.12.90 **T e s t** Code for Liquid-Immersed Distribution, Power and Regulating Transformers and Guide for Short-Circuit Testing of Distribution and Power Transformers.
- C57.13 Requirements for Instrument Transformers.
- C57.19.00 General Requirements and Test Procedures for Outdoor Power Apparatus Bushings.
- C57.19.01 **P e r f o r m a n c e** Characteristics and Dimensions for Outdoor Apparatus Bushings.
- C57.92 Guide for Loading Mineral-Oil-Immersed Power Transformers up to and Including 100 MVA with 55°C or 65°C Winding Rise.
- C57.98 Guide for Transformer Impulse Tests.
- C57.109 Guide for Liquid-Immersed Transformer Through-Fault-Current Duration



C57.113 Guide for Partial Discharge Measurement in Liquid-Filled-Power Transformers and Shunt Reactors.

C57.131 Standard Requirements for Load Tap Changers.

**B. American Society for Testing and Materials (ASTM):**

A 343 Test Method for Alternating Current Magnetic Properties of Materials at Power Frequencies Using Watt Meter-Ammeter-Voltmeter Method and 25 cm Epstein Test Frame.

A 712 Test Method for Electrical Resistivity of Soft Magnetic Alloys.

A 725 Specification for Flat-Rolled, Grain-Oriented Silicon Iron Electrical Steel.

D 88 Test Method for Saybolt Viscosity.

D 92 Test Method for Flash and Fire Points by Cleveland Open Cut.

D 97 Test Methods for Pour Point of Petroleum Oils.

D 664 Test Method for Neutralization Number by Potentiometric Titration.

D 878 Test Method for Inorganic Chlorides and Sulfates in Insulating Oils.

D 971 Test Method for Interfacial Tension of Oil Against Water by Ring Method.

D 974 Test Method for Neutralization Number by Color Indicator Titration.

D 1275 Test Method for Corrosive Sulphur in Electrical Insulating Oils.

D 1533 Test Method for Water in Insulating Liquids.

D 1816 Test Method for Dielectric Breakdown Voltage of Insulating Oils of Petroleum Origin Using VDE Electrodes.

D 1933 Nitrogen Gas as an Electrical Insulating Material.

D 2029 Water Vapor Content of Electrical Insulating Gases by Measurement of Dew Point.

D 4059 Analysis of Polychlorinated Biphenyls in Mineral Insulating Oils by Gas Chromatography.

C. National Electrical Manufacturers Association (NEMA)

TR1 Transformers, Regulators and Reactors

#### 1.04 DESIGN AND PERFORMANCE REQUIREMENTS

- A. The workmanship, design and materials shall be of the highest quality and be the most suitable for the application. The material shall be new, of proven manufacture, and free of defects. The design shall provide maximum mechanical and dielectric strength of the insulation, uniform flux density an distribution, minimum dielectric losses, minimum interference with oil circulation, and the elimination of potential discharge (corona) at test and operating voltages.
- B. All standard fittings and accessories shall be included and located in accordance with latest ANSI Standards.

- C. The transformer shall be constructed in accordance with ANSI/IEE C57.12.10 and shall include all items necessary for complete assembly. The material and workmanship shall be of high quality and the unit shall be modern in appearance and design.
- D. The transformer shall be designed and constructed to be completely self-protected by its ability to withstand, without mechanical damage, the effects of external short circuits, as specified in ANSI/IEEE C57.12.00, Section 7, ANSI/IEEE C57.12.90, Section 12 and ANSI/IEEE C57.109.

#### 1.05 SUBMITTALS

The Equipment Contractor shall provide a complete schedule of data submittals within ten days of the receipt of Purchase Order.

- A. Submit Transformer Outline Drawing (including bushing, stud size and details of terminals), Transformer Base Details, Nameplate Drawings, and Auxiliary Schematic Diagrams, Physical Drawings for remote mounted equipment and performance data for review within one-fifth (20%) of the quoted delivery time. Submittal shall include the following data:
  - 1. Weight of core and coils.
  - 2. Weight of tank and fittings.
  - 3. Weight and quantity of oil.
  - 4. Total weight.
  - 5. Shipping weight.
  - 6. Height overall.
  - 7. Height over case.
  - 8. Floor space (footprint).
  - 9. Center of gravity.
  - 10. Details of bushings terminals

11. Location and detailed list of all accessories.
  12. Number, size and type of fan and/or pump motors.
- B. Bushing Drawings, Lightning Arrester Drawings, Radiator Details, Wiring Diagrams, and Current Transformer Curves shall be submitted for review within one-half (50%) of the quoted delivery time.
- C. Submit detailed specifications on painting and protective finishes.
- D. Submit proof of short circuit design considerations by short circuit calculations. The calculations shall include electrical and mechanical forces.
1. Short circuit force values shall include, but not be limited to, short circuit amperes, repulsion force in pounds and vertical force in pounds.
  2. Indicate mechanical safety factors used in design of: hoop strength of the outer winding, buckling strength of the inner winding, core clamp strength, vertical bar strength, clamping ring strength and jackscrew strength.
- E. Instruction Manuals shall be submitted for review four weeks before shipment. Instruction Manuals shall contain information on receiving, storing and assembly of the transformer; they shall provide complete description, including manufacturer's catalog or part numbers for all components, including, without limitation, relays, switches, bushings, arresters, gauges, LTC, radiators, valves and all other parts which might require maintenance or replacement in the course of normal operation. Copies of final approved drawings shall also be included.
- F. Submit impact recorder information with the shipping instructions, including manufacturer, type and model number of the impact recorders to be used. The Equipment Contractor shall also state the maximum limit the recorders can register both vertical and horizontal before the manufacturer considers

the transformers may have been damaged during shipment. The Equipment Contractor shall furnish the necessary information for releasing and returning the impact recorders at no additional cost to the Owner.

G. Factory Tests: Certified test reports for tests performed by the manufacturer shall be submitted for review prior to shipment.

H. Installation Tests

1. A complete outline of the transformer installation testing procedures to be conducted by the Equipment Contractor shall be submitted to the Owner for review, and comments shall be incorporated before installation testing by the Equipment Contractor or his Subcontractor commences at the site.

2. Submit final field test results, including the technician's field copied test sheets, before the equipment is delivered as ready to be put into service.

I. Final record drawings shall be furnished via email in a format compatible with Autodesk AutoCAD Release 2018 (two copies). Drawings to be emailed to Lisa Crouthamel [lcrouthamel@ocalafl.gov](mailto:lcrouthamel@ocalafl.gov), Robert Whitehead [Rwhitehead@ocalafl.gov](mailto:Rwhitehead@ocalafl.gov), Matt O'Cull [mocull@ocalafl.gov](mailto:mocull@ocalafl.gov).

#### 1.06 PHOTOGRAPHS

A. The Equipment Contractor shall furnish photographs that shall be taken just prior to placing the completed core and coil assembly into the tank.

B. Photographs are to be emailed to Robert Whitehead & Matt O'Cull. A total of five different views are required as follows (Segments as defined in ANSI C57.12.10):

1. Top view.

2. Front view.
3. Left side view, Segment 2.
4. Rear view, Segment 3.
5. Right side view, Segment 4.

#### 1.07 DELIVERY, STORAGE AND HANDLING

Deliver the transformer with all manufacturers' tags and labels intact. Deliver packaged material and equipment in manufacturer's original unopened containers bearing manufacturer's name. Handle and store the transformer and packaged materials in such a manner so as to avoid damage to the units.

#### 1.08 WARRANTY

- A. The transformer manufacturer's warranty period shall extend five years from date of on-site acceptance test and incorporation of any comments made during the review of the test.
- B. The transformer manufacturer's extended warranty shall include all parts of the transformer regardless of manufacturer.

### **PART 2-PRODUCTS**

#### 2.01 MATERIALS AND EQUIPMENT

- A. All material and equipment shall be new, approved and labeled, where required, by UL. Only products by manufacturers regularly engaged in production of specified units will be acceptable
- B. Where two or more units of the same class of equipment or materials are required, provide all units from a single manufacturer.



- C. Provide materials and equipment of suitable material to perform satisfactorily when exposed to conditions of project site.
  - 1. Provide breather and drain fittings in all raceways and enclosures where necessary to prevent condensation or trapping of moisture.
  - 2. Provide heaters in all control panels to prevent condensation.

**2.02 TANK AND BASE**

- A. The transformer tank shall be rectangular or equivalent oval and shall be of welded steel plate construction. Welding shall comply with applicable requirements of the latest codes of the American Welding Society. All tanks shall be suitable for vacuum filling in the field. Tanks, covers and appurtenances (i.e., valves, etc.) shall be designed to withstand full vacuum with 800 pounds on the cover, and shall include the required number of manholes in the cover necessary for inspection and installation (two minimum) with handholes as necessary. Minimum inside diameter of manholes shall be 20 inches.
- B. The tank cover shall be provided with lifting eyes for lifting cover or hood assembly only. The main tank shall be provided with lugs for lifting the entire unit with oil. Two copper-faced ground pads shall be welded at diagonal corners of the bottom of the tank for grounding purposes. Ground pads shall be drilled and tapped on 1.75-inch centers for 0.5-13 bolts. A stainless-steel name and diagram plate describing the unit, its taps and ratings, with schematic diagrams, shall be furnished and attached to the tank at not more than five feet above top of concrete pad. Screws, if used to attach name and diagram plate, shall be stainless steel.
- C. The base shall be furnished with pulling eyes and skid noses suitable for skidding on rails on rollers in directions parallel and perpendicular to a line through the high voltage bushings. Provision for jacking shall be furnished

per ANSI Standards. The transformer shall be provided with channel base rather than flat base, (the channel base shall not have a continuous plate on the bottom side) and shall allow free circulation of air to bottom of tank.

- D. The tank shall be furnished with a combination oil drain, sampling, and lower filter press valve and upper filter press valve. A vacuum filling connection shall be furnished on the cover. Gas purging connections shall be furnished on the side wall to allow purging from ground level.
- E. The transformer shall be furnished with two 1-inch valves located approximately 6 inches down from the cover. One valve is to be located at the end away from the vacuum connection on the low voltage side and one valve is to be located above the main drain valve. Three horizontal +++ marks shall be stamped on the tank directly above the main drain valve at the oil level required to cover the core, coils and all critical high voltage insulation.
- F. The transformer shall be furnished with detachable radiators with provisions to drain each individual radiator unit and with shut-off valves located between each radiator and main tank or header at both top and bottom connections. Valves shall be repairable without requiring a person to enter the transformer tank. Radiator flanges shall be supplied and arranged such that radiators may be mounted or removed for repair with 3500-pound handling facilities.
- G. All valves shall be designed and manufactured to operate at full vacuum.
- H. Hinged doors shall be provided in all outer tank walls for easy access to, and exposing, complete load tap changer compartment, inspection doors, drain and shut off valves, filling and vacuum plugs, vent and exhaust devices. Any hinged door exceeding 5 feet in height shall be split into two doors of equal vertical height.
- I. The transformer shall be equipped with one automatic reset pressure relief device per each 10,000 gallons of oil or fraction thereof in the main

transformer tank. The device(s) shall be located on the tank cover, complete with visual indicator and alarm contacts, shall be of self-resealing type and shall minimize discharge of oil and exclude the weather after operation. The device shall be located as close to the HV and LV bushings as practical for maximum protection of tank in the event of bushing failure.

- J. The transformer shall be equipped with 8510816 DBI Sala Advanced Portable Fall Arrest Post bases for attaching our fall arrest device when performing maintenance.

## 2.03 PAINT AND WEATHERPROOFING

- A. Exterior of transformer tank and base (and the outside shell of a double wall where required to maintain low noise level) shall be given two primer coats of one mil each and three finish coats of one mil each to a minimum thickness of 3 mils.
- B. The interior surfaces of the transformer tank, control compartment and tap changer compartment shall be primed and painted.
- C. Paint shall be the manufacturer's best quality specifically selected for the application and shall not be affected by insulating oil. Exterior finish shall be ANSI 70 Gray. Interior finish shall be white.
- D. Prior to painting, all surfaces shall be properly cleaned by sand blasting, shot blasting or be solvent-, steam-, or pressure-washed to remove all dirt, grease, rust or mill scale. After cleaning, all surfaces shall be degreased using an appropriate commercially available degreasing solution and rinsed with clean water, dried, primed and painted as outlined above. All galvanized surfaces shall be properly primed before painting.
- E. The transformer will be installed outdoors in a locality subject to high ambient temperatures, tropical hurricane winds and torrential rains. The Equipment Contractor shall be responsible for adequate weatherproof design to protect

against these conditions.

- F. External Fasteners (bolts, nuts, washers, lock washers, machine screws) for bolt thread diameters less than 5/16 inch shall be stainless steel or bronze. External fasteners for bolt thread diameters 5/16 inch or larger shall be hot dipped galvanized, stainless steel, or bronze.
- G. The transformer tank base and internal surfaces "boxed-in" by the support channels shall be undercoated with bitumastic at the factory.

#### 2.04 OIL PRESERVATION EQUIPMENT

The transformer shall be provided with an approved type of automatic, positive pressure, gas seal system to protect the insulating oil against oxidation. The equipment provided shall be a complete unit with compressed gas cylinder, pressure regulator, necessary gauges, alarm contacts, valves and piping, all contained in a weatherproof cabinet on the side of the transformer tank. All gasket joints shall be located below the minimum oil level so transformer leaks will be detected.

#### 2.05 INSULATING OIL

- A. Insulating oil shall be new fractionally distilled pure oxidation-inhibited mineral oil especially refined for transformers, free from moisture, acid, alkali and injurious Sulphur compounds and shall not form a deposit under maximum anticipated operating temperatures.
- C. Physical properties of insulating oil shall be as follows:
  - 1. Dielectric Breakdown Voltage - 35,000 volts min. (curved electrodes), ASTM D 1816.
  - 2. Viscosity - Not over 62 Saybolt at 37.8°C, ASTM D 88.
  - 3. Pour Point - Not higher than minimum -40°C, ASTM D97.
  - 4. Flash Point - Not under 146°C, ASTM D92.

5. Fire Point - Not Under 160°C, ASTM D 92.
6. Neutralization Number - 0.03 maximum, ASTM D 664 and D 974.
7. Interfacial Tension - 40 dynes per square centimeter minimum, ASTM D 971.
8. Water Content at 25°C -25 ppm maximum, ASTM D 1533 (Karl Fisher Method).
9. Corrosive Sulphur - None, ASTM D 1275.
10. Inorganic Chlorides and Sulphates - None, ASTM D 878.

### **PART 3-EXECUTION**

#### **1.01 SHIPMENT**

- A. Assembly: The transformer core and coil shall be shipped completely assembled in the tank, in oil, or in a dry inert gas atmosphere having a maximum dew point of -50°F. The dew point of the gas in the tank shall be determined just prior to shipment. If shipped in dry inert gas atmosphere, the assembly shall be pressurized to 5 psig sufficiently in advance of shipment to permit verification that a seal is obtained. The transformer shall be shipped upright and as complete as possible consistent with shipment limitations and protection of the equipment. At the option of the Equipment Contractor, the oil, bushings, frames, minor accessories, and radiators may be shipped separately.
- B. Packing: The method of packing shall be such as to adequately protect the case, radiators, core and coils, bushings and all other auxiliary devices or accessories against corrosion, dampness, breakage, or vibration injury that might reasonably be encountered in transportation and handling. Packing crate shall be such that prolonged outdoor storage will not result in

deterioration of crates or damage to contents. A complete set of spare gaskets shall be shipped with the transformer.

- C. Weatherproof: All auxiliary equipment shall be shipped in weatherproof packages. Packing material shall be such that it will provide weatherproof protection for a period of one year in outdoor storage areas. Accessories shall not be shipped separately without the prior knowledge and consent of the Owner.
- D. Moisture Control: All conduits and auxiliary equipment mounting positions shall be sealed and/or covered to prevent water damage during storage.
- E. Positive Pressure: All valves, shipping covers, etc. shall be sealed and effectively crated to prevent tampering or removal while in transit, and a means shall be provided for allowing gas pressure to be measured without requiring release of the gas.
- F. Recorder Installation: The Equipment Contractor shall furnish a minimum of two each two-way (horizontal and vertical) impact recorders for the transformer shipped. Recorders shall be attached to the transformer and to the carrier on which the transformer is shipped. At least one recorder must operate satisfactorily throughout the time the transformer is in transit.
- G. Complete Shipment: Shipment of the transformer shall be made so that the transformer, complete with all accessories, can be made to an individual destination simultaneously. Fans shall be packed so they can be removed readily from the transporting unit for storage.
- H. FOB Site: Shipment shall be made FOB Foundation Pad at site (8' X 14'). Freight and handling shall be prepaid for delivery to designated site.



### 3.02 INSPECTION

- A. The transformer shall be inspected upon receipt. In the event residual pressure (allowing for differences in temperature) is not sufficient to ensure that positive pressure was maintained throughout the temperatures encountered during shipment, the transformer shall be considered as possibly contaminated by moisture, and special precautions acceptable to the Owner shall be taken by the Equipment Contractor prior to placing the transformer in service.
- B. Upon arrival and before unloading the transformer, the impact recorder tape will be removed and inspected by the Owner, the Equipment Contractor and the Carrier's Agent. It shall be the Equipment Contractor's responsibility to see that the transformer is supplied with a recorder that is still operating when the transformer is received. If in the opinion of the Owner, the Equipment Contractor or the Carrier's Agent the impact recorder tape or other considerations indicates rough handling during shipment, the Equipment Contractor shall take immediate action to determine if any damage has occurred and shall report in writing to the Owner defining the conditions that exist and recommending corrective action. It will be the Owners discretion of whether or not to proceed with repairs or reject unit based on the severity of damage. The recorder tape will be retained by the Owner for study and will be returned to the Equipment Contractor when studies are completed.

### 3.03 DELIVERY AND INSTALLATION

The transformer furnished hereunder shall be delivered to the Owner complete and ready to be placed in service, including satisfactorily completing all required field acceptance tests. The Equipment Contractor shall make all necessary provisions required for the transportation, receipt, handling and unloading of the transformer and provide delivery and placement as described herein. This shall include but not be limited to loading and unloading, rigging, transporting, handling, placing, assembling, filling with insulating oil, testing, checking of current transformers, relays and other accessories and/or auxiliaries and satisfactorily placing the transformer in service as work of this Contract. All work involved in assembling and testing the

transformer shall be performed under the supervision of a fully qualified factory trained service engineer and the Equipment Contractor shall provide all necessary supervision, labor, equipment, materials, tools and devices necessary for complete and satisfactory assembly and testing. The foundation will be provided by others. Connections to the high voltage, low voltage, neutral, and ground terminals, and connections of low voltage power, CT, and control circuits to incoming terminals will also be provided by others. The Equipment Contractor shall advise the Owner not less than ten days in advance of the date of arrival of the transformer.

### 3.04 FIELD INSTALLATION TESTS

All tests recommended or required by the transformer manufacturer shall be conducted; and, in addition thereto, a nitrogen dew point test, an oil analysis, Power Factor Tests, TTR tests, Insulation Resistance tests, current transformer tests, Leakage Reactance and an operational test of the sudden pressure relay. The hot oil and hot spot dial indicators shall be calibrated with the thermocouple in hot oil and a current input, where applicable.

- A. Insulating oil for the transformer shall be treated, heated, filtered and processed, with a vacuum in the tank, in strict accordance with the requirements of these specifications or in strict accordance with the published recommendations of the equipment manufacturer, whichever shall require the most complete treatment or processing. See Appendix 1. An oil analysis shall mean, as a minimum, the following tests: Dielectric test, acidity test, color test, power factor test and interfacial tension test. Where acidity, interfacial tension or other tests indicate the presence of acidic, colloidal or other contaminants, a re-refining process, the Fuller's Earth pressure percolation method, shall be used to remove these contaminants.
  - 1. The delivered transformer oil and oil used at the factory shall be non-PCB oil. The Manufacturer shall certify, by statement on the transformer test report, that all oil used in processing and testing the

transformer contained less than 2 PPM polychlorinated biphenyls as determined by test method ASTM D4059 or equivalent.

2. Failure of any of the above tests shall be grounds for refusal of the oil shipment, and a new shipment required immediately.
- 
- B. A complete Doble or Biddle power factor test shall be performed on the transformer. Power factor tests shall be performed in accordance with the standards and procedures established by the test equipment manufacturer for the type of equipment and voltage class applicable and shall include windings, bushing tests and surge arresters. Three copies of a complete written report shall be submitted to the Owner for each piece of equipment, identifying test equipment, the test procedures followed, and the "as-found" and "as left" condition of equipment tested.
  - C. Ratio Tests shall be made (1) at all connection positions of the manual tap changer for de-energized operation with the automatic load-tap-changer on the rated voltage position, and (2) at all automatic load-tap-changer with the manual tap changer for de-energized operation on the rated voltage position.
  - D. The insulation resistance test, by resistance bridge or an approved electronic voltmeter, shall be performed to produce results that can be directly compared to the technique used and the results obtained by the original equipment manufacturer for establishing the base resistance values. Resistance readings shall be recorded for all windings on the full winding tap position.
  - E. All current transformers shall be checked for ratio, saturation excitation, burden and polarization. The correct location and polarity as per identification marking shall be verified.

**3.05 FACTORY SERVICE ENGINEER**

The services of a fully qualified factory trained service engineer shall be made available during assembly, filling with oil and testing after assembly. The service engineer shall be made available for one eight-hour day to instruct Owner's personnel in the proper operation, adjustment, test, and maintenance of the transformer. Such instructions shall be in addition to work specified above.

- A. The work of the service engineer to be performed under the scope of this contract shall be coordinate with the work to be performed by the Owner.
- B. When the presence of a service engineer is required at the time equipment is placed in service, the service engineer shall perform all operations required to establish that the unit is ready to be placed in service, to advise the Owner when the unit is ready to be energized and upon approval by the Owner, to place the unit in service. As part of this operation, the service engineer shall afford opportunity to Owner's personnel to observe and learn the correct practices to be followed prior to energizing equipment.
- C. A fully qualified service engineer must be available upon 24 hours' notice and qualified shop facilities must be available within a radius of 400 miles of the Owner.

**SECTION 16-000**  
**APPENDIX 1 - OIL TREATMENT**

**A. GENERAL:**

The purpose of this appendix is to set certain minimums for oil filling, which may be superseded by more stringent requirements of a particular equipment manufacturer. This appendix shall not be construed as establishing the details as to how the equipment is to be received, tested, erected, and made ready for installation and connection to the energized circuit; nor is it to establish the details as to how the oil that will be used in such equipment is to be received, treated and placed in such equipment. The details are to be established by the recommendations of the manufacturer of the equipment to be installed or by a good standard practice. Acceptable procedures, depending upon which establishes the most stringent requirements for the procedures required to erect or install the equipment or to process and treat the oil to be placed therein, are as follows:

- A. Those set forth in this appendix.
  - B. The published recommendations or requirements for procedures prepared by the equipment manufacturer.
  - C. Special recommendations or requirements issued by the equipment manufacturer for this application.
2. All appropriate receiving inspections and tests shall be made of and on the equipment to be installed. All operations required for the proper erection and installation of such equipment, including necessary detailed testing, shall be scheduled as shall the operations that are inherent in the testing and placement of oil. All necessary grounds shall be positively established including, without limitation, those

grounds required to control the development of static electricity and to disperse and eliminate any static electricity that develops.

3. All appropriate receiving tests shall be performed on the insulating oil. Tests shall be individually made and shall be complete for each compartment of each carrier. Certified copies of tests made at the depot where oil is placed in transport shall be compared with requirements of equipment manufacturer. Shipping and receiving tests shall demonstrate that the oil proposed for delivery meets the equipment manufacturer's requirements. Necessary arrangements shall be made for the delivery, placement and setup of oil processing equipment, necessary safety precautions shall be taken and provisions for required testing shall be satisfactorily completed.
4. Oil-processing equipment shall be of adequate capacity for the size of equipment to be installed and for the services required. Adequate vacuum levels must be maintained. The necessary corrective action shall be taken to eliminate leaks which would be a contributing factor to the inability to maintain and hold vacuum.
5. Important considerations are the elimination of moisture and oxygen, both in free air space or entrapped or entrained in windings or oil. Acceptable level of oxygen is 0%. Acceptable levels of moisture shall be stated in the published recommendation of the equipment manufacturer and shall be established by proper dew point tests.
6. Vacuum levels and periods of time for holding such levels shall be not less than those stated herein and shall be increased as necessary to maintain the levels recommended by standard test procedures or the specific recommendations of the equipment manufacturer.



7. All vacuum gauges shall be properly operable and shall have current calibrations.
8. Check rotation of pump and motor to confirm that the wheel of the pump is turning in the direction established by markings on the housing.
9. Establish with certainty that the valves to radiators, coolers, or other compartments (except conservator tank) connected to the main tank are open before drawing a vacuum on the equipment tank. Further attention shall be given to ensure that all interconnecting valves are operable and are in the proper position as are any connections or openings between the bushings, structural chambers, the bushing mounting and the main equipment tank and to ensure that the connections and valves to the conservator tank are in the proper position.
10. Disable the transformer load tap changer to ensure that the equipment cannot be operated while the main tank is under a vacuum.
11. Take the necessary steps, including but not limited to, grounding of terminals to ensure that no voltage is applied to the equipment while under vacuum. This includes the elimination of any test or other procedure which could cause any voltage in the equipment.
12. Equipment must be under the observation and control of qualified personnel while vacuum tests are in progress. This includes the periods of waiting while the vacuum is being held for stated periods of time.

13. In the event vacuum or oil processing equipment should fail during the accomplishment of tests or processing, it shall be necessary to restart the tests or processing procedure. This requirement for restarting procedures will not be justification for extension of contract time or changes in contract price, therefore it may be appropriate to have backup equipment available.
14. All necessary installation operations that are required shall be performed in a timely manner so that once vacuum procedures are established and the equipment has been dried, the oil may be introduced with minimum requirements for opening or otherwise reducing the quality of treatment of the environment in which the insulating oil is placed or of the oil itself.
15. All necessary precautions must be taken as regards the equipment to be installed, the test equipment, the oil, the oil handling and transfer equipment.
16. The Service Engineer, as required elsewhere in these specifications, shall be present at the time the equipment and oil is received, receiving tests are conducted and during all other procedures and tests for processing and placement of oil.

**B. VACUUM AND RELATED PROCEDURES:**

1. Dew point tests (ASTM D 2029) shall be conducted as part of the receiving test. In the event these dew point tests indicate moisture content above that acceptable to the equipment manufacturer, the carrier and the equipment manufacturer shall be notified, and operations suspended until instructions (to be confirmed in writing,

with copies to the Owner) are received from the equipment manufacturer.

2. A careful log shall be maintained of the time that the equipment is open. Operations shall be suspended, and equipment shall be closed if temperature, humidity, or other weather conditions are such that the operations requiring the equipment to be opened would jeopardize the condition of the equipment. The time that operations are suspended shall be counted as "open" time in determining how long equipment is to be held under a vacuum unless the equipment is sealed and secured under dry nitrogen (ASTM D 1933) at a minimum pressure of 3.0 psig.
3. If the dew point test conducted as part of the receiving test for the equipment demonstrates moisture content acceptable to the equipment manufacturer, and subject to acceptable temperature, humidity and other weather conditions, the necessary steps in the assembly and erection of the equipment shall be completed.
4. Information as to the local temperature, humidity and other weather conditions and the time required for the equipment to be opened for assembly and erection shall be coordinated with the Service Engineer. A record of such local weather conditions shall be maintained in the log.
5. The equipment to be installed shall be closed. Prior to closing, dew point tests shall be taken, following which the equipment shall be pressurized with dry nitrogen. The dew point of the dry nitrogen used to charge the equipment shall be taken and the equipment shall be allowed to sit a minimum of 24 hours, after which time a dew point test shall again be taken and, depending upon the moisture content evidenced by a dew point, the equipment processing shall proceed or shall be suspended, pending advice from the equipment manufacturer.

6. The degree of pressure to be applied shall be as established by the equipment manufacturer and shall be held for a period of 24 hours. Leaks, if any, shall be detected and corrected. The equipment shall be repressurized and held for a period of 24 hours and the process repeated until such time as satisfactory conditions are established. If satisfactory moisture conditions cannot be established after two pressure/vacuum/pressure cycles are completed, a complete dry-out procedure recommended by the manufacturer and approved by the Owner shall be satisfactorily accomplished.
7. The oil processing equipment shall be assembled. At an appropriate time, the vacuum equipment shall be connected from the vacuum pump to the equipment to be installed, making the connection at the approved vacuum connector location. Any vacuum/pressure detection or relief devices shall be left in an operating condition. Connection shall be made with a pipe of adequate size, but not less than 2-1/2 inches I.D. This pipe shall be used to connect the vacuum hose with the cutoff valve and a vacuum gauge. The vacuum millimeter sending unit shall be placed on the equipment to be installed in the most logical location.
8. Proper connection and testing of pumps shall be accomplished. The vacuum pump shall be run with the vacuum booster cut off at a 30- inch vacuum to establish that the pump is operating satisfactorily. The vacuum booster valve shall be open to dry the vacuum hose (by establishing a minimum reading of 0.2 millimeters under blanked-off conditions measured on the vacuum gauge connected to the vacuum pump).
9. Before opening the valve to extend the vacuum to the equipment to be installed, the initial moisture level shall be established by the dew point test.

10. After the dew point reading of the equipment to be installed is established, the valve at the top of the equipment shall be opened to extend the vacuum into the equipment and the exact time for opening the valve and initiating the vacuum shall be noted and recorded.
11. The vacuum shall be pulled to a level of 1.0 millimeter, or less.
12. The specified vacuum shall be maintained for a minimum of 24 hours, or 12 hours plus 2 hours for each hour that the equipment has been "open" or exposed to the atmosphere during installation and erection, whichever time shall be greater. If satisfactory moisture levels have been established prior to pulling down the vacuum test, proceed to Paragraph 21. If satisfactory moisture conditions have not been established by dew point tests, proceed as described in the following paragraphs.
13. Break the vacuum with extra-dry nitrogen. The condition of nitrogen used for this purpose shall be verified by a dew point test at the site.
14. Re-pressurize the equipment with extra-dry nitrogen in accordance with the recommendation of the equipment manufacturer.
15. Equipment shall be left under pressure for a minimum of 24 hours.
16. Conduct all required dew point tests of the equipment and verify that readings satisfy the requirements or recommendations of the equipment manufacturer.
17. If the dew point tests do not produce satisfactory results, the pressure/vacuum/pressure cycle shall be repeated. See Paragraph 6. If satisfactory results are obtained proceed as described in the following paragraphs.

18. Restart the vacuum pump in preparation of drawing the vacuum for oil filling. Start the pump, with the main valve on the equipment being installed closed, to pull pump and hose down to 0.2 millimeters under blanked-off conditions to ensure that pump and hose are working properly. Maintain vacuum for a minimum of one hour; leave the booster in manual mode, with booster valve closed, if booster is in service.
19. Open the main vacuum valve at the top of the equipment to be installed. Put the booster in the automatic mode and open the booster valve.
20. Pull the vacuum down to 1.0 millimeter or less (not more than 1.0 millimeter) and hold for a minimum of 12 hours.
21. Conduct necessary receiving tests on oil after vacuum conditions have been satisfied and oil satisfies the test requirements as specified by the equipment manufacturer. Start oil flow into the main tank.
22. Maintain a vacuum of not more than 3 millimeters while oil is filling.
23. Adjust flow rate of oil so that specified vacuum is maintained.
24. Bring the oil to the level stated by the manufacturer above core and coils. Once the oil has reached the established level, shut down the oil flow, maintain the vacuum pump in operation at not more than 1 millimeter of vacuum, for a minimum of four hours.

25. Break the vacuum with extra-dry nitrogen, with the condition of the nitrogen verified by on-site dew point test.
26. Pressurize the tank to the level specified by the equipment manufacturer. Following the recommended procedure stated by the equipment manufacturer, and fill other compartments as required.
27. Ensure that oil is filled to the level specified by the equipment manufacturer.
28. Be sure that all oil valves are left in proper position. Record all readings, have readings verified by the Service Engineer and deliver the original to the Owner's representative. Follow all necessary safety procedures. The responsibility for the equipment to be installed shall remain with the equipment manufacturer until the Service Engineer certified the equipment as ready to be energized and the equipment is accepted as being in this condition by the Owner's representative.



SECTION 16-003  
POWER TRANSFORMERS - CATEGORY III

**PART 1 -GENERAL**

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1.01 WORK INCLUDED

This section supplements Section 16-000 and provides technical design information for the manufacture, assembly, accessories, factory test requirements and operating requirements for high-voltage type outdoor oil-immersed power transformer.

1.02 RELATED SECTIONS

- A. Division 0 of these specifications is a part of this section as if incorporated herein.
- B. Other related sections are as listed below.

Section 16-000, Power Transformers - General Requirements.

1.03 REFERENCES

The work shall conform to the applicable requirements of all Federal, State and local agencies and applicable provisions of the latest edition or revision of the standards set forth in Article 1.03 (References) of Section 16-000, except as modified herein.

## 1.04 TRANSFORMER CAPABILITY

- A. The transformer unit shall be capable of transforming its self-cooled rating continuously, oil to air, at rated voltage and frequency without exceeding a temperature rise of 55°C. The transformer shall be equipped with two stages of automatic, forced air auxiliary cooling equipment which shall increase its self-cooled rating to the levels stated with the auxiliary cooling equipment in service and without exceeding a temperature rise of 55°C. The transformer shall be insulated to permit safe operation at not less than 65°C rise, with increased thermal operating capacity of not less than 12%.
- B. The impedance of the transformers shall be based on the self-cooled rating (55 °C).

## 1.05 TRANSFORMER RATING

A.	Number of Phases	Three
B.	Coolant	Insulating Oil
C.	Cooling Stages	OA/FA/FA
D.	Frequency	60 Hz.
E.	Impedance	8.0% @ 25 MVA with ANSI Tolerance of $\pm 7.5\%$
F.	Capacity	25/33.3/41.6 MVA
G.	High Voltage Winding Rated Voltage	67 kV Delta
H.	Low Voltage Winding Rated Voltage	12.47Y/7.2 kV Wye

- |    |                              |   |
|----|------------------------------|---|
| I. | Full Rated Taps              | As specified hereafter above and below rated voltage; manual for deenergized operation; and automatic for load tap change operation.  |
| J. | Basic Insulation Level (BIL) | High Voltage - 350 kV<br>Low Voltage - 110 kV   |
| K. | Avg. Temperature Rise        | Rated Capacity at 55°C with additional 12% capacity at by Winding Resistance 65°C   |
|    | 1. Hot Spot                  | 55°C Rating - 65°C  |
|    | 2. Hottest Spot Temperature  | 65°C Rating - 80°C  |
| L. | Duty                         | Continuous  |
| M. | Phase Displacement           | ANSI/IEEE C57.12.10 (9.3) Low voltage phase-to-neutral voltage winding shall lag by 30 degrees high voltage phase-to-neutral voltage. |
| N. | Sound Level                  | NEMA TR1 Audio sound levels shall not exceed:<br>70 dB @ 25 MVA<br>72 dB @ 33.3 MVA<br>73 dB @ 41.6 MVA                               |

## 1.06 SERVICE

- A. The power transformer shall be used as a connection point between a 69-kV wye loop transmission line and a supply bus for distribution service at 12.47Y/7.2 kV. The neutral of the transformer secondary will be solidly grounded.
- B. Available power is single phase, 120/240 VAC, for motors and accessories and 48 VDC for control power.

**PART 2-PRODUCTS**

## 2.01 MATERIALS AND EQUIPMENT

Materials and equipment shall comply with the requirements of Section 16-000.

## 2.02 TANK

The transformer tank and base are specified in Section 16-000.

## 2.03 CORES

- A. Cores shall be assembled and tested to conform to the requirements of ASTM A 712 and ASTM A 725, with core losses limited per ASTM A 343.

- B. The transformer shall be free from unusual or harmful vibration. Lifting eyes or lugs shall be provided for handling the core assemblies when untanked.
- C. The core laminations shall be free of burrs and shall be stacked using modern joint design to provide uniform flux density and magnetic reluctance over the joint region. The lamination insulation coating shall be impervious to hot insulating transformer oil.
- D. The core shall be rigidly clamped with the electrical centers of all coils in line to prevent deteriorating vibrations, interference with oil circulation, objectionable noise conditions, and short circuit and shipment distortions. The core shall be securely grounded externally on the tank. The core ground lead shall be brought out through the tank cover, or through the side of the tank close to the cover, with a 5 kV insulated bushing.

## 2.04 WINDINGS

- A. The transformer windings insulation level shall conform to the requirements of ANSI/IEEE C57.12.00 Table 4. The design shall provide coordinated low-frequency and impulse insulation levels on line terminals and low-frequency insulation levels on neutral terminals.

### High Voltage Requirement

1.	Voltage Class	69 kV
2.	Low Frequency Test Level	140 kV
3.	BIL, Crest	350 kV
4.	Chopped Wave Impulse Level, Minimum	385 kV

### Low Voltage and Neutral Requirement

1.	Voltage Class	15 kV
2.	Low Frequency Test Level	34 kV
3.	BIL, Crest	110 kV
4.	Chopped Wave Impulse Level	120 kV

- B. The transformer windings shall be designed and tested to withstand impulse test voltages in accordance with ANSI/IEEE C57.12.00 and ANSI/IEEE C57.12.90. The windings shall be made of copper and assembled in a manner as best suited for the application. Proper consideration shall be given to all factors of service such as high dielectric and mechanical strength of insulation, coil characteristics, and minimum restrictions to free circulation of oil. Coils shall be made up, shaped, and braced to provide for expansion and contraction due to temperature changes in order to avoid abrasion of insulation and to resist movement and distortion caused by abnormal operating conditions. Adequate barriers shall be provided between windings and core, and between high-voltage and low-voltage windings. End turns, or section of coils shall have additional insulation protection against abnormal line disturbances. The entire design, construction, and treatment of the windings and their assembly on the core shall embody the latest improvements in the art and conform to best modern practice.
- C. An insulation system suitable for an average winding temperature rise by resistance of 65°C shall be used.

## 2.05 INSULATING OIL

Insulating oil and oil preservation equipment are specified in Section 16-000.

## 2.06 TAP CHANGERS

- A. Manual Tap Changer:

1. A manual tap changer shall be provided for de-energized operation of the high voltage taps and shall provide two steps above and below the middle tap position for the voltage rating. Taps shall be 70,600, 68,800, 67,000, 65,200 and 63,400 volts.
2. The handle for manual operation of the tap changer for deenergized operation shall be brought out through the tank wall and must provide adequate clearance from any energized part. Preferably the handle shall be located at not more than 5 feet above top of concrete pad but may be located at greater height above top of concrete pad if in accordance with manufacturer's standard design. Provisions shall be made for padlocking the handle in the chosen position and for positive visual tap position indication without unlocking. A stainless-steel nameplate, which states "WARNING - Do Not Operate This Tap Changer When Transformer is Energized", shall be permanently attached to the tank located next to the operating handle. Screws, if used to attach nameplate, shall be stainless steel. This nameplate shall be shown on the outline drawing. This tap changer shall be referred to on the nameplate and at the tap changer handle as "DEENERGIZED TAP CHANGER".

B. Automatic Load Tap Changer (LTC) and Controls: LTC shall be as manufactured by Reinhausen (type RMV-II), no substitution.

1. Automatic LTC equipment shall be provided for automatic operation of the low voltage taps and shall provide approximately 10 percent plus and 10 percent minus adjustment of the voltage rating of the low voltage windings. The voltage change shall be in approximately 5/8 percent steps with 16 steps above and 16 steps below rated low voltage.
2. The LTC equipment shall be designed to provide regulation of the low voltage winding, maintaining full capacity kVA at all tap positions above rated voltage and not less than rated current at all tap positions below rated voltage.

3. LTC Windings

- a. The regulating winding shall be electrically independent or placed on a separate winding tube from the high and low voltage windings and shall be fully distributed.
- b. Preventive auto and series transformers, if required, shall be constructed to Class 2 power transformer standards including circular core and coil design and disc or helical type winding construction, using all copper conductors.

4. The LTC equipment shall consist of a tap selector with vacuum interrupting switch, a motor-driven mechanism, and automatic and manual control devices. The LTC equipment shall be capable of a minimum of 500,000 operations before contact replacement is required. A dead front operating panel shall be provided whereby the gears and mechanism are covered. Only Beckwith 2001C solid state controls are acceptable unless specifically identified as an exception and approved in writing. If fuses are used in the control circuits, two sets of spare fuses for each transformer shall be provided by the Equipment Contractor and one set shall be stored in a suitable clip next to the control panel.

The LTC mechanism drive motor shall be located at operator height, if possible, for ease of maintenance and replacement. Draining of the LTC compartment shall not be required for access to the drive motor.

5. Local position indicator shall be calibrated L (lower) - N - R (Raise) from the left end to the right end of the scale. Position indicator shall be located so that it will be visible to an operator at the control switch for the drive motor. Indicator shall be mechanically driven directly from the



drive mechanism without auxiliary devices. Drag hand shall be reset electrically by pushbutton located in the transformer control cabinet.

6. LTC TAP POSITION MONITOR

a. General: Local and remote Voltage Regulator position indication will be provided by a synchro style rotary position transmitter and a digital position monitor. The monitor will be capable of display, analog output, and serial output to interface with operators, field personnel and SCADA

b. Manufacturer and Model Numbers:

a. Resistors mounted and wired to an analog transducer producing a 4-20ma output connected to an SEL-2414 for position indication. (See Paragraph 2.06.C.b)

A stainless-steel nameplate shall be permanently mounted on the outside of the control cabinet housing the manual raise and lower controls so an operator can identify the LTC control housing. A duplicate nameplate shall be mounted inside the cabinet next to the raise and lower controls. The nameplates shall state: "LOAD TAP CHANGER - For Operation with Transformer Energized and Carrying Load". Screws, if used to attach nameplates, shall be stainless steel. The nameplate shall be shown on the outline drawing. The nameplates shall include the following information:

- a. Manufacturer of the mechanism.
- b. Model number of the mechanism.
- c. Year of manufacture.
- d. Maximum rated through current of the mechanism.
- e. Type of transition impedance, reactor or resistor.
- f. Method of arc interruption (type of mechanism).
- g. Type of drive mechanism, direct or energy spring.
- h. Amount of oil in the mechanism compartment.

C. The automatic LTC equipment shall include:

- a. Voltage regulating relay and line drop compensator.
- b. The load tap changer shall be provided with a 17-position switch with 16–80-ohm resistors or with a 33-position switch with 32–40-ohm resistors for tele-metering of tap position. The switch shall be mechanically connected to the tap changing mechanism and is to switch the taps of the resistor and the moving contacts of the switch are to be wired to terminal blocks for the Owner's remote connections. The circuit is to be insulated for 48 VDC operation. Limit switch and stops to prevent travel beyond extreme tap positions shall be provided.
- c. Auxiliary control.
- d. Current transformer for the line-drop compensator with a 0.2 ampere or other suitably rated secondary.
- e. Reversing switch for reactance portion of the line-drop compensator.
- f. Provisions for Owner's wiring for supervisory control of the LTC equipment.
- g. All other features standard on manufacturer's LTC equipment.
- h. Note: It shall be possible for others to install complete supervisory control and indication. All necessary terminals, etc., shall be provided at this time. Drawings indicating modifications required and facilities provided as part of original manufacture shall be provided.

D. Control equipment shall be mounted in a NEMA 4X (304 stainless steel) suitable outdoor weatherproof compartment on the transformer, designed to provide protection against windblown dust and rain. The control equipment shall be accessible by an

operator at ground level and shall be a maximum of 5 feet above top of concrete pad. The control equipment shall include the following:

- a. Raise-and-lower switch for manual control at the transformer.
  - b. Selector switch for automatic or manual control.
  - c. Position indicator with drag hands to indicate maximum travel, with electrical reset in control cabinet.
  - d. Non-resettable electrically or mechanically actuated operation counter.
  - e. Power supply switch.
  - f. Hand crank for use during maintenance, interlocked with motor control.
  - g. Light and G.F.C.I. convenience outlet.
  - h. 120 or 240 VAC space heaters and fused switch with personnel barrier.
  - i. Local voltmeter test connection.
- E. The tap selector switch and contactor mechanisms shall be in a compartment mounted on the transformer and filled with oil separate from the oil in the main transformer tank. This tap changer compartment shall be sealed from the main transformer tank so there can be no transfer of oil between the two and shall have the capability of being completely drained or filled, under vacuum, without dropping the oil level in the main transformer tank. The LTC compartment shall be capable of withstanding full vacuum in the main tank without damage to the LTC compartment or components. This compartment shall be provided with the following accessories:



- a. Noncorrosive hinged doors with oil-resistant gaskets and stainless-steel hinges and hardware.
- b. A combination oil drain, sampling and lower filter press valve (1 1/2-inch min.) and an upper filter press valve (1 1/2-inch min.).
- c. An automatic reset pressure relief device for relief of excessive internal pressure. The design of this device shall minimize discharge of oil and exclude the weather after operation and shall be equipped with alarm contacts.
- d. Weatherproof cabinet breather.
- e. Magnetic liquid level oil gauge with low level alarm contacts.
- f. The 120 VAC reference voltage for the voltage regulating relay will be obtained from an Owner-supplied voltage transformer in the substation, and the power required to drive the LTC mechanism will be obtained via an AC panelboard from an Owner-supplied substation control power transformer. All internal wiring required to interface with external wiring shall be terminated on terminal blocks. Each individual function shall be supplied by a separate circuit which shall be individually protected by an approved circuit breaker device.

## 2.07 THERMAL PROTECTION

- A. Cooling equipment shall be provided for the transformer and shall be fully automatic, operating in response to winding or top-level oil temperature, the means being optional with the manufacturer. Manually operable switches connected in parallel with the automatic control contacts shall be included and may be in the control compartment. Auxiliary cooling equipment shall be complete up to incoming supply terminal box. All equipment shall be coordinated for operation at single phase, 120 or 240 VAC.
- B. The cooling equipment shall be fabricated so that water cannot collect on the outside, oil flow will not be impeded inside, and maintenance painting will be facilitated.
- C. The transformer shall be provided with enough radiators to provide adequate cooling with average ambient air temperature of 30°C, with 40°C maximum, over a 24-hour period.
  - 1. Radiator metal wall thickness shall not be less than 18 gauge.
  - 2. Radiator or group of radiators shall be attached to the flanges welded to the tank wall by means of approved valves, (pressure seal type butterfly or flapper valve type) which may be used to isolate or remove sections of radiators and the joints shall be made tight by means of suitable gaskets.
  - 3. Radiators shall be provided with drain plugs.
  - 4. Radiators shall be painted as described in Section 16-000 Part 2.03.

- D. Removal of any section of radiators shall not decrease the capacity of the transformer by more than one-sixth ( $1/6$ ) at any stage of cooling.
- E. The cooling equipment shall be self-contained for the unit. Control equipment for the cooling equipment shall be furnished and shall be fully automatic with facilities for manual run control and shall be designed to start and stop the fans as the oil or transformer winding temperature requires. To equalize wear, selection of the cooling fan bank which operates on first stage shall be at the operator's choice. The control equipment shall be supplied as a unit, complete with all necessary protective devices and accessories. Each fan circuit shall be individually protected. Fans supplied as cooling equipment which have blades that are riveted to their rotating base mount are not acceptable. However, cast aluminum blades are acceptable. Fan blades shall be encased in an OSHA approved safety screen.
- a. An additional fan starting contact shall provide for local/remote control of air- cooling equipment.
  - b. A dial type "Thermal Load" indicator gauge shall be furnished and attached to the tank at eye level which will indicate the percent thermal loading of the transformer at all times. In addition, the "Thermal Load" indicator shall be equipped with a red maximum hand (resettable locally) which will show highest condition of thermal loading which occurred since last observed and reset. Auxiliary contacts completely wired to terminal blocks shall be provided to telemeter 55°C and 65°C oil temperatures and operation of first and second stage cooling equipment.
  - c. The circuit from the "Thermal Load" indicator current transformer to the "Thermal Load" indicator gauge shall be brought through a test switch in the transformer control cabinet. This test switch shall be capable of shorting the "Thermal Load" indicator current transformer circuit before it terminates at the "Thermal Load" indicator gauge giving warning to short out the "Thermal Load" current transformer via the test switch before removing the cannon plug from the "Thermal Load" indicator gauge.

## 2.08 TRANSFORMER PROTECTION

## A. Surge Protection:

Three Station-Class Gray surge arresters, G.E. Co. 60 kV "Tranquell", Cat. No. 9L11XTP060, or approved equal, shall be mounted adjacent to the high voltage bushings; three Station-Class Gray surge arresters, G.E. Co. 9 kV "Tranquell", Cat. No. 9L11XGP009, or approved equal, shall be mounted adjacent to the low voltage bushings. Surge arrester mounting brackets shall be an integral part of the sides of the transformer tank or the double wall enclosure. Rating of arresters shall be fully coordinated with BIL level of the transformer.

A 1/4" x 1 1/2" copper bus arrangement shall be provided as a means to ground surge arresters to ground pads at the base of the tank. One bus arrangement for each set of arresters shall be secured to tank wall or structural members with removable fasteners.

## B. Winding Thermal Protection:

Thermal protection shall be provided consisting of one thermal load indicating relay calibrated to operate on duration and magnitude of the transformer winding temperature (ANSI Device 49). This relay shall be equipped with one set each of four sequence contacts set for controlling the fans as required for alarm and tripping, shall automatically operate a remote annunciator when winding temperature approaches the maximum safe operating value. The thermal load relay shall include a remote reset switch in the transformer control cabinet.

## C. Fault Detection:

The transformer shall be provided with a General Electric Company Type 900 1A or equivalent Qualitrol Co. 900-009-03 oil operated fault pressure relay (ANSI Device 63) responsive to rate of rise of pressure. Contacts shall be suitable for 48 Vdc operation and shall be furnished with a target/seal-in auxiliary relay, G.E. Co. Type 12HAA16B2 or equal (not installed), suitable to operate a remote lock-out relay, G.E. Co. Type 12HEA61C (not installed).



The fault pressure relay shall be properly installed at 5 feet above the top of concrete pad near the tank corner. A suitable valve shall be supplied between the relay and the tank. The valve proposed by G.E. for this relay is acceptable. The relay shall be mounted in accordance with latest G.E. instruction book for the relay. (GEK-5659B).

## 2.09 CURRENT TRANSFORMERS

- A. Current transformers shall be designed for the appropriate classification accuracy rating. The basic impulse insulation level, multi-ratio current rating, secondary taps, continuous rating, and short-time current ratings shall be in accordance with ANSI/IEEE C57.13.
- B. Unless noted, all current transformers shall be multi-ratio, five (5) tap minimum, with ratios as shown on Figure No. AA-3, appended to this section of the specification. All taps shall be brought out and terminated on shorting type terminal blocks located in the control compartment. ANSI classification shall be as noted.

Note: Current transformer ranges may be adjusted by Owner at or prior to the time of shop drawing review at no additional cost to the Owner.

- C. C.T.'s required per power transformer:
  - 1. High Voltage Bushing - One per bushing (three) 600:5 MR (C400) and one per bushing (three) 1200:5 MR (C400). (Installation Note: The 1200:5 MRCT shall be the bottom set.)
  - 2. Low Voltage Bushing - One per bushing (three), 2000:5 MR (C400).
  - 3. Low Voltage Bushing - One per bushing (three), 1200:5 MR (C400). (Installation Note: The 1200:5 MRCT shall be the bottom set.)

D. Low Voltage Neutral Bushing - One per bushing 1200:5 MR (C400).

- E. Bushing C.T. information shall be shown on a separate nameplate or main nameplate and shall be per ANSI/IEEE C57.13, Paragraph 6.8.

- F. Polarity marks on bushing C.T.'s shall be toward external bushing terminals.

## 2.10 BUSHINGS

- A. The insulation level of line bushings shall be equal to or greater than the insulation level of the windings to which they are connected.
- B. All windings leads (including the neutral) and core ground shall be brought out and connected to terminal bushings. The bushings shall be designed and terminations so made that no undue stressing of the bushings shall occur due to conductor expansion or temperature changes.
- C. The bushing porcelain shall be gray glaze and manufactured by the wet process method and shall be homogenous, free from laminations, cavities or other flaws affecting its mechanical strength or dielectric qualities. The porcelain shall be well vitrified, tough and impervious to moisture. The glazing shall be free of imperfections such as blisters or burns. High voltage bushings shall be paper-oil condenser bushings interchangeable with ANSI Standard bushings for power circuit breakers in the same voltage classes. Bushings shall be as manufactured by ABB or Lapp, no substitutions.
- D. High voltage bushings shall be in Segment 3 and low voltage and neutral bushings shall be in Segment 1, per ANSI C57.12.10, Figures 7 and 8. The low voltage X2 bushing shall be on the same centerline with the high voltage H2 bushing.
- E. Power factor test terminals shall be provided on all 69 kV bushings.
- F. All necessary connectors and hardware shall be furnished for connecting the core ground bushings to the transformer ground.

- G. Bushing Ratings; Bushings shall comply with the dimensions, performance and test requirements of ANSI/IEEE C57.19.00 and ANSI/IEEE C57.19.01 and shall have ratings as follows:

Quantity/  <u>Type</u>	Insulation  <u>Class kV</u>	Current Rating  <u>Ampere</u>	BIL & Full Wave  <u>kV</u>	<u>Withstand</u>		Min. Cree p <u>Dist-In.</u>
				60 Sec.	10 Sec.	
				<u>Dry</u>	<u>Wet</u>	
3 - H.V.	69	400/1200	350	160 kV	140 kV	48
3 - L.V.	15	2000	110	50 kV	45 kV	11
1 - Neut.	15	2000	110	50 kV	45 kV	11
1 – Core Ground	5	600	75	27 kV	24 kV	6

## 2.11 CONTROL WIRING

- A. All control wiring shall be type SIS No. 12 AWG minimum, stranded copper, and shall be terminated in the control compartment on terminal strips with markings in accordance with wiring diagrams. This shall include termination of wiring for all control relays and devices, auxiliary switches, safety switches and device interconnections. Connectors shall be nylon-insulated ring tongue Burndy Type YAEV of appropriate size, no substitutions. All conductors shall be identified by shrink fit or wrap-on sleeve with legible black characters on a white background to denote the destination terminal point of the conductor.
- B. All taps from five tap multi-ratio current transformers shall be brought to shorting type terminal blocks in the control compartment.
- C. Auxiliary Control Wiring: All control wire runs on the outside of the transformer shall be installed in hot dip galvanized rigid steel conduit. Drain fittings shall be provided at the lowest points and breather fittings at upper points such that all moisture that collects will be drained. Control wires may be run in the transformer bracing but must be readily accessible for maintenance. Leads to fans may be made with open cable with PVC jacket and connected to a suitable outdoor waterproof box next to the fan. Fan supply cables shall not exceed six feet in length. Stainless steel terminal studs shall be supplied in the enclosure box so that a motor may be disconnected and repaired with all other equipment in operation.

## 2.12 TERMINAL BLOCKS

Wiring shall be terminated on terminal blocks clearly marked for circuit identification as follows:

- A. All mechanism control wiring shall be terminated on Teledyne/Penn-Union Cat. No. 6012 terminal blocks, no substitutions.

- B. C.T. secondaries shall be terminated on Teledyne/Penn-Union Cat. No. 6006-SC shorting type terminal blocks, no substitution.
- C. Transformer auxiliary power supply terminal blocks shall be as follows:
  - 1. Terminal blocks for loads in excess of 80 amperes shall be Class 9080, Square D, Unit Construction, Type V or equal, suitable for wire range of #6 AWG-250 kcmil.
  - 2. Terminal blocks for loads less than 80 amperes shall be Class 9080, Square D, Unit Construction, Type U or equal, suitable for lug size range of #10 - #1/0 AWG.

#### 2.13 ANNUNCIATOR PANEL

A Schweitzer Engineering Laboratories SEL-252302H100XC1XX relay shall be installed in the transformer control panel and be wired to all alarm points. All alarm points shall be properly labeled on the front of the annunciator. Programming of the SEL-2523 will be done by others.

B Additionally, manufacturer shall furnish for each transformer a Schweitzer Engineering Laboratories SEL-735LX20944EXXXXXX16201CX. **OEU will install.**

#### 2.14 NEUTRAL GROUND CONDUCTOR

The transformer neutral will be parallel conductors connected to the substation ground grid. A minimum of two mounting supports shall be provided on the transformer tank. The mounting supports shall be secured to the transformer tank

#### 2.15 TRANSFORMER ACCESSORIES

Other accessories shall include, but not limited to, the following:

- A. Control Cabinet:
  - 1. Power Supply Switch (Source by Owner).

2. Light and G.F.C.I. Convenience Outlet.
  3. Space Heater and Switch.
- B. Gauges shall be equipped with ungrounded alarm contacts suitable for 48 Vdc operation.
  - C. Magnetic liquid level oil gauge with low level alarm contacts on the main tank.
  - D. Combination Pressure - Vacuum gauge with alarm contact.
  - E. Dial type thermometer to indicate liquid temperature, attached to the tank at eye level, closed oil well design, with maximum reading pointer (resettable locally) and alarm contacts. This gauge is in addition to the thermal load indicator of Article 2.07.
  - F. Gas sampling valves.
  - G. Conduit entrance provisions, current transformer connections including wiring, conduit and test switches; controls, accessories and auxiliaries, and related wiring as specified elsewhere in this specification.

## 2.16 SPARE PARTS

The Equipment Contractor shall furnish a complete power transformer as described above, plus a complete set of spare parts as follows:

- A. Three (3) high voltage bushings
- B. Three (3) low voltage bushings
- C. One (1) core ground bushing
- D. One (1) set gaskets
- E. Two (2) sets low voltage fuses for LTC
- F. Two (2) 1-quart cans of touch-up paint for base coat
- G. Two (2) 1-quart cans of touch-up paint for finish coat
- H. Three (3) 69kV Arresters
- I. Three (3) 12kV Arresters

**PART 3-EXECUTION**

## 3.01 FACTORY TESTS

- A. The following transformer tests shall be performed. The following standards shall be used for completing the test: ANSI/IEEE C57.12.00, ANSI/IEEE C57.12.10, ANSI/IEEE C57.12.90, ANSI/IEEE C57.92, ANSI/IEEE C57.98, ANSI/IEEE C57.109, ANSI/IEEE C57.113 and ANSI/IEEE C57.131.
1. Resistance measurement of all windings on the full winding tap position of each unit. Use 5KV test equipment and correct to 20°C temperature reference.
  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 (excitation) loss at rated frequency and at 100 percent and 110 percent of rated voltages.
  5. Total loss at rated self-cooled kVA and rated forced-cooled kVA(s) at rated voltages and frequency.
  6. Fan and/or pump power requirements for each rating.
  7. Regulation at unity power factor and 80 percent power factor lagging.
  8. Percent impedance, resistance and reactance on rated self-cooled kVA base.
  9. Impedance and load loss at rated current and rated frequency on the rated voltage connection and at the tap extremes of each unit.

10. Exciting current at rated frequency in percent at 100 percent and 110 percent of rated voltages.
11. Hottest spot temperature rise at rated self-cooled kVA and forced-cooled kVA(s).
12. Temperature rise test data shall be on minimum and maximum ratings or may be given from a "thermal duplicate" unit.
13. Applied voltage tests.
14. High potential and induced voltage tests - ANSI Standard.
15. Bushing Tests: Power factor of bushing shall be furnished both as individual units and as installed in tank.
16. Terminal bushing test and flashover voltages -ANSI Standard.
17. ANSI/IEEE C57.113 Partial Discharge (Corona) Tests: Test on completed unit based on one hour at 150% of maximum operating voltage to demonstrate satisfaction of a guaranteed level of 150 microvolts.
18. Audible Sound Level Tests: Results of sound level tests shall be provided on each unit at the self-cooled rating and all forced-cooled ratings.
19. Resistance Measurement of Insulation: Use 5KV test equipment and correct to 20°C temperature reference to establish basis for future comparisons.
  - a. Measurements shall be made between windings and all windings and ground.
20. Insulation Power Factor:



Record data shall state test method and specify style and serial number of test equipment and shall include temperature reference to establish basis for future comparisons. Tests shall be performed using a minimum test voltage of 10 kV. Results shall include separate values for CH, CL and CHL. These values shall not be combined, and a value above 0.5%, corrected to 20°C, will not be acceptable.

21. The tests shall include a quality control impulse series in accordance with ANSI/IEEE C57.98. The leakage impedance measured after the test series shall not differ from that measured before the test series by more than two percent of its former value.
  22. Fault Pressure Relay Test: A report for the fault pressure relay shall be obtained from the original manufacturer. The test report shall verify that the relay has been fully tested at the manufacturer's test laboratory and that it is properly calibrated. A copy of this test report shall be included with the transformer test report.
  23. Current transformer tests, (ratio, saturation and excitation, polarity) with curves.
- B. Owner reserves the right to witness testing. The Contractor shall notify Owner in writing prior to the scheduled starting date of the factory tests to allow Owner to witness testing. Testing shall take place within the United States of America to prevent international travel for personnel.
- C. The Contractor shall notify Owner of any unusual event or damage occurring during the fabrication of the transformer and of all tests which do not meet the specified standard values. Owner reserves the right at its option to inspect such damages or test failures. Corrective measures to overcome such damage or failure shall be subject to acceptance by Owner.

### 3.02 CERTIFIED FACTORY TEST REPORTS.

The Equipment Contractor is expressly advised that certified test reports on the unit(s) delivered must include values to permit determination of No Load and Load Losses and other power requirements. In the event such losses or requirements exceed the values guaranteed at time bids are submitted, the Equipment Contractor will be assessed as liquidated damages an amount to be determined as follows:

- A. No Load Losses. For each kW or fraction thereof that actual test losses exceed guaranteed losses, the Equipment Contractor will be assessed an amount computed based on \$4,360 per kW.
- B. Load Losses. For each kW or fraction thereof that actual test loss exceeds guaranteed losses, the Equipment Contractor will be assessed an amount computed based on \$1,314 per kW.
- C. Power Requirements. For each kW or fraction thereof that actual power requirements as for Cooling Equipment established by test exceeds the approximate power requirements furnished with the bid, the Equipment Contractor will be assessed an amount computed based on \$4,360 per kW.

**NOTE: EACH C.T. TAP WINDING FULLY DISTRIBUTED**

Secondary Taps		400A		600A		1200A		2000A		3000A	
		Ratio	Amps	Ratio	Amps	Ratio	Amps	Ratio	Amps	Ratio	Amps
B-C	X2-X3	15:1	75-5	10:1	50-5	20:1	100-5	160:1	800-5	240:1	1200-5
A-B	X1-X2	15:1	75-5	20:1	100-5	40:1	200-5	80:1	400-5	200:1	1000-5
A-C	X1-X3	30:1	150-5	30:1	150-5	60:1	300-5	240:1	1200-5	440:1	2200-5
D-E	X4-X5	40:1	200-5	40:1	200-5	80:1	400-5	100:1	500-5	100:1	500-5
C-D	X3-X4	10:1	50-5	50:1	250-5	100:1	500-5	60:1	300-5	60:1	300-5
B-D	X2-X4	25:1	125-5	60:1	300-5	120:1	600-5	220:1	1100-5	30:1	1500-5
A-D	X1-X4	40:1	200-5	80:1	400-5	160:1	800-5	300:1	1500-5	500:1	2500-5
C-E	X3-X5	50:1	250-5	90:1	450-5	180:1	900-5	160:1	800-5	160:1	800-5
B-E	X2-X5	65:1	350-5	100:1	500-5	200:1	1000-5	320:1	1600-5	400:1	2000-5
A-E	X1-X5	80:1	400-5	120:1	600-5	240:1	1200-5	400:1	2000-5	600:1	3000-5



Manufacturer:

---

Location of Plant:

---

Guaranteed losses for Autotransformer 230 KV-67KV, as described in Exhibit B - Technical Specifications included in the proposal, are as follows:

All losses are for the basic transformer at the MVA rating indicated, on "Neutral" LTC position and 69,000 volt no-load tap position, are to be stated "per transformer". Losses are to be for the basic transformer unit only and are not to include load tap-change equipment or other voltage regulating equipment.

Guaranteed No Load Loss, 25 MVA, LTC at N

---

Guaranteed Load Loss, 25 MVA, LTC at N

---

Guaranteed Load Loss, 25 MVA, LTC at 4 Raise

---

Guaranteed Load Loss, 25 MVA, LTC at 5 Raise

---

Approximate Power Required by Cooling  
Equipment, 33.3 MVA (watts)

---

Approximate Power Required by Cooling Equipment,  
41.6 MVA (watts)

---

Approximate Dimensions (inches); see Sheet 3 (Figure AA-2):

"A" and "B" are as measured from the centerline  
of the H2 bushing

A \_\_\_\_\_ B \_\_\_\_\_ C \_\_\_\_\_

"E" and "F" are without radiators and with other  
normally demountable equipment removed.

D \_\_\_\_\_ E \_\_\_\_\_ F \_\_\_\_\_

to top of HV bushings; "T" is to highest point  
above grade, either bushing or lightning arrester

H \_\_\_\_\_ M \_\_\_\_\_ T \_\_\_\_\_

High Voltage Phase Spacing (inches)

\_\_\_\_\_

Low Voltage Phase Spacing (inches)

\_\_\_\_\_

Approximate Weights (pounds)

\_\_\_\_\_

Core and Coils/ Tank and Fittings

\_\_\_\_\_

Liquid

\_\_\_\_\_ ( \_\_\_\_\_ gallons)

Total Weight / Shipping Weight

\_\_\_\_\_

Description of Core and Coil Design: \_\_\_\_\_

Load Tap Changer (LTC): The LTC proposed to be furnished as an integral part of the Autotransformer will have the following characteristics.

LTC Manufacturer

\_\_\_\_\_

LTC Model Identification

\_\_\_\_\_

LTC Transition Impedance Type

\_\_\_\_\_

LTC Arc Interruption Method

\_\_\_\_\_

LTC Drive Mechanism Type

\_\_\_\_\_

LTC Continuous Current Rating

\_\_\_\_\_

LTC Ratio of Series Transformer (if any)

\_\_\_\_\_

LTC Operations before Initial Maintenance

\_\_\_\_\_

LTC Guaranteed Operations Total Life

\_\_\_\_\_

Cooling System Fan (Pump) Motor Manufacturer/ Type	_____	_____
--	-------	-------

Fan (Pump) Motor hp / First Stage Quantity	_____	_____
--	-------	-------

Fan (Pump) Motor hp / Second Stage Quantity	_____	_____
---	-------	-------

Current Transformer Manufacturer	_____	
----------------------------------	-------	--

Maximum CT Quantity in HV Space	_____	
---------------------------------	-------	--

Maximum CT Quantity in LV Space	_____	
---------------------------------	-------	--

Maximum CT Quantity in Tertiary Space	_____	
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<u>High Voltage:</u>	<u>Low Voltage:</u>
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Bushing Manufacturer	_____	_____
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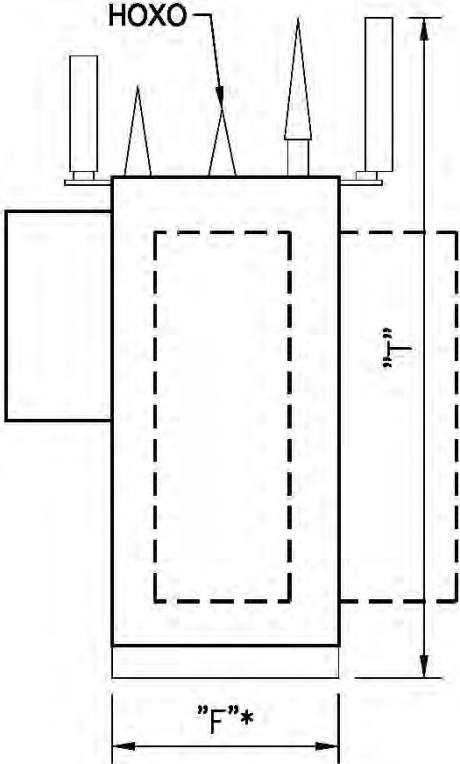
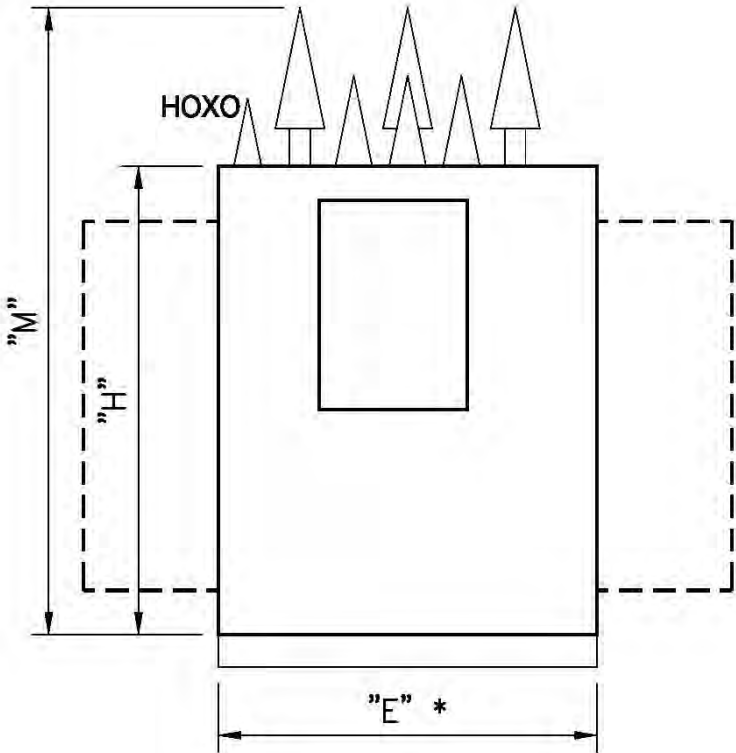
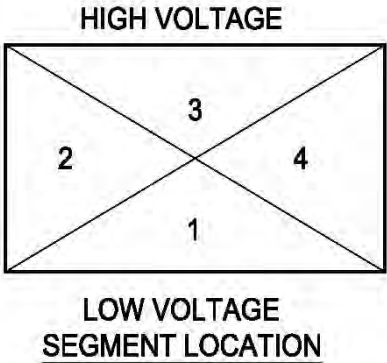
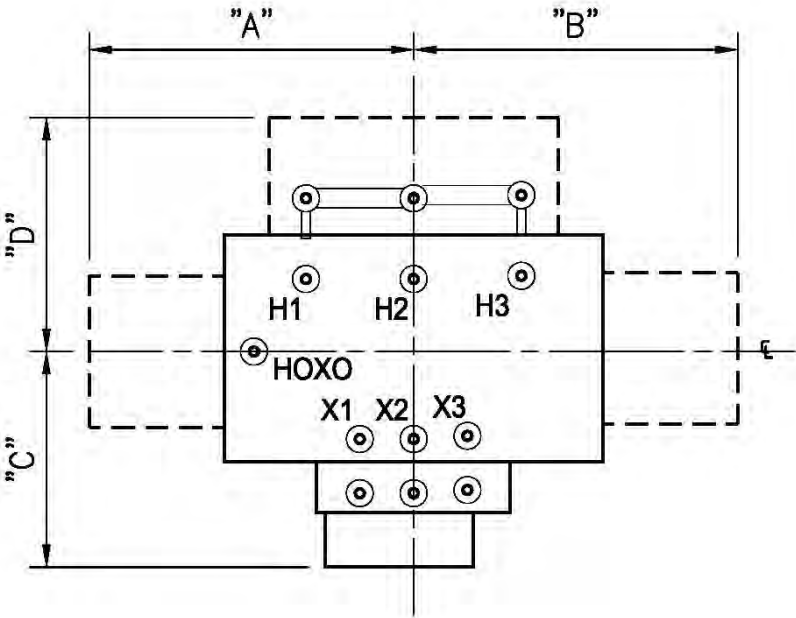
Bushing Type / Designation	_____	_____
----------------------------	-------	-------

Permissible safe cantilever loading (lb)	_____	_____
--	-------	-------

Lightning Arrester Manufacturer	_____	
---------------------------------	-------	--

High Voltage Lightning Arrester Type	_____	
--------------------------------------	-------	--

Low Voltage Lightning Arrester Type	_____	
-------------------------------------	-------	--



Proposed Delivery Date & Subcontractors

## SUBCONTRACTORS

Please list below where subcontractors will be used to complete certain phases of work, the name and address of each proposed subcontractor are required. The Bidder has fully investigated each subcontractor and has evidence on file that each subcontractor has engaged successfully in their respective line of work for a reasonable period of time, maintains a fully equipped organization capable, technically and financially, of performing the work required, and has made similar installations in a satisfactory manner. The Bidder acknowledges and accepts responsibility for the performance of any subcontractor.

<u>WORK PHASE</u>	<u>SUBCONTRACTOR – NAME &amp; ADDRESS</u>
Off-Loading	To Be Determined.
Hauling	To Be Determined.
Site Installation, Service and Testing (Autotransformer)	Virginia Transformer Corp.
Other (Please Identify):	



## PROPOSED DELIVERY DATE

Ocala Electric Utility requires Delivery of equipment, as defined in Exhibit B – Required Specifications within the following date:

Qty.	Description	Delivery Required	Proposed Delivery Date
		Not Later Than	
2	Autotransformers 25/33.3/41.6 MVA	<u>Standard lead times (96 to 136 weeks)</u>	<u>72-76 Weeks</u>
<b><u>OPTIONAL</u></b>			
3	25/33.3/41.6 MVA	<u>Standard lead times (96 to 136 weeks)</u>	<u>72-76 Weeks</u>

*Including as per specifications:*

- Autotransformer 25/33.3/41.6-spare parts
- Autotransformers 25/33.3/41.6-installation and testing

The Bidder proposes to complete Delivery of Items, as listed below, including an allowance for review of shop drawings (see Exhibit A). The bidder understands proposed delivery times longer than stated above may be grounds for rejection of bid.

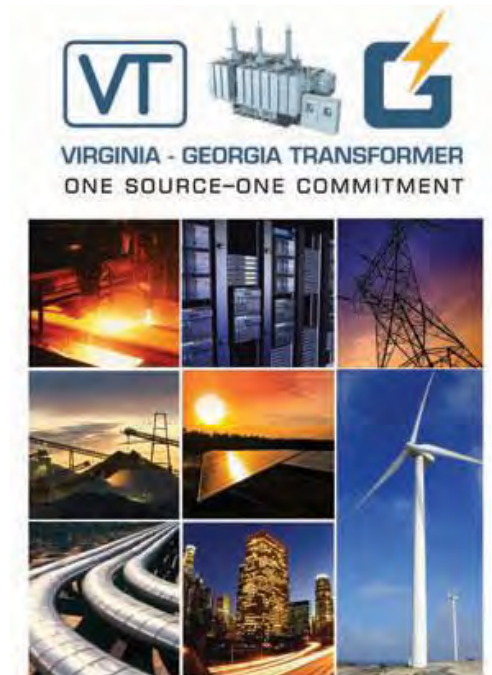
The Bidder agrees to deliver equipment to the designated site. Exact access requirements shall be established by on-site investigation by the Bidder. Delivery shall be completed between the hours of 7:30 a.m. and 12:00 noon, or 1:00 p.m. and 3:30 p.m. Local Time, Monday through Friday, but shall not be made on legal holidays.

The Bidder acknowledges and accepts the responsibility to place the equipment on permanent foundations furnished by the Owner. The Bidder acknowledges and accepts the responsibility to conduct the required field testing, after external connections are made and prior to final acceptance by the Owner. The Bidder acknowledges there may be a delay between the date the equipment arrives at the substation site and the date field testing can begin.

**Exhibit F - Price Proposal****CONTRACT# ELE/240044****ITB# ELE/240044 Airport - Power Transformers 25/33.3/41.6MVA****Virginia Transformer Corp.**

Item #	Description	UOM	QTY	Unit Price
1	Transformer #1: PRICE TO FURNISH AND DELIVER A NEW 25/33.3/41.6 MVA. The transformer shall be delivered and installed at the Airport Substation site, located at 509 SW 49th Avenue, Ocala, FL 34474.	EA	1	\$1,892,556.00
2	Transformer #2: PRICE TO FURNISH AND DELIVER A NEW 25/33.3/41.6 MVA. The transformer shall be delivered and installed four (4) weeks later to 509 SW 49th Avenue, Ocala, FL 34474	EA	1	\$1,892,556.00
3	Transformer #3: PRICE TO FURNISH AND DELIVER A NEW 25/33.3/41.6 MVA. The transformer shall be delivered and installed four (4) weeks after transformer #2.	EA	1	\$1,892,556.00
4	One (1) lot of Spare Parts for 25/33.3/41.6 MVA power transformer - shall be delivered to the City of Ocala, Electric Utility Warehouse, 1805 NE 30th Avenue, Building #700, Ocala, FL 34470.	LOT	1	\$48,900.00

Revision No: 0



**CITY OF OCALA**  
**Airport Power Transformers**

**Proposal #: G234404A | 28 November 2023**

**Customer Contact Information**

Airport Power Transformers  
CITY OF OCALA  
LISA CROUTHAMEL  
1805 NE 30TH AVE-BUILDING 400  
OCALA, FL 34470  
352.351.6646

**VTC Contact Information**

BRIAN MCCARRICK  
540-581-2825  
Brian\_McCarrick@vatransformer.com  
220 Glade View Drive, NE Roanoke, 24012  
Phone:540-345-9892 Fax:540-342-7694  
www.vatransformer.com



CITY OF OCALA

Proposal #: G234404A



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**CITY OF OCALA**

**Proposal #: G234404A**



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## Virginia Transformer Corporation

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**This document contains Virginia Transformer Corp proprietary information and may not be copied or disclosed to others without written consent from Virginia Transformer Corp.**

For over 50 years, innovative technology and a commitment to superior customer service and support has established Virginia Transformer Corp(VTC) as an engineering company leading in manufacturing a variety of transformers.

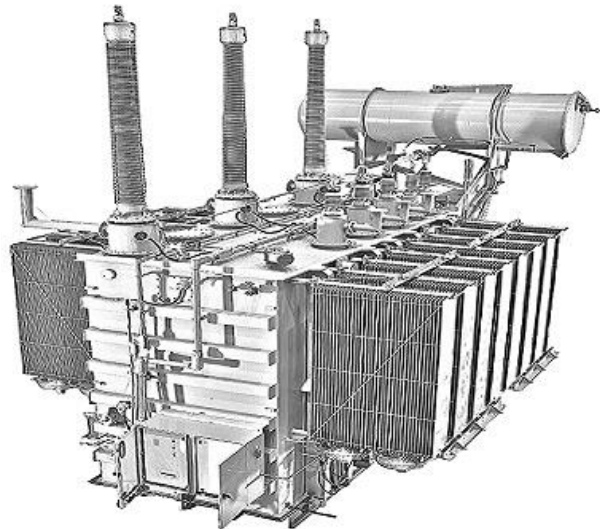
VTC designs and manufactures custom power transformers ranging from 500 KVA to 400 MVA, 500 kV class (core type) and up to 1400 MVA, 500 kV class (shell type), and dry-type units up to 15000 KVA, 35 kV.

VTC has design and manufacturing facilities in Roanoke, VA, Pocatello, ID, Chihuahua, Mexico and Georgia Transformer in Rincon GA. In addition, VTC has design and procurement capabilities in Delhi, India, establishing a world-wide presence as a supplier of transformer solutions. VTC reserves the right to manufacture the product quoted herein at VTC owned or affiliated plants in North America.



**ISO 9001**

"The Commitment Company"



**Exhibit G - Contractor's Proposal  
Airport Power Transformers**

**CITY OF OCALA**

**Proposal #: G234404A**

**CONTRACT# ELE/240044**



**Commercial Summary**

**Base Price**

Item	Description	Qty	Unit Price (USD)	Extended Price (USD)
1	25,000 / 28,000 / 33,333 / 37,333 / 41,667 / 46,667 kVA   67 - 12.47 kV	3	\$1,822,500	\$5,467,500

**Tax Certificates Requirement**

Upon acceptance of our proposal, the purchaser is required to submit a sales tax exemption certificate with the Purchase order, otherwise VTC will charge appropriate state taxes based on the destination.

**TERMS AND CONDITIONS:** Unless other terms or MSA is agreed between Customer and VTC/GTC, the Proposal will be governed by VTC/GTC Standard Terms & Conditions, attached towards the end of technical Proposal or provide as Separate Document.

**Price Policy**

Quoted Price is Firm for the Proposed Lead time.

In the event of customer delay on a job quoted with a firm price and shipment date, VTC/GTC will apply the BLS Transformer Index to adjust price. The agreed firm price will be escalated with the base period being the quoted shipment date and the Settlement date being the month of shipment. Only increases in the BLS index will be considered for this calculation. Any advance payments will be credited to the final invoice. No adjustment will be applied if the transformer is completed and shipped prior to the quoted shipment date.

**Validity of Quote**

01/29/2024

**Exhibit G - Contractor's Proposal  
Airport Power Transformers**

**CITY OF OCALA**

**Proposal #: G234404A**

**CONTRACT# ELE/240044**



## **ITEM #1**

### **Optional Pricing**

<b>Particulars</b>	<b>Price (USD/Per Unit)</b>
Field Service Offloading	\$30,459
Field Service Testing and Assembly	\$39,597

For Witness testing, cost for travel, transportation, lodging and meals are not included in the quoted price unless otherwise noted. Only 1 Day of Witness Test is included in the Offer. If additional Days are Required, There will be Price adder of \$10,000/ Day. If Field Service is Quoted as Option, the prices are Estimate only and will be adjusted at the time of Actual Service.

### **Shipping**

Unit Shipment By	72-76 Weeks from Order Acknowledgement date.VTC reserves the right to ship unit up to 3 months earlier than the contractual ship date.
Freight	PREPAID & ALLOW
INCO Terms	FOB - FREE ON BOARD(509 SW 49th Avenue, Ocala, FL 34474)
Proposed Manufacturing Location	VTC CHOICE
Impact Recorder	Impact Recorder to be provided on Returnable Basis, \$ 7,500 to be invoiced if not returned in 30 days after Delivery.

VTC cannot guarantee multiple units to arrive at the same time unless more than one unit can be loaded on the same truck. VTC cannot guarantee arrival dates and times at the job site. Final Lead time will be confirmed at the time of order acknowledgements

### **Proposed Payment Terms**

90% At Shipment, Net 30 Days
10% Upon Final Acceptance, Not to Exceed 180 Days from Shipment

### **Warranty**

60/60 Months Extended Warranty With In/Out	Includes all accessories, tank, core and coil.
--	--

**Exhibit G - Contractor's Proposal  
Airport Power Transformers**

**CITY OF OCALA**

**Proposal #: G234404A**

**CONTRACT# ELE/240044**



To ensure validity of Warranty coverage, Virginia - Georgia Transformer requires Dissolved Gas Analysis (DGA) reports of the supplied unit to be provided every year for the period of Warranty coverage. The annual DGA's should be emailed to: [FieldService@vatransformer.com](mailto:FieldService@vatransformer.com)

**Testing - As Per IEEE ANSI 57.12.90**

Routine Test	Included
Sound Level Test	Included
Dissolved Gas Analysis	Included
Dew Point	Included
Partial Discharge - RIV	Included
Power Factor	Included
10kV Single Phase Excitation	Included
Test Report of Thermally Duplicate Design	Included

All tests are as per ANSI/IEEE standard guideline. For Witness testing, cost for travel, transportation, lodging and meals are not included in the quoted price. If customer requires additional time beyond the scheduled witness test period, an additional charge of \$10,000/day will apply.

**Drawings**

Drawings are typically supplied 16-18 Weeks after Order Acknowledgement. Actual Drawing lead time will be confirmed at the time of order Acknowledgement Only. Customer approvals of drawings are required within one week from date of submittal unless otherwise agreed to in writing by VTC-authorized representative.



**Exhibit G - Contractor's Proposal  
Airport Power Transformers**

**CITY OF OCALA**

**Proposal #: G234404A**

**CONTRACT# ELE/240044**



## Technical Summary

This proposal is Virginia Transformer's complete understanding of the specification requirements provided, and is the basis for acceptance of any resulting orders.

## ITEM #1

### Transformer Ratings

ITEM :1			QUANTITY #3
kVA	25,000 / 28,000 / 33,333 / 37,333 / 41,667 / 46,667	Application	POWER DIST.
Cooling Class	ONAN/ONAF/ONAF	Winding Temp Rise (Avg)	55/65 °C
# Phase	3	Dielectric Fluid	TYPE II MINERAL
Frequency (Hertz)	60	Winding Material	COPPER
HV Rating (V)	67,000 DELTA	LV Rating (V)	12,470 Y/7,200
HV BIL (kV)	350	LV BIL (kV)	110
HV Tap Changer	DETC	LV Tap Changer	LTC
HV Taps	2 FCAN,2 FCBN @SPECIAL %	LV Taps	16 ABOVE,16 BELOW @0.625 %
Nom. Impedance	8.00 % +/- 7.50 % @ 25,000 kVA	Noise (dBA)	Standard NEMA TR-1
HV Bushing Mtng	Segment III, Cover Mounted	LV Bushing Mtng	Segment I, Cover Mounted
HV Terminal Chamber	Not Applicable	LV Terminal Chamber	Not Applicable
HV Coil Type	HELICAL OR DISC	LV Coil Type	HELICAL OR DISC
Paint Color - ANSI	70	Paint Type	IV URETHANE OVER ZINC RICH EPOXY
Losses	Guaranteed with IEEE Tolerance		
No Load Losses	17.20 kW at 100% volts	Load Losses	85.00 kW @ 25,000 kVA

### Mechanical Features

**Exhibit G - Contractor's Proposal  
Airport Power Transformers**

**CONTRACT# ELE/240044**

**CITY OF OCALA**

**Proposal #: G234404A**



De-energized Manual No Load Tap Changer
Diagrammatic Name Plate
Gasketed Manhole in Cover
NEMA 4X Junction Box
Nitrogen System with Regulator
Panel Type Radiators
Provision for Jacking, Skidding and Lifting
Two Copper Faced Ground Pads welded to Base on Diagonally Opposite Corners
Welded Top Cover
Fall Protection
Stainless Steel Hardware
White Painted Inside of Tank
Coal Tar Epoxy Undercoat

**Radiators**

<b>Environment Protection</b>	Painted	<b>Radiator Type</b>	Demount Type
-------------------------------	---------	----------------------	--------------

VTC standard radiators are Hot Dipped Galvanized and Unpainted which do not require painting. These radiators are suitable for all climatic conditions that include chemical, petrochemical and marine conditions. Unless specified differently below, these standard, galvanized radiators will be provided.

**Standard Gauges and Accessories**

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Gauges Details	Make
Liquid Level Gauge W/Contact	QUALITROL CORP.
Liquid Temp Gauge W/Contact	QUALITROL CORP.
Pressure Relief Device W/Contact	QUALITROL CORP.
Pressure Vacuum Gauge W/Bleeder	QUALITROL CORP.
Sudden Pressure Relay (GAS) With Seal in Relay	QUALITROL CORP.
Simulated Winding Temp Gauge W/Contact	QUALITROL CORP.
Thermal Load Indicator 251-60F	Qualitrol Corp.
SEL-2414	SCHWEITZER
SEL-2523	SCHWEITZER
SEL-735	SCHWEITZER

**Bushings**

Bushing	kV BIL	Location	Qty / Phase	Make
HV	350	Segment III	1	HITACHI (ABB)/PCORE
LV	110	Segment I	1	HITACHI (ABB)/PCORE

**Current Transformers**

Location	Qty / Phase	CT Ratio	Ratio	Class / Accuracy
HV	1	600:5	Multi Ratio	C400
HV	1	1200:5	Multi Ratio	C400
LV	1	2000:5	Multi Ratio	C400
LV	1	1200:5	Multi Ratio	C400
LV Neutral	1	1200:5	Multi Ratio	C400

**Lightning Arresters**

Location	Type	kV Class	MCOV	Manufacturer	Material
HV	Station Class	60	48	HITACHI (ABB)	PORCELAIN MET
LV	Station Class	9	7.65	HITACHI (ABB)	PORCELAIN MET

**Load Tap Changer**

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Location	On LV Winding
LTC Type	RMV II
Make	REINHAUSEN MFG
XMFR	VTC CHOICE

**NOTE:** The actual voltages at various taps of the LTC shall correspond to the nearest turn in accordance with IEEE Std C57.12.00 2010 clause 9.1. This can lead to different step voltage between steps.

**Included Spare Parts**

Item	Remarks
HV BUSHING - Qty 3	\$15,500
LV BUSHING - Qty 3	\$19,850
SPARE CORE GROUND BUSHING - Qty 1	\$300
GASKET SET - Qty 1	\$1,200
FUSE OF EACH TYPE AND RATING - Qty 2	\$300
TOUCH UP KIT - Qty 2	Included
HV ARRESTER - Qty 3	\$7,250
LV ARRESTER - Qty 3	\$4,500

**Ambient Conditions**

Ambient Temperature(°C)	Min. -20 / Av. 30 / Max. 40
Seismic Zone	Zone 1 & 2
Altitude(Feet)	< 3,300

Unit shall be designed per the latest ANSI standards for Seismic per IEEE 693 – 2018

**Dimensions and Weights**

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Overall & Shipping Estimated Dimensions:		
Dimension	Overall Dimensions (Inches)	Shipping Dimensions (Inches)
Width	242	209
Depth	184	140
Height	182	155
Overall & Shipping Estimated Weights:		
Weight of the Unit (Lbs)		Shipping Weight (Lbs)
145,500		126,725
Parts Shipped Separately:		
Fans and Mounting		
HV Arresters and Mounting		
HV Bushings		
LV Arresters and Mounting		
Radiator Oil		

Assembly of any ship separate parts is not in VTC scope unless, VTC field service assembly option is purchased or included in the base price.

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**Clarifications/Deviations to Specifications and Technical Notes**

**TECHNICAL**

**CLARIFICATIONS**

- 1.) Transformer will be designed per ANSI/IEEE standards.
- 2.) Values of Test like Induced Voltage, SFRA, Corona and Partial Discharge shall be as applicable in ANSI standard.
- 3.) The requested lightning arresters "9L11XTA060" and "9L11XGA009" are obsolete. VTC has quoted equivalent Hitachi arresters to meet the Customers requirement.

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**General Terms and Conditions of Sale**

**Virginia Transformer Corp's General Terms and Conditions of Sale**

Virginia Transformer Corp, hereinafter referred to as Seller, hereby offers to supply the items and/or services identified in the quotation, proposal, or acknowledgment expressly conditional upon the Buyer's acceptance of the following terms. Seller, by its commencement of performance, shall not prejudice its rights to enforcement of these conditions. Any confirmatory action by the Buyer hereunder, or any acceptance of such equipment or services, installation, energization, or utilization shall constitute assent to said terms or conditions. Stenographic and clerical errors on this quotation, proposal, or acknowledgment are subject to correction.

1. **ACCEPTANCE OF ORDER:** None of Buyer's Terms and Conditions contained the Purchase Order or other submittal by Buyer shall alter Seller's Terms and Conditions in any respect and shall not apply to this transaction unless specifically agreed to in writing by the Seller.
2. **EXPIRATION OF OFFER:** All offers of sale by Seller are valid for thirty (30) days from the date of the offer based on product delivery within 6 months unless otherwise specifically stated in the Seller's offer or as otherwise may be expressly agreed to in writing by the Seller. All such offers of Seller are subject to change without notice after this period unless earlier withdrawn by the Seller.
3. **MINIMUM ORDER VALUE:** The minimum acceptable value of any order is \$500.00. Buyer's accumulation of several items into one purchase is authorized to reach the minimum order value.
4. **F.O.B. POINT AND SHIPMENTS ACCEPTANCE OF ORDER:** Title to the goods and risk of loss shall pass to Buyer at the FOB point. All supplies and services are sold FOB origin and the point of origin shall be that of Seller's factories or locations identified in its proposal or sales contract form unless as otherwise specifically agreed to in writing on the face of Seller's sales contract. Seller assumes no responsibility for delay, breakage, damage, or loss after delivery to the carrier as evidenced by **in good order** receipts from the carrier. All claims for loss, damage and delay in transit are to be handled by Buyer directly with the carrier. Seller shall select method of transportation and route on behalf of Buyer unless Buyer specifies the method and route and is to pay freight costs in addition to price. Seller reserves the right to make partial shipments at its discretion. Claims for shortages or incorrect items must be made in writing to Seller within seven days after receipt of shipment. Failure to give such notice shall constitute an unqualified acceptance of equipment and waiver by Buyer of all claims for such shortages or incorrect items.

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When terms are F.O.B. destination or freight allowed to destination, **destination** means common carrier delivery point nearest the destination the continental United States, excluding Alaska, Hawaii, Puerto Rico, etc.). When terms are F.O.B. job site or pad, Buyer guarantees all access roads are suitable for normal unimpeded access to site with free and clear access to area directly adjacent to the placement point of the unit with no physical obstructions and clear of stored materials.

Shipping schedules and delivery arrangements are made in best effort and good faith. Seller cannot, however, accept liability for penalty or damages resulting from shipping delays caused by Force Majeure including but not limited to strikes, fires, truck availability, labor or material shortages, Acts of God, or any other cause beyond VTC's reasonable control. Ship Separate Parts may not arrive concurrently with the transformer and some assembly may be required. Shipment may be made earlier after due notice to Buyer.

5. **BUYER'S OBLIGATION OF ASSISTANCE:** Except to the extent Seller has otherwise assumed such responsibility for itself under express provisions of the attachment hereto entitled **Proposal**, Buyer shall:

- (a) place at Seller's disposal all information necessary for performance of the work including any plans, plant layout, wiring instructions and operational information that may reasonably be expected to affect the performance of the work. This includes to the extent reasonable previous studies or reports and other data relative to the design, installation, and selection of equipment for the work to be performed by Seller.
- (b) guarantee access to and to make all reasonable provisions for Seller to enter on its property and other public and private lands as is required for performance of the work including safe storage of equipment, materials, and tools during the process of any such off-site work.
- (c) agree to cooperate in all reasonable ways necessary to Seller's performance of the work.
- (d) covenant that it has disclosed fully and accurately to Seller all general and local conditions which can affect performance of the work prescribed hereunder or the price thereof. Buyer acknowledges that Seller is entitled to rely on information furnished by Buyer in developing its specifications, equipment selection, price, and other terms of this order.

6. **PAYMENT TERMS:** Terms are 30% with the initial order, 30% upon Drawing Submission, net 30 days, and 40% at shipment, net 30 days, calculated from the date of invoice if credit arrangements have been approved, in advance by Seller, and these terms are included on the Seller's proposal. **Otherwise, payment is required before shipment or delivery in a form and arrangement acceptable to Seller.** In addition to any other rights or remedies available to Seller, failure to pay the amount(s) due within the time specified will result in a late charge of one and one half (1-1/2%) percent per month to Buyer's account until final payment. Payments shall not be contingent on end-user payment to Buyer and Seller reserves the right to refuse to fulfill all obligations (including field service and voiding of warranty) if payment is not received as due. In instances involving orders for more than one unit, the foregoing



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amounts will be billed and due for each unit. In instances where items are quoted by line item in the proposal, those will be billed, and payment will be due upon rendering of each item.

Purchaser grants Seller a security in the goods to secure payment of all outstanding balances. Purchaser authorizes Seller to file financing statements, fixture filings, and to execute and file any other documents and take all other steps to perfect its security interest.

Except to the extent otherwise specified by Seller in its quotation or proposal, payments shall become due without setoff. If Seller consents to delay shipments after completion of any product, the goods may be placed in storage by Seller for Buyer's account and risk, and Buyer shall pay all charges for storage, cranes, trucking and other incidental expenses incurred by Seller and the provisions in the **Storage** paragraph below shall further apply.

Any order for products by Buyer shall constitute a representation that Buyer is solvent. In addition, upon Seller's request, Buyer will furnish a written representation concerning its solvency and provide adequate assurances of its ability to satisfy its financial obligations under its contract with Seller, including but not limited to current financial statements, at any time prior to shipment. If Buyer's financial condition at any time does not justify continuance of the work to be performed by Seller hereunder on the agreed terms of payment, Seller may require full or partial payment in advance. In the event of Buyer's bankruptcy or insolvency; or in the event any proceeding is brought against Buyer, voluntarily or involuntarily, under the bankruptcy or any insolvency laws; Seller shall be entitled to cancel any order then outstanding at any time during the period allowed for filing claims against the estate and shall receive reimbursement for its proper cancellation charges. Seller's rights under this article are in addition to all rights available to it at law or in equity.

Any delay in payment as due, will impact all deliverables from Seller including the achievement of deliverables through the guaranteed delivery date. Any extended delay in payment can be the basis for the order to be held and any applicable liquidated damages in favor of Buyer shall be deemed waived.

7. **CHARGEBACKS, SET-OFF, OFFSETS OR WITHHOLDING:** Seller will not accept any back charges, set-off, offsets, or withholding for material or services without the prior written consent of Seller.

8. **DELIVERY:** The prices quoted are for the shipment dates provided on the Seller's proposal. While the Seller shall have no obligation to comply with unilateral directives to change schedules or temporarily cease work, Seller may accommodate Buyer's reasonable written requests for acceleration or deceleration made at least ninety/sixty (90/60) days respectively prior to scheduled delivery. Such changes may or may not be accepted by Seller at its sole discretion. In the event Seller accepts such changes, Seller shall be under no

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obligation to comply therewith until a price adjustment acceptable to Seller is negotiated between the parties and evidenced by an amendment to the order. Any agreement to delay delivery shall not exceed 6 months from original acknowledgement ship date; goods not released for shipment within such revised time frame shall be automatically deemed canceled and subject to Seller's Cancellation terms listed below.

9. **Storage:** In the event goods are placed in storage at the request of the Purchaser, it is agreed that title will pass to the Purchaser upon placement into storage. Irrespective of anything herein to the contrary, Purchaser will be invoiced for the balance of the purchase price of the goods when they are placed in storage and payment will be due net 30 days. Risk of loss shall pass to Purchaser who shall be responsible for insuring the goods and Seller shall have no liability for loss or damage when the goods remain in its possession in storage. Purchaser further agrees that for any goods placed in storage, Seller will be provided a minimum of three weeks advanced notice before requested delivery out of storage and delivery will then be made subject to availability of carrier and transportation services. Payment of storage fees will be due prior to shipment from storage.

10. **EXPORT REGULATIONS:** Buyer acknowledges that if the items purchased hereunder are to be exported, they are subject to the U.S. Commerce and/or State Department Export Regulations. Buyer accepts full responsibility for and agrees to comply fully with such regulations, including obtaining export licenses and re-export permission unless otherwise agreed that Seller is to be exporter of record.

11. **CANCELLATION & TERMINATION:** Seller, in addition to all other rights and remedies under this order or at law, shall have the right to cancel and terminate Buyer's order for breach by Buyer including, but not limited to, if Buyer fails to make payment as due or if Buyer is adjudicated bankrupt, files a petition in bankruptcy, makes an assignment for the benefit of creditors or if action under any law for the relief of debtors is taken. In the event of cancellation and termination of this order for breach of the provisions hereof by Buyer, Seller shall have no further liability to Buyer and Seller shall not be liable for any costs of cancellation, special, incidental, or consequential damages (including punitive or exemplary damages) for any cause or of any nature whatsoever and such cancellation and termination. All cancellations or terminations by Seller for Buyer's breach shall be subject to the following cancellation or termination charges:

- 30% of order amount after order entry by Seller.
- Additional 15% of order amount after outline drawing completion / submission.
- If manufacturing has begun, charges will be based upon commitments for materials and percent completion in addition to the 45% for engineering and order entry.

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In the event Buyer cancels its order, Buyer shall be responsible to Seller for cancellation charges in the amounts set forth above in Cancellation & Termination paragraph 11 which Buyer shall pay Seller upon such cancellation.

12. **RESCHEDULING FEE:** Any extended delays by the customer/Purchaser which result in the loss of the scheduled production slot will be subject to a re-scheduling fee of 30% of the specific order value.

13. **PATENT INFRINGEMENT:** To the extent that the items ordered are manufactured to designs, drawings, specifications, or instructions furnished by Buyer, Buyer guarantees that the manufacture and sale or use of such items will not infringe upon any U.S., or foreign patents. Buyer further agrees to indemnify and hold harmless the Seller from any expense, loss, cost, damage, or liability of any kind which may be incurred because of any such infringement or alleged infringement of patent rights with respect to such items and to defend, at its own cost and expense, any action or claim in which such infringement is alleged. Buyer shall promptly notify Seller of any such action and shall provide Seller an opportunity, at Seller's option, to participate in any defense of such action or claim at Seller's own expense.

Seller shall hold Buyer harmless from costs actually incurred arising directly from the defense of any suit for infringement of any domestic or foreign patent by a Seller-manufactured item, provided Seller shall be given timely written notice of such suit and the option to replace the same, obtain a license, make other arrangements to avoid litigation or to defend the suit. No indemnification is offered or applicable for alleged infringement arising from the use of Seller's items in combination with other items supplied by Buyer or from compliance with drawings, specifications or instructions furnished by Buyer as described in the paragraph above. Further, no indemnification by Seller applies if this order is accepted under a U.S. government contract containing an Authorization and Consent Clause applicable hereto as prescribed by U.S. federal procurement laws and regulations.

14. **DISCLOSURE OF INFORMATION / PROPERTY OF SELLER:** Any information, suggestions or ideas transmitted by either Buyer or Seller in connection with performance hereunder are not to be regarded as secret or submitted in confidence unless it is stamped or marked **Confidential** prior to delivery by the disclosing party. Neither party shall use or disclose such property to any third party or any one not having a need to know, including employees, without the prior written consent from the disclosing party. Title to all tools, test equipment and facilities not furnished by Buyer or specifically paid for by Buyer as a separate line item under any order, shall remain with Seller. Further, Seller does not agree to submit to Buyer because of the Consideration paid under this order, any information, technical data, or drawings which are proprietary to Seller; nor does Seller agree to grant to Buyer any patent rights, title, or license without Seller's expressed prior written consent.

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15. **TAXES:** The purchase price of the Goods and Services does not include transportation taxes and sales, use, excise, value added, import or any similar tax or other governmental charge arising pursuant to or in connection with the sale, purchase, processing, delivery, storage, use, consumption, performance or transportation of the Goods and Services. Buyer is responsible for payment of any transportation taxes, and any present or future sales, use, excise, value added, import or any similar tax or other governmental charge applicable to the Agreement and to the sale and/or furnishing of the Goods and Services if a Sales Tax exemption form is not received by Seller from Buyer.

16. **EQUIPMENT WARRANTIES AND REMEDY:**

(A) For the period set forth below in this paragraph, Seller warrants that each newly manufactured item sold hereunder, and such portion of a repaired/refurbished item as has been repaired or replaced by Seller under this warranty, shall be free from defects in material, workmanship, or title at the time of shipment and shall perform during the warranty period in accordance with the specifications incorporated herein. Should any failure to conform to these warranties (excluding any defects in title) be discovered and brought to Seller's attention during the warranty period and be substantiated by examination at Seller's factory or by authorized field personnel, then (i) Seller shall correct such failure by, at Seller's exclusive option, repair or replacement of the nonconforming item or portion thereof with Buyer promptly making product available to be worked by Seller's personnel or agents without interference with no additional cost to the Seller; or (ii) Buyer making available product F.O.B. Seller's plant with Seller's written return authorization, at Seller's exclusive option, for repair or replacement of the nonconforming item or portion thereof. Buyer agrees that this remedy shall be its sole and exclusive remedy against Seller and that no other remedy shall be available or pursued by Buyer against Seller. In no event shall the Seller be liable for any costs or expenses in excess of those described in this paragraph and expressly excluding any liability or damages for special, incidental, or consequential damages.

The warranty period for newly manufactured items shall extend 12 months from the date of first energization or 18 months from the date of shipment whichever occurs first or unless a different warranty period is agreed to by Seller. The warranty period for repaired/refurbished articles shall extend for the unexpired warranty period of the item repaired or replaced or for 90 days, whichever is longer. This warranty shall be voided and not extend to any item that upon examination by Seller is found to have been subject to:

- (a) mishandling, misuse, negligence, or accident.
- (b) storage, installation, operation, testing, or maintenance that either was not in accordance with Seller's specifications, instructions, manuals, or otherwise improper, or contrary to industry standards.
- (c) tampering as evidenced for example by broken seals, damaged packaging containers, etc.

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- (d) testing of equipment above normally accepted field tests.
- (e) repair or alteration by anyone other than Seller without Seller's express advance written approval.
- (f) payment(s) not received per terms of sale.

Failure to promptly notify Seller in writing upon discovery of any non-conforming items during the warranty period shall void the warranty as to such items. Buyer shall describe any such non-conformity in detail, expressing its position as to return of any article under the remedy provided herein. No returns shall be accepted without prior approval by Seller. No back charges shall be accepted without the prior written consent of Seller's authorized representative. Where a failure cannot be corrected by Seller's reasonable efforts, the parties shall mutually agree upon an equitable adjustment in price. The preceding sets forth the exclusive remedies for claims (except as to title) based on defect whether in contract or tort (including negligence or strict liability) and however instituted. THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ANY OTHER WARRANTIES, EITHER EXPRESSED OR IMPLIED INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND SELLER DISCLAIMS IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

**(B) SELLER'S INSTALLATION WARRANTY:** Seller warrants that all work hereunder shall be performed in accordance with the standards employed by Seller in performing the same or similar services for itself. Seller disclaims any and all other representations or warranties expressed or implied including without limitation any representation or warranty that a) any unauthorized entry, burglary, theft, embezzlement, or any other crimes will be prevented by the equipment and/or installation thereof or that b) any particular purpose or standard of care intended or desired or any particular results to be achieved by Buyer through the installation and operation of the items to be delivered hereunder. Seller's installation services and installation warranty does not include or imply any assistance for system field troubleshooting and no back charges for such services shall be accepted without the prior written consent of Seller's authorized representative.

**(C) EXTENDED WARRANTY PERIOD OPTION FOR CORE AND COIL:** When purchased, the warranty period may be extended by the period specified in such purchase covering core and coils only against failure occurring with respect to normal operation and within the parameters for which the transformer was designed. For extended Warranty period, to ensure validity of Extended Warranty period coverage, Virginia Transformer requires Dissolved Gas Analysis (DGA) reports of the supplied unit to be provided every year for the period of extended warranty period coverage. The annual DGAs should be emailed to: [FieldService@vatransformer.com](mailto:FieldService@vatransformer.com). Failure to conduct annual DGAs and provide the reports to Seller may void the purchased extended warranty. Except for the extended time period all other provisions, terms, conditions, and limitations set forth above shall apply to the extended warranty period. In case of any disturbance in the system that causes the transformer to trip off-line, following information shall be forwarded to Virginia Transformer Corp within 48

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hours: Event summary with relevant data, Protection system data, Overvoltage conditions (If any), Fault data (if any) and offset timing with peak current value, Loading, Environmental and atmospheric conditions. Failure to timely provide this information may void the warranty.

**(D) EXTENDED BUMPER TO BUMPER WARRANTY PERIOD OPTION:** When purchased, the warranty for the extended period specified will cover the entire Transformer including core and coils and all associated transformer accessories against failure occurring with respect to normal operation and within the parameters for which the transformer was designed. Bumper to Bumper Warranty does not cover normal wear and tear including paint and gaskets beyond five years. For extended Warranty period, to ensure validity of Extended Warranty period coverage, Virginia Transformer requires Dissolved Gas Analysis (DGA) reports of the supplied unit to be provided every year for the period of extended warranty coverage, and the additional data as stated in Section 15(A). The annual DGA's should be emailed to: [FieldService@vatransformer.com](mailto:FieldService@vatransformer.com). Failure to conduct annual DGAs and provide the reports to Seller may void the purchased extended warranty. Except for the extended time period all other provisions, terms, conditions, and limitations set forth above shall apply to the extended warranty period.

**(E) IN/OUT COVERAGE OPTION:** When purchased, Seller will cover only the expenses to transport the transformer to a repair facility and back to site for warranty failures occurring within the period defined. Buyer will make transformer ready for shipment in the condition it was originally received per the Outline Drawing with clear and free access by Carrier. Craning, civil work, disconnection, and reconnection of the transformer, etc. is the responsibility of the Buyer.

**17. CONFIGURATION STATUS AND SUBSTITUTION OF MATERIALS:** Seller reserves the right to make substitution of materials without degrading the quality of product. Customer approval will be solicited when changes affect form, fit or function. Seller further reserves the right to discontinue any items without notice and to change or modify specifications at any time without incurring any obligation to incorporate new or modified features in components or products previously sold or shipped.

**18. LIMITATION OF LIABILITY:** Neither party shall be liable to the other for any incidental, indirect, special, punitive, or consequential damages regardless of whether liability would arise under contract or tort (including negligence and strict liability), warranty, indemnity, or otherwise. Neither party's liability on any claim for loss or damage arising out of this contract or from the performance or breach thereof shall exceed the price of the item giving rise to the claims for loss or damage in the event more than one item is included in this contract/order with distinct pricing being allocated to each item in arriving at the total contract/order price.

**19. HAZARDOUS BUSINESS:** Unless otherwise agreed in writing by an authorized representative of the Seller, goods sold hereunder are not intended for use in connection with any nuclear facility or any other hazardous activity such as commercial or military aircraft,



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missile installation, space exploration or other critical applications where failure of a single component could cause substantial harm to persons or property. If so used, Seller disclaims all liability for any nuclear damage contamination or other injury and Buyer shall indemnify and hold Seller harmless from such liability whether as a result of breach of contract, warranty, tort (including negligence) or other grounds. Neither Seller nor its suppliers shall have any liability to the Buyer or its insurers whether based on contract, warranty, tort (including negligence or strict liability) or other grounds for on-site damage to any property located at a nuclear facility.

20. **COMPLIANCE WITH LAW:** Buyer shall comply with all applicable Federal, State, municipal and local laws including but not limited to: laws concerning procurement integrity (particularly subsections 27(a), (d) and (f) of the Office of Federal Procurement Policy Act, as amended, 41 U.S.C. §423 and FAR 3.104-3; the Byrd Amendment (31 U.S.C. §1352); laws governing lobbying activities (2 U.S.C. §261 et seq., particularly § 267); laws prohibiting the giving of bribes (18 U.S.C. §201(b) or gratuities (18 U.S.C. §201 (c); the Foreign Corrupt Practices Act of 1977, as amended, (15 U.S.C. §78m, 78dd-1, 78dd-2, and 78ff). Buyer acknowledges that if items purchased are to be exported, Buyer has the complete responsibility and agrees to comply with all export laws and regulations of the U.S. Department of Commerce and of the U.S. State Department, or other governmental body. Seller hereby certifies that all goods sold hereunder which are produced or manufactured in the United States of America are products in compliance with the Fair Labor Standards Act of 1938 which shall be considered as satisfied by this certification.

21. **INSURANCE:** Buyer shall maintain its usual and customary insurance coverage for automobile, workmen's compensation and third-party liability claims during performance of this order and, if requested by Seller, name Seller an insured under its third-party liability coverage.

22. **NON-WAIVER:** The failure of Seller to enforce at any time any of the provisions of this order shall not constitute a waiver of such provisions or a waiver of the right of Seller to enforce any or all provisions. If any term or provisions of this order is held invalid or unenforceable by any court of competent jurisdiction, the remainder of this order shall continue to be valid and binding upon the parties unless performance thereof is rendered legally impractical and no longer fulfills the intention of the parties under this order.

23. **APPLICABLE LAW AND FORUM FOR RESOLUTION OF DISPUTES:** This contract shall be deemed to have been made and performed in, and shall be construed, interpreted and the rights and obligations of the parties determined by the law of the Commonwealth of Virginia excluding choice of law rules. Any dispute, controversy or claim arising out of or related to this contract, or any breach thereof, shall be resolved by binding arbitration administered by the American Arbitration Association under its Commercial Arbitration Rules and judgment on the award rendered by the arbitrator may be entered in any court having jurisdiction thereof. Such arbitration shall take place in Roanoke, Va. In case of non- performance by Buyer

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requiring arbitration or other legal action, Seller's costs, and reasonable attorney's fees of arbitration or other legal action shall be the responsibility of the Buyer

24. **PRICE SURCHARGE:** In the event any components such as, core steel, mineral oil, electricity, labor etc. are subject to abnormal price increases, and VTC/GTC is not able to otherwise mitigate these increases, during the period between the proposal date and the settlement date, VTC/GTC may pass along those specific incremental cost increases.

25. **ASSIGNMENT:** Except as otherwise expressly provided herein, no assignment of this order or Buyer's rights under this order shall be made by Buyer without the prior written agreement of the Seller. All amounts due to the Seller, including the assignment fee of \$10,000, must be paid to the Seller before any assignments will be granted. In addition, Buyer must provide financial and other information as requested by the Seller to support the ability of the assignee to pay future amounts that may become due. Seller reserves the right to deny any request for assignment.

26. **FORCE MAJEURE:** In addition to other liability limitation herein contained, seller shall not be responsible to the Buyer for any loss or damage due to failure or delay in performance or delivery of any of the items or services required under this order when such delay or failure is due to causes beyond the Seller's reasonable control. Such causes shall include without limitation fires, floods, epidemics, pandemics, quarantines, unusually severe weather, strikes, embargoes, wars, political strife, riots, delays in transportation, compliance with any regulation or directives of any national, state, or local municipal government or authority and unforeseeable shortages in fuel, power, materials, or labor. Seller shall not be liable for delays in delivery or performance, or for failure to manufacture, deliver or perform, due to an inability on account of a cause beyond the reasonable control of Seller to obtain necessary materials, components, services, or facilities. Seller will notify Buyer of any material delay excused by this clause and will specify the revised delivery date as soon as practicable. In the event of any such delay, there will be no termination and the date of delivery or of performance shall be extended for a period equal to the time lost by reason of the delay.

27. **ORDER TERMS EXCLUSIVE:** These Terms and Conditions together with Seller's Proposal and Order Acknowledgement constitute the entire and sole agreement between the parties concerning the subject matter of this order and the parties acknowledge and agree that none of them has made any representation with respect to the subject matter of this order or any representations including the execution and delivery hereof except as specifically set forth herein. Captions as used herein are for convenience or reference only and shall not be deemed or construed as in any way limiting or extending the meaning of any terms and conditions contained herein.

28. **CUSTOMER CONTRACTS:** Buyer will include in its contracts with its purchaser customers the warranty conditions and limitations Section 15 (Equipment Warranties and Remedy), and the limitations of liability provisions set out in Section 17 (Limitation of Liability). Buyer shall



**CITY OF OCALA**

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indemnify and hold harmless Seller from any liability to any customer or third parties as a result of the failure to include such conditions and limitations in its contracts with its purchaser customers.

29. **MODIFICATION:** This order may not be modified except by written instrument executed by the following authorized representatives; Director of Contracts, Director of Finance, Senior VP of Materials / MIS, Corporate Controller, President, and CEO.

30. **SECTION TITLES:** Section titles appearing in the General Terms and Conditions of Sale are for convenience only and shall not be construed as interpretations of text.

31. **APPENDICIES:** Any appendix or other terms and conditions of the Seller as may be attached hereto and/or identified herewith are hereby incorporated and made a part of these Terms and Conditions and all orders or contracts shall be subject to such additional terms and conditions which shall control over any inconsistency with the Terms and Conditions stated herein.

32. **"Intellectual Property Rights"** means all registered and unregistered intellectual property rights throughout the world, including rights in patents, copyrights, trademarks, trade secrets, designs, databases, and domain names and moral rights.

33. **Grant of License by VTC Upon** receipt of full payment for the Transformer and conditioned upon Customer not defaulting on its obligations under this Agreement, VTC hereby grants to Customer a perpetual, royalty-free license to use the Intellectual Property Rights of VTC which are incorporated in the Transformer. Such license is limited solely to the use of the Transformer by Customer for the purposes and at the location described in VTC's Proposal. Customer may only transfer this license to a third party upon first providing VTC with a written acknowledgment by such transferee of VTC's ownership of its Intellectual Property Rights contained in the Transformer.

34. If any purchase order submitted by the owner/purchaser contains or invokes terms or conditions other than this Contract or the Terms and Conditions agreed to between VTC and the owner/purchaser, then Seller/VTC may, without penalty, reject said terms and conditions on the purchase order by striking them out.



To: City of Ocala

Subject: Airport Power Transformers – Virginia Transformer Quote #G234404A

Greetings,

I would note that VTC/GTC is not an Electrical Contractor and thus does not hold an Electrical Contractor License. This will be Non-applicable to the products supplied by VTC/GTC to the City of Ocala.

Please let me know if you have any questions.

Sincerely,

*Jesse M. Hall*

For Virginia Transformer Corp.

**Jesse Hall, Sales Engineer – Public Power Utilities**

Mobile: (540) 492-1346

[Jesse\\_Hall2@vatransformer.com](mailto:Jesse_Hall2@vatransformer.com)

