

SUBSTATIONS 400 AND 900

SCADA SYSTEM PROCUREMENT

**CITY OF OAK RIDGE ELECTRIC DEPT
Oak Ridge, Tennessee**

June 2018

**P. Anthony Hanson
TN PE License # 22642**

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REVISION HISTORY

Rev. No.	Date	Description
00	06/05/2018	Issued for bid

SECTION 1 - INVITATION TO BID

1.01 BID ITEMS

The City of Oak Ridge Electric Dept (Owner) invites Bidders (Seller) to submit quotations for furnishing the SCADA System materials and miscellaneous equipment described herein for Substation 400 and Substation 900.

1.02 BID SUBMITTAL

- A. Bids will be accepted at the address below until 2:00 pm local time on July 10, 2018.

City of Oak Ridge
100 Woodbury Lane, Oak Ridge, TN 37830
ATTN: Lyn Majeski, Materials Management
- B. Proposals must be clearly marked as bids and include **“Bid for SCADA System for Substations 400 and 900”** on the exterior of the mailing package.
- C. No Bidder may withdraw a bid for a period of ninety (90) days after the date set for opening of bids.
- D. No bid security will be required to accompany bids.

1.03 INSTRUCTIONS TO BIDDERS

- A. The contract generally consists of furnishing and delivering Goods **within 10 weeks** from the date of award.
 1. Bids should include Manufacturer's best delivery date that is as close as possible to the requested delivery date.
- B. Quoted prices shall be FOB at the substation site. Freight shall be allowed and pre-paid. Seller has the responsibility of Goods during shipment. Title to the Goods and risk of loss or damage shall remain with Seller until the Goods are delivered in acceptable condition at the substation site.
- C. The terms “Purchaser” and “Owner” shall refer to the City of Oak Ridge. The term “Engineer” shall refer to Patterson and Dewar Engineers, Inc. The terms “Bidder”, “Seller” and “Manufacturer” shall refer to the supplier of the equipment described by the documents.
- D. Engineer will answer all matters pertaining to the project, including but not limited to, answering technical questions of prospective bidders, bid evaluation and recommendation, review and approval of fabrication drawings and similar documents, and approval of invoices prior to payment by the Owner.
- E. If Bidder requires additional information or is in doubt as to the meaning of any part of the Contract documents, Bidder may telephone or submit a written request for such information or clarification to Engineer. For questions to be answered, they must be received at least five days prior to the Bid due-date. Addenda may be issued as deemed necessary by the Owner. Engineer can be contacted at:
 1. Patterson and Dewar Engineers, Inc,
ATTN: Anthony Hanson, 615-527-7077, ahanson@pdengineers.com
1531 Hunt Club Blvd, Suite 200, Gallatin, TN 37066
- F. This project shall be subject to a liquidated-damages clause.
- G. Owner is tax-exempt and will provide certificate after award upon request.

- H. Seller shall provide Certificate of Insurance that lists Owner and Engineer as additional insureds.
- I. Owner does not obligate itself to accept the lowest or any other bid and specifically reserves the right to reject any and all bids.
- J. Bidder shall provide all information requested. Bidder shall take care to complete all portions of the Bid documents and to provide all required submittals. Failure to comply may result in the rejection of the bid.
- K. Owner invites cost saving and schedule improving alternatives. Bidder shall first complete the Bid as issued by the Owner; Bidder may then submit the alternatives referenced to the base proposal. If Bidder recommends any changes or deviations from the documents, Bidder shall describe the change fully and furnish complete information so that the Owner can make a decision based upon the alternative information provided.
- L. If these specifications call for material, equipment or manufacturing procedures different from the Manufacturer's standard, Manufacturer shall clearly identify all deviations or substitutions in this bid. When possible, Manufacturer should bid according to the specifications with the Manufacturer's standard as an option.
- M. Equal shall mean a satisfactory equivalent as approved solely by the Owner.
- N. Bidder shall clearly state all exceptions to this specification. Unless specifically stated otherwise, Bidder shall furnish equipment, material and services in exact accordance with this specification, and any modifications to equipment, material and services necessary to comply with this specification shall be made by Bidder at no additional cost to Purchaser.
- O. The cost to furnish any and all prints, drawings, diagrams, instruction manuals, cut sheets, AutoCad electronic files, reports, and certified test reports shall be included in the bid process and shall not be listed as a separate item.
- P. All requested options, devices, and equipment are required and expected per the specifications, and the cost to furnish fully operational equipment with explanatory documentation shall be included in the bid process and shall not be listed as separate items.

SECTION 2 – GENERAL REQUIREMENTS

1.01 SUMMARY OF WORK

Design, manufacture, assemble, and factory test Goods in accordance with attached technical specifications and current industry standards. Deliver Goods F.O.B. to Point of Destination. Owner will furnish a construction contractor under a separate contract to perform foundation and site work construction for which the Goods under this Contract are being furnished.

1.02 POINT OF DESTINATION

Goods shall be delivered to the Point of Destination located at:

- A. Substation 400: 195 Lafayette Drive, Oak Ridge, TN 37830

1.03 TESTING AND INSPECTION

The Goods are to be tested in accordance with latest edition or revision of ANSI, IEEE, ASCE, ASTM, NFPA, and NEMA standards. Prior to testing, Seller shall notify Owner at least one week in advance so Owner may have personnel at Seller's factory during testing. Seller shall furnish the results of the tests to Owner. Inspection of material by Owner's representative will not relieve Seller from responsibility for furnishing material to conform to the Specifications.

1.04 WARRANTIES

Seller warrants that all materials, equipment, and work furnished pursuant to this contract comply in all respects with the contract; that they are free from latent and patent defects in design, materials and workmanship; that they are suitable and adequate for the purposes for which they were designed and for such other purposes, if any, as are specified in the contract; and that they will give efficient and satisfactory service under such conditions as may be specified, for a period of five years after their first operation or use by the Owner, in actual service, or, if the contract provides for an acceptance test, for a period of five years after they have passed such test.

Seller shall, at his own expense, repair, replace, transport, and install any materials, equipment, or work or parts thereof, which prove defective or deficient during the warranty period.

This means that Seller will be responsible during the warranty period for the direct cost of (A) removing Goods or parts from service; (B) transporting Goods or parts from substation site to manufacturer or repair facility and back to the substation site; and (C) reinstalling Goods or parts for service after completing the required acceptance testing. If, however, it is impractical for Owner to wait for the manufacturer, Owner may perform such work at Seller's expense.

Any materials, equipment, work, or parts thereof, which fail to meet the guarantees or other requirements of the contract may be rejected; provided, however that if correction of the defects or deficiencies can be made through minor alterations or replacements of minor parts, and Seller proceeds immediately to complete such alterations, or to furnish and install such new parts as are necessary to meet the guarantees or other requirements of the contract, then the materials, equipment, or work shall not be rejected on account of defects or deficiencies so corrected. Any correction of a defect or deficiency will be guaranteed for a period of one year after such correction is effected. The correction of defects or deficiencies shall not operate to extend the time for performance of the contract as specified thereunder or to waive any claim for damages resulting from delay in performance or from any other cause.

Owner shall give Seller prompt notice of any breach of this warranty. Operation or use by Owner of the materials, equipment or work, or any part thereof shall not constitute a waiver of any of Owner's rights under this contract.

Seller warrants that the materials, equipment or work furnished hereunder are free from any and all claims, demands, and encumbrances; and that Seller will defend the title thereto. The foregoing warranties or guarantees contained in this contract shall supersede any and all others.

1.05 LIQUIDATED DAMAGES

If Seller fails to deliver the Goods on or before the date specified herein, Owner may choose to invoke a liquidated-damages charge of **\$200.00** for each calendar day that the Goods are delayed. Liquidated damages will be limited to ten percent of the amount of the contract. This charge will be assessed to Seller when the delay is caused by any reason other than an act of God, purchaser, embargo or other governmental act or authority regulation or request, fire, theft, accident, strike, war, or riot. The time of delivery shall include the time for drawing approval.

1.06 SUBMITTAL PROCEDURES

- A. Attach a completed Transmittal Form to each group of documents submitted, using a sufficient number of transmittal forms so that:
 1. Items on a single transmittal form pertain to the same section of the Contract Documents; and
 2. Items on a single transmittal form are either original submittals or the same number resubmittal.
- B. Schedule submittals to expedite furnishing the Goods and coordinate submission of related items. Deliver each submittal to Engineer with copy to Owner at following addresses:
 1. Address correspondence to Engineer as follows:

Patterson & Dewar Engineers, Inc.
Attention: Anthony Hanson, PE
Phone: (615) 527-7077 Email: ahanson@pdengineers.com
 2. Address correspondence to Owner as follows:

City of Oak Ridge Electric Dept
Attention: Margaret A. Elgin, PE
Phone: (865) 425-1818 Email: melgin@oakridgetn.gov
- C. Submittals for approval will be accepted via email at the addresses above.
- D. Submit items on sheet size of not less than 8-1/2" by 11" and not more than 24" by 36". Provide space for Seller and Engineer review stamps.
- E. Number each submittal item consecutively and insert the number in the space provided on the transmittal form. Assign resubmitted items the same submittal item number as the original with a suffix of a sequential letter to indicate it is a resubmitted item. For example, the first resubmittal of submittal item 2 would be number 2A.
- F. Submittals which are not transmitted using a fully completed transmittal form may be returned along with items not reviewed and will be counted as a submittal.
- G. Revise and resubmit items as required. Identify changes made since previous submittal. Distribute copies of reviewed submittal items to concerned parties. Instruct parties to promptly report any inability to comply with provisions.

1.07 SHOP DRAWINGS AND SAMPLES

Seller shall submit Shop Drawings and Samples to Owner for Engineer’s review and approval as soon as possible after receipt of order.

- A. Submit the following quantities:
 - 1. Shop drawings - One electronic copy (in PDF format) including manufacturers' data, brochures, suppliers' information, testing reports, certifications, and manufacturer's installation and testing instructions
 - 2. Samples – Two of each item required for evaluation
- B. Identify variations from Contract Specification.
- C. Engineer will complete review in a timely manner and will return reviewed items to Seller with the following provided for each item submitted:

SUBMITTAL REVIEW BY ENGINEER		
PROJECT		
SUBMITTAL NO.		
Review of this shop drawing/submittal by Engineer is for general conformance with the requirements specified and compatibility with the design concept of the completed project. This review does not extend to means, methods, sequences, or procedures of construction (except where specifically called for in the specified requirements) or to issues of safety incident thereto. This review shall not relieve the contractor from its responsibility for full compliance with the requirements specified and to determine and verify the information contained therein. Provide final disposition of the comments made prior to issuance for fabrication or construction.		
ACTION:		
<input type="checkbox"/> Approved <input type="checkbox"/> Approved, but <u>make corrections noted</u> (no resubmittal required) <input type="checkbox"/> Revise and Resubmit (see comments) <input type="checkbox"/> None <input type="checkbox"/> Not Required - <input type="checkbox"/> Information Only		
REVIEWED BY:		Date:

Where:

“*Approved*” indicates submittal has been reviewed and appears to be in conformance with requirements of the Contract Documents. Proceed as shown on the submittal.

“*Approved, but make corrections noted*” indicates submittal appears to be in conformance with requirements of the Contract Documents. Incorporate the corrections noted and proceed as shown on the submittal. No resubmittal is required.

“*Revise and Resubmit*” indicates submittal does not appear to be in conformance with the Contract Documents. Engineer's comments will be noted on the submittal or in a separate, cross-referenced document. Re-check, make necessary revisions and resubmit.

“*None – Not Required or Information Only*” indicates that the submittal is not called for by the Contract Documents and that Engineer has not reviewed the material.

1.08 OPERATION, MAINTENANCE AND INSTALLATION MANUALS

- A. Submit to Engineer one draft copy of complete Operation, Maintenance and Installation Manuals 30 days prior to shipment of Goods, which will be reviewed and returned with Engineer comments. Revise as required and submit two sets of final Operation, Maintenance and Installation Manuals upon shipment of the Goods.
- B. Submit on 8-1/2" by 11" pages, bound in three slant D-ring binders with durable plastic covers.
- C. Prepare binder cover with printed title "OPERATION, MAINTENANCE AND INSTALLATION MANUAL", title of project, and subject matter of binder when multiple binders are required.
- D. Internally subdivide the binder contents with permanent page dividers, logically organized as described below; with tab titling clearly printed under reinforced laminated plastic tabs.
- E. Prepare a Table of Contents for each volume, with material, equipment, or system description identified in three parts as follows:
- Part 1: Directory, listing names, addresses, and telephone numbers of Engineer, Seller, subcontractors, and major component suppliers.
 - Part 2: Operation, maintenance, and installation instructions, arranged by item and subdivided by Specification section. For each category, identify names, addresses, and telephone numbers of subcontractors and suppliers. Identify the following:
 - Significant design criteria
 - List of equipment
 - Parts list for each component
 - Operating instructions
 - Maintenance instructions
 - Maintenance instructions for special finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents
 - Installation instructions
 - Material Safety Data Sheets
 - Part 3: Project documents and certificates, including the following:
 - Certified Final drawings, material and equipment data, manufacturer-prepared technical literature
 - Certified factory test results
 - Photocopies of warranties
 - Catalog cuts of all miscellaneous material
- F. Furnish duplicate copies of warranty documents which are executed and transferable from subcontractors, suppliers, and manufacturers.

1.09 PROJECT RECORD DOCUMENTS

- A. Maintain one set of the following documents for record purposes. Record actual revisions made to the Goods.
1. Drawings
 2. Specifications
 3. Changes to the Contract Documents
 4. Reviewed Shop Drawings and Samples

- B. Legibly mark Specifications and record at each "Part 2 - Products" section of the description of actual equipment and material furnished, including the following:
1. Manufacturer's name and equipment and material model and number
 2. Material and equipment substitutions or alternates utilized
 3. Changes made to the Contract Documents
- C. As-built drawings
1. Include as part of complete Operation, Maintenance and Installation Manuals
 2. Electronic files in AutoCAD 2010 compatible format
- D. After the equipment has been placed into satisfactory operation, revise drawings to reflect field changes, if any, made to the Goods and submit copies of revised drawings for the Operations and Maintenance Manuals.
1. Submit full set of the project record documents to Engineer with claim for final Application for Payment.

1.10 ACCEPTABLE MATERIAL AND EQUIPMENT

The Bid shall be based on new equipment and materials only. No used equipment or materials are permitted. Identify any alternate item by trade name and number to enable Owner to determine whether such alternate item is acceptable. Alternates must be approved in writing by Owner prior to contract placement.

1.11 SHIPMENT

- A. Bid Items shall be furnished F.O.B. Destination, Freight Prepaid and Allowed to the destination. Unloading will be provided by the Owner.
- B. Ship the Goods only after receiving written acknowledgment by Owner of receipt of certified test reports. Give 48-hrs notice before shipment. Accompany each shipment with a packing list of articles included in the shipment. Mark parts for ease of field assembly
- C. Manufacturer shall be responsible for obtaining necessary permits, providing and verifying routing and, in general, making all the necessary arrangements for transporting the equipment provided to Purchaser's destination.
- D. Shipments may be in stages over 365 days at the Owner's request. No shipments shall be accepted or received without authorization from the Owner.
- E. Owner will accept shipments between 8:00 a.m. and 3:00 p.m. local time Monday through Thursday excluding observed holidays.

1.12 TRANSPORTATION AND HANDLING

- A. Transport and handle Goods in accordance with manufacturer's instructions.
- B. Promptly inspect shipments to assure that Goods comply with requirements, quantities are correct, and Goods are undamaged.
- C. Furnish equipment and personnel to handle Goods by methods to prevent soiling, disfigurement, or damage.
- D. Uncrate Goods and dispose of packing material properly.

1.13 STORAGE AND PROTECTION

- A. Store and protect Goods in accordance with manufacturer's instructions, with seals and labels intact and legible. Store sensitive Goods in weather-tight, climate controlled enclosures.
- B. Cover Goods subject to deterioration with impervious sheet covering. Furnish ventilation to avoid condensation or potential degradation of Goods.
- C. Furnish equipment and personnel to store Goods by methods to prevent soiling, disfigurement, or damage.
- D. Arrange storage of Goods to permit access for inspection. Periodically inspect to assure Goods is undamaged and is maintained in acceptable conditions.
- E. Assume responsibility for loss and damage including but not limited to breakage, corrosion, weather damage, and distortion until delivered to Owner.

1.14 PATENTS

Seller shall at its own expense defend any suit instituted by any party against Owner so far as it is based on the claim that any apparatus or part thereof furnished under this contract or Owner's use of such apparatus or part for the purpose for which it was designed or for such purposes, if any, specified in this contract constitutes infringement of any United States patent.

Owner shall give to Seller immediate notice in writing of the institution of such suit, and shall permit Seller, through its counsel, to defend the same, and shall give all requisite authority and all needed and available information and assistance to enable Seller to do so. Seller shall pay all damages and costs finally awarded therein against Owner by reason of such infringement, however Seller shall not be liable under any compromise made without its consent.

If in any such suit said apparatus or part or such use thereof by Owner is held to constitute infringement and such use is enjoined, Seller shall at its own expense procure for Owner forthwith the right to use or continue using the said apparatus or part; provided, however, that subject to Owner's approval Seller may at its sole expense replace said apparatus or part with non-infringing apparatus or parts, or modify it so that it becomes non-infringing.

1.15 CLAIMS BY THIRD PARTIES

Seller shall, at its own expense, assure the defense of and save harmless Owner from all claims for materials furnished or work done; shall promptly discharge the same and not suffer any mechanics or other liens to remain outstanding against any of the property. Satisfactory evidence must be presented that all persons

who have done work or furnished materials have been fully paid. If Seller fails to comply with its obligations as above, Owner may take such steps as it may deem appropriate to discharge such liens or claims and may withhold from any moneys due Seller such amount as may be necessary to satisfy and discharge the same and any expense incident thereto.

SECTION 3 – TERMS AND CONDITIONS

1.01 ACCEPTANCE; ENTIRE AGREEMENT

Acceptance of this order by acknowledgement, shipment or other performance shall be expressly limited to the terms and conditions contained in this order. Any additional or different terms or conditions proposed by Seller are objected to and are hereby rejected. Upon acceptance, the terms contained in this order shall constitute the entire agreement between Seller and Purchaser with respect to the subject matter of this agreement (hereinafter referred to as the "Agreement") and may not be modified, added to, or rescinded except by a written document signed by Seller and Purchaser.

1.02 ASSIGNMENT AND SETOFF

Seller shall not assign any right or interest under this Agreement nor delegate any work or other obligation to be performed or owned under this Agreement without the prior written consent of Purchaser. Any attempted assignment or delegation in contravention of this provision shall be void. Purchaser shall be entitled to set off any amounts owed by Seller to Purchaser against any amounts payable to Seller.

1.03 PAYMENT

Upon the shipment of any material hereunder, Seller shall submit to the Purchaser a detailed invoice in duplicate of the materials shipped. Within 30 days after delivery, the Purchaser shall make payment thereof to Seller.

1.04 TIME OF PERFORMANCE

Time is of the essence of this Agreement. If tender of conforming goods is not made by the delivery ARO on the Bid Form, Purchaser may treat such failure as a breach hereof and will have all remedies afforded to it by law including, but not limited to, the rights to cover.

1.05 IDENTIFICATION; RISK OF LOSS

Identification of the goods ordered herein shall occur at the moment this order is accepted by Seller. Risk of loss shall pass to the Purchaser at the time that conforming goods to the Agreement are confirmed received at the Point of Destination.

1.06 INFRINGEMENT

Seller shall indemnify Purchaser and Purchaser's customers for any and all loss, damage, expense, (including but not limited to attorney's fees) claims or liability arising out of any infringement or claim of infringement of any patent, trademark, copyright, trade secret or other proprietary interest based on the manufacture, installation, normal use, lease, or sale of any service of material furnished to Purchaser under this Agreement. Purchaser shall notify Seller promptly of any such claim or infringement and Seller shall, at its own cost, defend, compromise, or settle, any such action or actions to satisfy and discharge the same without any cost or expense whatsoever to the Purchaser.

1.07 REJECTED GOODS

Purchaser shall give notice to Seller of any rejection of goods, and goods rejected will, at Seller's expense, be returned to Seller or otherwise disposed of as Seller may reasonably request. Payment for the goods prior to inspection and approval shall not constitute acceptance thereof. Neither Purchaser's inspection nor its failure to inspect the goods delivered hereunder shall release Seller from its warranties and obligations under this Agreement.

1.08 TERMINATION

Purchaser may terminate this Agreement for default upon notice to Seller if: 1) Seller fails to comply with any of the terms and conditions of this Agreement, including failure to deliver goods or perform services required within the time specified in this Agreement; 2) at any time reasonable grounds for insecurity arise

with respect to Seller's expected performance and Seller fails to furnish adequate assurance of due performance within ten (10) days after a written demand by Purchaser for such adequate assurance; 3) Seller shall become insolvent or make an assignment for the benefit of creditors; or 4) Seller shall file a voluntary petition in bankruptcy or insolvency or shall be involuntarily petitioned into bankruptcy or insolvency.

Purchaser may terminate this Agreement, in whole or in part, for its convenience, at any time by giving written notice to Seller, and Seller shall promptly comply with the directions contained in such notice. In such event, Purchaser shall make payment to Seller for all costs incurred by Seller prior to such termination reasonably allocable to this Agreement under recognized accounting practices, less any scrap or salvage value.

1.09 LIENS

Seller shall promptly pay for all materials, supplies and labor employed by it in manufacturing the ordered goods to the end that such goods may be kept free from Materialmen's, Warehousemen's and Mechanics' liens. Seller shall promptly discharge any such liens arising from the performance of this Agreement.

1.10 INDEMNITY OF THE PURCHASER

Seller shall indemnify and hold Purchaser and its officers, employees, and agents harmless from and against all suits or claims that may be based upon any alleged injury to or the death of any person or damage to property that may occur or that may be alleged to have occurred in the course of performance of this Agreement whether or not such claim is made by a third person, except when it shall be proved that the alleged injury was caused solely by a negligent act or omission of the Purchaser. Seller shall, at its own cost and expense, pay all costs and expenses or such suit or claim, including attorney's fees in connection therewith, and if any judgement shall be rendered against the Purchaser in any such action or actions Seller shall satisfy and discharge the same without cost or expense to Purchaser.

1.11 COMPLIANCE WITH LAWS

Seller and all material furnished by Seller shall fully comply with all federal, state, and local laws, ordinances, regulations, orders and codes, including identification and procurement of required permits, certificates, approvals and inspections in performance hereunder. Any provision required to be included in this Agreement by any such law, rule or regulation shall be deemed to be included herein. The Equal Opportunity Clause contained in Executive Order 11246 as amended, relating to equal employment opportunity for all persons without regard to race, color, religion, sex or national origin, the Affirmative Action Clause contained in 41 C.F.R. Chapter 60.250 relating to affirmative action obligations to disabled veterans and to veterans of the Vietnam Era, and the Affirmative Action Clause contained in 41 C.F.R. Chapter 60.741 relating to affirmative action obligations to handicapped workers, are incorporated herein by reference. Seller also certifies that it does not engage in and requires that its subcontractor's (if any) employees or agents not engage in, any form of discrimination based on race, color, religion, sex or national origin. Seller agrees to indemnify Purchaser for any loss or damage that may be sustained by reason of any failure to do so.

1.12 LABELING

All goods and materials to be supplied by Seller under this Agreement shall be labeled in accordance with the requirements of the Federal Occupational Safety and Health Act Hazard Communication Standard (29 CFR 1910.1200) and/or applicable State law or standard of similar effect. Seller shall immediately send to the Purchaser, referencing this purchase order number, all required written safety information materials including without limitation, Material Safety Data Sheets, required under said standards.

1.13 NON-WAIVER

No course of dealing or failure of either party to strictly enforce any term, right or condition of this Agreement shall be construed as a waiver of such term, right, or condition.

1.14 CHOICE OF LAW

The construction, interpretation and performance of this Agreement and all transactions under it shall be governed and resolved in accordance with the laws of the State of Tennessee.

1.15 NOTIFICATION

The Manufacturer shall acknowledge in writing to the Owner that the Owner's Purchase Order has been received within 5 days ARO. The acknowledgement shall include the date that the Purchase Order or acceptance is received and the date that equipment delivery is expected.

1.16 TERMINOLOGY

The terms "shall" and "will" which appear in the Bid and specifications place an absolute obligation on the Manufacturer to do that which is designated and/or specified.

1.17 TAXES

City of Oak Ridge, Tennessee is exempt from sales tax.

1.18 EQUAL OPPORTUNITY PROVISIONS

- A. This Contract is subject to the provisions of Section 202 of Executive Order Number 11246 of September 24, 1965 as amended relating to Equal Opportunity and to the Affirmative Action requirements of 41CFR60. The Contractor, in performing the work or services of this contract, shall not discriminate against any person seeking employment with or by the contractor because of race, creed, color, sex, sexual orientation, or national origin or other legally protected status.
- B. The City of Oak Ridge, Tennessee encourages the utilization of minority and women-owned businesses in its contracting and subcontracting projects and Bidder is encouraged to actively solicit the participation of these businesses.
- C. Bidder shall complete the following Equal Opportunity Compliance Certificate as part of the submitted proposal.

**EQUAL OPPORTUNITY
COMPLIANCE CERTIFICATE**

We hereby certify:

As a(n): _____ Division of Parent Company _____

_____ Subsidiary

_____ Affiliate Address _____

_____ Separate Corporation _____

And being: _____ a Small Business (Ref: ASPR-1-701-1)

_____ Minority Owned Business (Ref: 41CFR-1.701-1)

_____ from a Labor Surplus Area (Ref: 41CFR 1-1.801-1);

Having _____ employees in all divisions, subsidiaries, affiliates and parent (number) company;

That we shall comply with the applicable portions of the Equal Opportunity Clause as promulgated under Executive Order 11246, September 24, 1965 as amended, and all other federal laws and regulations pertaining to the Equal Employment Opportunity and Affirmative Action obligations of Federal Government Contractors, and shall submit the required compliance reports, and shall maintain non-segregated facilities.

Contractor _____

Address _____

Signature of Authorized Representative _____

Date of Signing _____



SECTION 4 – BID FORM

1.01 BIDDER

This Bid is hereby submitted by: _____ (Seller)

1.02 BID PRICE

Bidder shall perform Work for the following prices:

<u>Description</u>	<u>Total Price</u>
Master Station equipment	\$ _____
Substation 900 materials and misc. equipment	\$ _____
Substation 400 materials and misc. equipment	\$ _____

Quoted prices shall be FOB to the Point of Destination. Seller has the responsibility of Goods during shipment. Freight shall be allowed and pre-paid.

1.03 DELIVERY

A. The time proposed for delivery of Goods is _____.

1.04 WARRANTY

A. The proposed warranty period is _____.

1.05 ACKNOWLEDGEMENTS

A. Bidder acknowledges receipt of addenda as follows: _____

B. Bidder acknowledges terms of liquidated damages as outlined in the General Requirements.

1.06 LIST OF EXCEPTIONS AND CLARIFICATIONS

(Attach details as needed)

1.07 ATTACHMENTS TO BID

- A. Provide catalog sheets for materials and equipment.
- B. Provide completed Equal Opportunity Compliance Certificate.



SCADA System Procurement
City of Oak Ridge Electric Dept
Substations 400 and 900

RFQ No: 158068
Date: June 5, 2018
Rev.: 00

1.08 BIDDER (SELLER) INFORMATION

Company	
Contact Name	
Address	
Phone / Email	
Other Info	

SECTION 5 – SPECIFICATION FOR SCADA SYSTEM MATERIALS**1.01 GENERAL**

- A. This specification covers SCADA system materials and miscellaneous equipment.
- B. Hardware for both Substations 400 and 900 shall be installed in the included Hoffman enclosure (or equal). All equipment is to be pre-wired out to terminal blocks and fused for AC and DC power connections by others. I/O modules shall be prewired to terminal blocks for customer input and output connections. Any wetting voltage for inputs on I/O module shall also be prewired. All loose material for Substation 400 will be installed by others.

1.02 APPLICABLE STANDARDS

- A. Design, manufacture, assemble, and test in accordance with this section and applicable sections of the following standards:
 - 1. ANSI C37 Series, Protective Relays and Proposed Standard C37.21 for Control Switchboards
 - 2. ANSI C39.1, Switchboard Instruments
 - 3. ICEA, Specifications for Wire and Cable
 - 4. NEC, Current Rating of Control Wiring

1.03 PROJECT/SITE CONDITIONS

- A. Elevation above sea level: Less than 3,300 feet, National Geodetic Vertical Datum

1.04 SUBMITTALS

Submit the following:

- A. Product data: Catalogs and cut sheets
- B. Shop Drawings:
 - 1. RTU Enclosure:
 - a. Outline
 - b. Bill of Material including Style, Catalog Numbers, Description, and Quantities
 - c. Comprehensive panel fabrication details
 - d. Nameplate Schedule (Provided by Engineer in spreadsheet format; Seller shall convert into drawing)
 - e. AC Schematic Diagrams (Provided by Seller)
 - f. DC Schematic Diagrams (Provided by Seller)
 - g. Detailed Wiring Diagrams (Provided by Seller)
 - h. Communication diagram for each data concentrator (Provided by Seller)
 - i. One hard copy of manual for each device with enclosure

1.05 ENCLOSURE – CONSTRUCTION

- A. Receptacles: A grounded, 120-volt convenience outlet shall also be provided as shown on Contract Drawings.

B. Wiring

1. Conductors used for wiring shall be stranded copper, no. 14 AWG, G.E. Vulkene 600V, type SIS cross linked polyethylene insulation for secondary and control circuits.
2. Seller shall be responsible for the wiring from relays and control devices to the terminal strips located in the panel, as well as panel-to-panel wiring. If panel-to-panel wiring is to enter the cable tray, use of jacketed tray-rated cable is required.
3. Each conductor from a device or relay to the terminal strip shall be labeled at the terminal strip with a designation indicating the device or relay and the device or relay terminal from which it is wired. Each conductor terminated on a relay or device shall be labeled at the relay or device with a designation indicating the terminal strip, relay, or device terminal from which it is wired.
4. Use No. 12 AWG minimum for current transformer secondary circuits.
5. Use multi-strand Class K hinge wire where door openings require bending in service.
6. Connect current and voltage transformer leads to accessible terminal blocks before wiring to relaying, metering, or control devices.
7. Identify and terminate wiring at vertically mounted terminal blocks.

C. Terminations

1. Made using short-shank, ring-tongue terminal connectors.
2. Crimped using AMP "Certicrimp" handtools.
3. Made with no more than two conductors per terminal stud.
4. Identified at each conductor end using heat imprinted plastic sleeves.

D. DC Mini-Breakers

1. DC mini-breakers (2-pole) in each switchboard panel for control and auxiliary power circuit termination.
2. Manufacturer: CHINT (type NBI), ABB (type S2), or approved equivalent
3. Each relay, meter and communication device shall be fed from dedicated mini-breaker

E. Fuses

1. Install fuses as required for PT circuits
2. Type: Cooper H250 or equivalent

F. Nameplates

1. The nameplates shall be black with white core micarta permanently engraved as listed and mounted as shown on the Contract Drawings.
2. The nameplates shall be fastened to panel only using small round head screws. No adhesive shall be used to affix nameplates to the panel.
3. Nameplate schedule to be provided by Engineer and re-submitted as a drawing by Seller to Engineer and Buyer for approval. Nameplate dimensions and wording shall be as shown on Exhibit A.

G. Testing

1. Enclosure wiring shall be tested at the factory before shipment. Continuity and correct wiring of circuits shall be tested, and DC voltage shall be applied to relays to ensure proper wiring and general relay health. Further quality control testing may be performed at Seller's discretion. Notice shall be given to Buyer and Engineer two weeks prior to the testing so that a representative of Buyer and Engineer may be present for general inspection. Relay settings and logic will not be provided to the manufacturer, as this level of testing is not required of the manufacturer.
2. If major areas of poor workmanship are discovered in the field, Seller may be required to make corrections in the field at the option of Buyer and Engineer.

1.06 BILL OF MATERIAL

- A. Seller shall furnish equipment that will comply with all latest applicable standards and regulations. It should be understood that these standards represent the minimum requirements.

QTY	DESCRIPTION	PART NO
MASTER STATION EQUIPMENT		
1	ADC Fiber Distribution Panel	FPX-1FRA08-240
1	Ethernet switch/router	iMX950-HV-HV-XX-XX-iRM-8GSFP-iRM-BLK-iRM-BLK-iRM-BLK-XX-XX
RTU CABINET – SUBSTATION 900		
1	OrionLX Automation Platform.	OrionLX-A1-B1-ENEN-CPX-MMB-XM4-IHV-HVHV-01-03-44-57-35-95-99-108
2	Orion I/O Device, 64 DI, Advanced Display, Rack Mount	Orion I/O-SX-2E-1111-AD-X-WR-X-42-44
1	Hoffman (or equal) 72" H X 30" W X 24" D; Enclosure; Includes swing rack and back panel.	A723024FS
1	Transduction Touch Screen Monitor	TR-LCD1900-RM-TOUCH-125VDC
1	Keyboard with Touchpad	LC DK1005-NI-U
1	Ethernet switch/router	iMX950-HV-XX-XX-XX-iRM-8GSFP-iRM-8GSFP-iRM-8GSFP-iRM-BLK-XX-XX
1	Ethernet switch/router	iES26GF-HV-XX-RR-8RJ45-8RJ45-8RJ45-2GRJ45
16	SFP 100Mbps MultiMode LC Transceiver, 2km	SFP100-MM-2
1	SFP, RJ45 copper Ethernet	SFP100-TX
1	Mean Well Power Converter, 125VDC to 12VDC - to power SpeedNet Radio	RSD-30H-12
1	Phoenix 120VAC Dual Outlet, DIN Rail Mount	5600461
1	ADC 24 Fiber Distribution Panel	FPX-1FRA08-240
1	Leviton Fiber Distribution Panel	5R1UM-F03 with (3) 5F100-2IL adaptor plates (LC)
1	Hoffman Rack Mount Shelf, black	ESH1917
Lot	Weidmuller and Entrelec Terminal Blocks	Various
1	Distribute incoming 48V DC to the RTU components. Includes relay, cutoff switches, fuse blocks and fuses. Mounted on 3RU black rack panel	PDU

QTY	DESCRIPTION	PART NO
RTU CABINET – SUBSTATION 400		
1	OrionLX Automation Platform.	OrionLX-A1-B1-ENEN-CPX-MMB-XM4-IHV-HVHV-01-03-44-57-35-95-99-108
2	Orion I/O Device, 64 DI, Advanced Display, Rack Mount	Orion I/O-SX-2E-1111-AD-X-WR-X-42-44
1	Hoffman (or equal) 72" H X 30" W X 24" D; Enclosure; Includes swing rack and back panel.	A723024FS
1	Transduction Touch Screen Monitor	TR-LCD1900-RM-TOUCH-48VDC
1	Keyboard with Touchpad	LCDK1005-NI-U
1	Secure Gateway - 8 Cu, 2 SM Fiber	iSG18GFP-MV-MV-D-8RJ45-2GSFP-XX-XX-XX
1	SFP 100Mbps Singlemode LC Transceiver 10km, 1310nm	SFP100-SM-10
1	SFP 100Mbps Singlemode LC Transceiver 30km, 1310nm	SFP100-SM-40-SG
1	Ethernet switch/router	iMX950-MV-XX-XX-XX-iRM-8GSFP-iRM-8GSFP-iRM-BLK-iRM-BLK-XX-XX
1	Ethernet switch/router	iES26GF-HV-XX-RR-8RJ45-8RJ45-8RJ45-2GRJ45
24	SFP 100Mbps MultiMode LC Transceiver, 2km	SFP100-MM-2
1	SFP, RJ45 copper Ethernet	SFP1000-TX
1	Mean Well Power Converter, 48VDC to 12VDC - to power SpeedNet Radio	SD-25C-12
1	Phoenix 120VAC Dual Outlet, DIN Rail Mount	5600461
1	ADC 24 Fiber Distribution Panel	FPX-1FRA08-240
1	Leviton Fiber Distribution Panel	5R1UM-F03 with (3) 5F100-2IL adaptor plates (LC)
1	Hoffman Rack Mount Shelf, black	ESH1917
Lot	Weidmuller and Entrelec Terminal Blocks	Various
1	Distribute incoming 48V DC to the RTU components. Includes relay, cutoff switches, fuse blocks and fuses. Mounted on 3RU black rack panel	PDU
SHIPPED LOOSE ITEMS – SUBSTATION 400		
8	Bitronics Meter	M650 B3 U 5 1 1

EXHIBIT A - STANDARD NAMEPLATE

