

### Electrical Switchgear Maintenance & Testing

## **Proposal**

#810890

November 30, 2016

Submitted by:



Eric Croner 1803 Taylor Avenue Louisville Kentucky 40213 800-434-0415 Fax 502-371-8298 eric.croner@cepower.net

Electrical Switchgear Maintenance & Testing

CE Power Proposal # 810890

**BASE BID** 



#### POWER RELIABILITY DELIVERED

**Proposal # 810890** November 29, 2016

Brian Marcum Lexington Fayette Urban County Government Lexington, KY 40504

Subject: 2016 Plant PM Service

#### Dear Brian,

CE Power Solutions appreciates this opportunity to be of service to Lexington Fayette Urban County Government in Lexington, KY. Per the above referenced subject, we submit the following for your consideration.

#### WORKSCOPE

CE Power will complete all PM work per the testing specifications provided by the Lexington Fayette Urban County Government. CE Power will perform all work on a T&M basis and will work in conjuction will applicable maintenace staff personel to test the equipment as it can be removed from service. That being said, CE Power has provided a "best guess" cost to complete the project based on previously completed outages. After the outage is completed CE Power will provide detailed test sheets for review and approval prior to billing. Finally, a detailed report will be provided upon project completion.

#### Substation Breakdown:

- Substation A
  - o Qty. (6) 15kV MVS
  - o Qty. (1) 15 kV Padmount MVS
  - o Qty. (3) 1600A 480V Circuit Breakers
  - o Qty. (5) 800A 480V Circuit Breakers
  - o Qty. (4) 400A 480V Circuit Breakers
  - o Qty. (2) Volt Meters
  - o Qty. (2) Ammeters
- Substation B
  - o Qty. (4) 15kV MVS
  - o Qty. (1) 15 kV Padmount MVS
  - o Qty. (3) DS-632 480V Circuit Breakers
  - o Qty. (14) DS-206 480V Circuit Breakers
  - o Qty. (2) Volt Meters
  - o Qty. (2) Ammeters
- Blower Building
  - o Qty. (4) 15kV MVS
  - o Qty. (2) 15 kV Padmount MVS
  - o Qty. (2) Limit Amp Starters

#### Estimated Net Price to Complete Project: \$27,000.00

#### CE Power 2016 Labor Rates:

	ST	ОТ	DT
Engineer Cost Rate/ Hr:	\$ 160.00	\$ 205.00	\$ 255.00
Senior Service Technician Cost Rate / Hr:	\$ 146.00	\$ 183.00	\$ 236.00
Service Technician Cost Rate / Hr:	\$ 130.00	\$ 174.00	\$ 214.00

#### **CLARIFICATIONS**

- · Terms: Net 30 days
- · CEP will complete all work on a T&M basis
- All utility power removal including permits to be completed by others
- · All switching to be completed by others
- · All pricing is based on the assumption that all work will take place during normal business hours
- CEP assumes 480V 3 Phase power to be provided by others for test equipment
- Any equipment defects will be quoted / repaired under a separate proposal
- . CEP will not clean any of the switchgear while voltage is present

#### SPECIAL CONSIDERATIONS

CE Power Solutions is a Professional Service Organization that provides Engineering, Project Management, Procurement, Commissioning, Preventive Maintenance, and Predictive Maintenance solutions on large or complex electrical projects. CE Power employees are Drug Free and OSHA safety trained. Analysis and engineering recommendations are provided by a Licensed PE.

#### **TERMS**

Standard CE Power Terms and Conditions apply.

Terms: Net 30 days

This proposal is valid for 60 days.

#### PROPOSAL ACCEPTANCE INFORMATION

CE Power Solutions, LLC Attn: Eric Croner 1803 Taylor Ave. Louisville, KY 40213 Fax: 502.371.8298

Email: eric.croner@cepower.net

We appreciate this opportunity and please feel free to contact us with any questions, concerns or clarifications.

Sincerely,

**Eric Croner** 

**KY Sales Engineer** 

#### **Standard Contingencies:**

Contingency Clause – if during the course of Field Testing and Maintenance Services, any unforeseen problems or conditions arise which may require immediate attention and will require utilizing additional man-hours and/or material/components outside the original, agreed upon Specifications or Scope of Work: these costs will be brought to the immediate attention of the Client's authorized personnel for written approval before proceeding.

Demobilization/Job Cancellation - if, within 24 hours of schedule Field Service Work, the customer cancels the Job, CE may charge for all mobilization and de-mobilization costs, set-up, hourly labor rates and loss of opportunity expenses.

Delay Clause – for Firm Bid Purchase requisitions, any disruption to the normal progression of the Field Testing and Maintenance Services caused by the Client production, facilities or personnel resulting in the inability to perform Field Testing and Maintenance Services will be charged, in addition to the base price, as stated on the Hourly Rate Schedule after ½ hour delay.

Weather-related or natural disaster-related disruptions or cancellations will be charged up to the next billable hour while on-site. Expenses, diems and mobilizations will be charged through the following travel day.

Onsite Substation Clause – CE Power requires a minimum advance notice of 5 working days prior to commencement of work. Advance notice of less than 5 working days for scheduling of work will be subject to price escalation depending on the nature of work to be performed. Required Client Information for installed of existing Installations – The pricing and timeline quoted is based upon receipt of complete and accurate client information required to carry out of the scope of work specified. This includes, but is not limited to installation and equipment drawings, diagrams, specifications, pictures or other pertinent information relating to the work to be performed. Except as otherwise noted within the proposal and contract, CE Power assumes that all such material will be made immediately available for use in executing the scope of work. Failure or delay in providing such information could result in delay of project and/or additional charges to be incurred.

Repair/Remanufacture Contingency – Any equipment that is repaired or remanufactured (including but not limited to circuit breakers and transformer rectifier units), and in which the control equipment is not replaced with NEW, will not be covered under standard CE Power warranty. Taxes and Permitting Fees – Unless otherwise explicitly stated in this proposal, applicable taxes and permitting fees are not included in this proposal. If so desired, please contact CE Power Solutions, LLC.

This proposal is considered proprietary in nature, intended for the sole use of the entity addressed above, and as such is not intended for general public distribution.

Electrical Switchgear Maintenance & Testing

Bid Form/Affidavit



Lexington, Kentucky Horse Capital of the World

Division of Central Purchasing

Date of Issue: November 22, 2016

## INVITATION TO BID #170-2016 Electrical Switch Gear Maintenance & Testing

<b>Bid Opening Date:</b> Address:		<b>30, 2016</b> lain Street, 3 <sup>rd</sup> Floor, Roo	om 338, Lexii	ngton, Kentucky 40		ening Time: 2:00 PM
Type of Bid:	Price Cont	ract				
Pre Bid Meeting: Address:	N/A N/A	2		Pre E	Bid Time:	N/A
		office of the Division of Cer 16. Bids must be <u>received</u> t				on, Kentucky, until <u>2:00 PM</u> , bids should be sent to:
		Division of Central Pur 200 East Main Street, I Lexington, KY 40507,	Room 338	320		
above. Bids that are	e not delivei		ntral Purchas	ing by the stated ti	ime and da	d and delivered as indic ated ate will be rejected. All bids he outside of the envelope.
Bids are to include all	shipping costs	to the point of delivery loca	ated at: VARI	OUS LOCATIONS, Le	kington, KY	
Bid Security Required:	:	es <u>X</u> No <i>Cashier Check,</i>	. Certified Che	ck, Bid Bond (Personal d	hecks and com	pany checks will not be acceptable).
Performance Bond Re	quired:Yes	<u>X_</u> No				
XBid Specific	ations Met _	<u>Check One:</u> Exceptions to Bid Spec		ceptions shall be itemized ached to bid proposal su		Proposed Delivery:days after acceptance of bid.
		Lexington-Fayette Urban C ments. Will you accept Proc			ocurement Yes	Cards to purchase goods
Sul	bmitted by:	<b>CE Power</b> Engineere	ed Services I	_LC		
	,	Firm Name				
		1803 Taylor Ave.				
		Address				
		Louisville KY 40213				
		City, State & Zip,	<u> </u>			
Did	ha sissadi	0//1				
Bid must l (original sigi	_	Signature of Authori.	zed Compa	ny Representativo	e – Tītle	
		Matt P.	t			
		Representative's Name	(Typed or pr	inted)		_
		803 317-677-	2030	,		
		303 317-677- Area Code - Phone - Ex	xtension	Fax #		
		matt pitmone	o cenure	( net		
		E-Mail Address	Y			

	<u>AFFIDAVIT</u>
per	Comes the Affiant,
1.	His/her name is and he/she is the individual submitting the bid or is the
	authorized representative of <u>CE POWER ENGINEERED</u> SERVICES, LLC
	the entity submitting the bid (hereinafter referred to as "Bidder")
2.	Bidder will pay all taxes and fees, which are owed to the Lexington-Fayette Urban County Government at the time the bid is submitted, prior to award of the contract and will maintain a "current" status in regard to those taxes and fees during the life of the contract.
3.	Bidder will obtain a Lexington-Fayette Urban County Government business license, if applicable, prior to award of the contract.
4.	Bidder has authorized the Division of Central Purchasing to verify the above-mentioned information with the Division of Revenue and to disclose to the Urban County Council that taxes and/or fees are delinquent or that a business license has not been obtained.
5.	Bidder has not knowingly violated any provision of the campaign finance laws of the Commonwealth of Kentucky within the past five (5) years and the award of a contract to the Bidder will not violate any provision of the campaign finance laws of the Commonwealth.
6.	Bidder has not knowingly violated any provision of Chapter 25 of the Lexington-Fayette Urban County Government Code of Ordinances, known as "Ethics Act."
7.	Bidder acknowledges that "knowingly" for purposes of this Affidavit means, with respect to conduct or to circumstances described by a statute or ordinance defining an offense, that a person is aware or should have been aware that his conduct is of that nature or that the circumstance exists.
	Further, Affiant sayeth naught.
ST	ATE OF CHO
CO	UNTY OF BUTLER
by .	The foregoing instrument was subscribed, sworn to and acknowledged before me  KERRY HENDEL on this the 29th day
of _	NOVEMBER, 2016.
	My Commission expires: 12-16-17
	NOTARY PUBLIC, STATE AT LARGE

Please refer to Section II. Bid Conditions, Item "U" prior to completing this form.

Electrical Switchgear Maintenance & Testing

Green Community

#### I. GREEN PROCUREMENT

#### A. ENERGY

The Lexington-Fayette Urban County Government is committed to protecting our environment and being fiscally responsible to our citizens.

The Lexington-Fayette Urban County Government mandates the use of Energy Star compliant products if they are available in the marketplace (go to <a href="https://www.Energystar.gov">www.Energystar.gov</a>). If these products are available, but not submitted in your pricing, your bid will be rejected as <a href="https://www.energystar.gov">non-compliant</a>.

ENERGY STAR is a government program that offers businesses and consumers energy-efficient solutions, making it easy to save money while protecting the environment for future generations.

#### Key Benefits

These products use 25 to 50% less energy Reduced energy costs without compromising quality or performance Reduced air pollution because fewer fossil fuels are burned Significant return on investment Extended product life and decreased maintenance

#### **B. GREEN SEAL CERTIFIED PRODUCTS**

The Lexington-Fayette Urban County Government is also committed to using other environmentally products that do not negatively impact our environment. Green Seal is a non-profit organization devoted to environmental standard setting, product certification, and public education.

Go to <u>www.Greenseal.org</u> to find available certified products. These products will have a reduced impact on the environment and on human health. The products to be used must be pre-approved by the LFUCG prior to commencement of any work in any LFUCG facility. If a Green Seal product is not available, the LFUCG must provide a signed waiver to use an alternate product. Please provide information on the Green Seal products being used with your bid response.

#### C. GREEN COMMUNITY

The Lexington-Fayette Urban County Government (LFUCG) serves as a principal, along with the University of Kentucky and Fayette County Public Schools, in the Bluegrass Partnership for a Green Community. The Purchasing Team component of the Partnership collaborates on economy of scale purchasing that promotes and enhances environmental initiatives. Specifically, when applicable, each principal is interested in obtaining best value products and/or services which promote environment initiatives via solicitations and awards from the other principals.

If your company is the successful bidder on this Invitation For Bid, do you agree to extend the same product/service pricing to the other principals of the Bluegrass Partnership for a Green Community (i.e. University of Kentucky and Fayette County Schools) if requested?

Yes	X	No

Electrical Switchgear Maintenance & Testing

**Equal Opportunity Agreement** 

#### **EQUAL OPPORTUNITY AGREEMENT**

#### The Law

- Title VII of the Civil Rights Act of 1964 (amended 1972) states that it is unlawful for an employer to discriminate in employment because of race, color, religion, sex, age (40-70 years) or national origin.
- Executive Order No. 11246 on Nondiscrimination under Federal contract prohibits employment discrimination by contractor and sub-contractor doing business with the Federal Government or recipients of Federal funds. This order was later amended by Executive Order No. 11375 to prohibit discrimination on the basis of sex.
- Section 503 of the Rehabilitation Act of 1973 states:

The Contractor will not discriminate against any employee or applicant for employment because of physical or mental disability.

- Section 2012 of the Vietnam Era Veterans Readjustment Act of 1973 requires Affirmative Action on behalf of disabled veterans and veterans of the Vietnam Era by contractors having Federal contracts.
- Section 206(A) of Executive Order 12086, Consolidation of Contract Compliance Functions for Equal Employment Opportunity, states:

The Secretary of Labor may investigate the employment practices of any Government contractor or sub-contractor to determine whether or not the contractual provisions specified in Section 202 of this order have been violated.

The Lexington-Fayette Urban County Government practices Equal Opportunity in recruiting, hiring and promoting. It is the Government's intent to affirmatively provide employment opportunities for those individuals who have previously not been allowed to enter into the mainstream of society. Because of its importance to the local Government, this policy carries the full endorsement of the Mayor, Commissioners, Directors and all supervisory personnel. In following this commitment to Equal Employment Opportunity and because the Government is the benefactor of the Federal funds, it is both against the Urban County Government policy and illegal for the Government to let contracts to companies which knowingly or unknowingly practice discrimination in their employment practices. Violation of the above mentioned ordinances may cause a contract to be canceled and the contractors may be declared ineligible for future consideration.

Please sign this statement in the appropriate space acknowledging that you have read and understand the provisions contained herein. Return this document as part of your application packet.

#### **Bidders**

I/We agree to comply with the Civil Rights Laws listed above that govern employment rights of minorities, women, veteran status, disability and age.

Signature

LE Power Engineered Services, LLC Name of Business

Electrical Switchgear Maintenance & Testing

General Provisions of Bid Contract

#### **GENERAL PROVISIONS OF BID CONTRACT**

By signing the below, bidder acknowledges that it understands and agrees with the following provisions related to its bid response and the provision of any goods or services to LFUCG upon selection by LFUCG pursuant to the bid request:

- 1. Bidder shall comply with all Federal, State & Local regulations concerning this type of service or good.
- 2. Failure to submit ALL forms and information required by LFUCG may be grounds for disqualification.
- 3. Addenda: All addenda, if any, must be considered by the bidder in making its response, and such addenda shall be made a part of the requirements of the bid contract. Before submitting a bid response, it is incumbent upon bidder to be informed as to whether any addenda have been issued, and the failure of the bidder to cover any such addenda may result in disqualification of that response.
- 4. Bid Reservations: LFUCG reserves the right to reject any or all bid responses, to award in whole or part, and to waive minor immaterial defects in proposals. LFUCG may consider any alternative proposal that meets its basic needs.
- 5. Liability: LFUCG is not responsible for any cost incurred by bidder in the preparation of its response.
- 6. Changes/Alterations: Bidder may change or withdraw a proposal at any time prior to the opening; however, no oral modifications will be allowed. Only letters, or other formal written requests for modifications or corrections of a previously submitted proposal which is addressed in the same manner as the bid response, and received by LFUCG prior to the scheduled closing time for receipt of bids, will be accepted. The bid response when opened, will then be corrected in accordance with such written request(s), provided that the written request is contained in a sealed envelope which is plainly marked "modifications of bid response".
- 7. Clarification of Submittal: LFUCG reserves the right to obtain clarification of any point in a bid or to obtain additional information from any bidder.
- 8. Bribery Clause: By his/her signature on its response, bidder certifies that no employee of his/hers, any affiliate or subcontractor, has bribed or attempted to bribe an officer or employee of the LFUCG.
- 9. Additional Information: While not necessary, the bidder may include any product brochures, software documentation, sample reports, or other documentation that may assist LFUCG in better understanding and evaluating the bid response. Additional documentation shall not serve as a substitute for other documentation which is required by the LFUCG to be submitted with the bid response.
- 10. Ambiguity, Conflict or other Errors: If a bidder discovers any ambiguity, conflict, discrepancy, omission or other error in the bid request of LFUCG, it shall immediately notify LFUCG of such error in writing and request modification or clarification of the document if allowable by the LFUCG.
- 11. Agreement to Bid Terms: In submitting its bid response, the bidder agrees that it has carefully examined the specifications and all provisions relating to LFUCG's bid request, including but not limited to the bid contract. By submission of its bid response, bidder states that it understands the meaning, intent and requirements of LFUCG's bid request and agrees to the same. The successful bidder shall warrant that it is familiar with and understands all provisions herein and shall warrant that it can comply with them. No additional compensation to bidder shall be authorized for services, expenses, or goods reasonably covered under these provisions that the bidder omits from its bid response.
- 12. Cancellation: LFUCG may unilaterally terminate the bid contract with the selected bidder(s) at any time, with or without cause, by providing at least thirty (30) days advance written notice unless a different advance written notice period is negotiated prior to contract approval. Payment for services or goods received prior to termination shall be made by the LFUCG provided these goods or services were provided in a manner acceptable to the

- Assignment of Contract: The selected bidder(s) shall not assign or subcontract any portion of the bid contract with LFUCG without the express written consent of LFUCG. Any purported assignment or subcontract in violation hereof shall be void. It is expressly acknowledged that LFUCG shall never be required or obligated to consent to any request for assignment or subcontract; and further that such refusal to consent can be for any or no reason, fully within the sole discretion of LFUCG.
- 14. No Waiver: No failure or delay by LFUCG in exercising any right, remedy, power or privilege hereunder, nor any single or partial exercise thereof, nor the exercise of any other right, remedy, power or privilege shall operate as a waiver hereof or thereof. No failure or delay by LFUCG in exercising any right, remedy, power or privilege under or in respect of this bid proposal or bid contract shall affect the rights, remedies, powers or privileges of LFUCG hereunder or shall operate as a waiver thereof.
- 15. Authority to do Business: Each bidder must be authorized to do business under the laws of the Commonwealth of Kentucky and must be in good standing and have full legal capacity to provide the goods or services specified in the bid proposal. Each bidder must have all necessary right and lawful authority to submit the bid response and enter into the bid contract for the full term hereof including any necessary corporate or other action authorizing the bidder to submit the bid response and enter into this bid contract. If requested, the bidder will provide LFUCG with a copy of a corporate resolution authorizing this action and/or a letter from an attorney confirming that the proposer is authorized to do business in the Commonwealth of Kentucky. All bid responses must be signed by a duly authorized officer, agent or employee of the bidder.
- 16. Governing Law: This bid request and bid contract shall be governed by and construed in accordance with the laws of the Commonwealth of Kentucky. In the event of any proceedings regarding this matter, the bidder agrees that the venue shall be the Fayette County Circuit Court or the U.S. District Court for the Eastern District of Kentucky, Lexington Division and that the bidder expressly consents to personal jurisdiction and venue in such Court for the limited and sole purpose of proceedings relating to these matters or any rights or obligations arising thereunder.
- 17. Ability to Meet Obligations: Bidder affirmatively states that there are no actions, suits or proceedings of any kind pending against bidder or, to the knowledge of the bidder, threatened against the bidder before or by any court, governmental body or agency or other tribunal or authority which would, if adversely determined, have a materially adverse effect on the authority or ability of bidder to perform its obligations under this bid response or bid contract, or which question the legality, validity or enforceability hereof or thereof.
- 18. Bidder understands and agrees that its employees, agents, or subcontractors are not employees of LFUCG for any purpose whatsoever. Bidder is an independent contractor at all times related to the bid response or bid contract.
- 19. If any term or provision of this bid contract shall be found to be illegal or unenforceable, the remainder of the contract shall remain in full force and such term or provision shall be deemed stricken.

Electrical Switchgear Maintenance & Testing

Work Force Analysis Form

u= GV83697 GV83697 C0=

2016 EMPLOYER INFORMATION REPORT EQUAL EMPLOYMENT OPPORTUNITY

CONSOLIDATED REPORT - TYPE 2

1. CE POWER ENGINEERED SERVICES, LLC CINCINNATI, OH 45232 4040 REV DRIVE

SECTION B - COMPANY IDENTIFICATION

2.4.

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1-Y 2-Y 3-Y DUNS NO.:0 EIN :473803359 CE POWER ENGINEERED SERVICES, LLC CINCINNATI, OH 45232 4040 REV DRIVE

SECTION C - TEST FOR FILING REQUIREMENT

SECTION E - ESTABLISHMENT INFORMATION

NAICS:

SECTION D - EMPLOYMENT DATA

SECTION DE EMILLO IMENTO DATA															
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TAILING			**	****	*** NALE *******	***	* *		*	非非非非非非非非 PENIALE 计非非非非非非非非非	MALE***	****			OVERALL
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1		0	12	0	0	0	0	-	-	0	0	0	0	0	15
3		0	48	1	0	2	0	0	9	2	0	-	0	0	63
4		0	89	8	0	4	0	2	-	0	0	0	0	Q	108
0		0	15	0	0	0	0	0	-	0	0	0	0	0	16
1		0	10	0	0	-	1	0	22	-	0	1	0	-	38
0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	- 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	- 1	0	1	0	0	0	0	<del></del>	-	0	0	0	0	0	3
0		0	0	0	0	0	0	0	0	0	0	0	0	0	0
6		0	191	6	0	7	1	4	33	3	0	2	0	-	260
	'	-													

SECTION F - REMARKS

08/21/2016 THRO 08/08/2016 DATES OF PAYROLL PERIOD: SECTION G - CERTIFICATION

CERTIFYING OFFICIAL: STEPHANIE COMBS EEO-1 REPORT CONTACT PERSON: STEPHANIE COMBS EMAIL: STEPHANIE.COMBS@CEPOWER.NET

TITLE: PAYROLL BENEFITS ADM TITLE: PAYROLL BENEFITS ADM TELEPHONE NO: 5137296263

CERTIFIED DATE[EST]: 11/21/2016 04:47 PM

Electrical Switchgear Maintenance & Testing

**Pricing Sheet** 

# BID SPECIFICATIONS FOR ELECTRICAL SWITCH GEAR MAINTENANCE AND TESTING AT TOWN BRANCH WWTP

#### **GENERAL**

- The successful bidder will provide all equipment and labor necessary to inspect, clean, lubricate, exercise, perform testing and calibration(s), and provide a written report as indicated within for electrical switch gear(s) and electrical sub-stations located at the Town Branch Wastewater Treatment Plant which is owned and operated by the Lexington Fayette Urban County Government Division of Water Quality.
- 2. Preference is for Bidder/Contractor to have previous experience with same or similar type projects.
- 3. It is recommended that each potential Bidder schedule a site visit to view and/or evaluate current installed equipment and identify work locations and/or conditions that may or may not have an impact on bid submittal.
- 4. An inventory of switch gear(s) and sub-station(s) equipment is provided within Bid Specification(s).
- 5. Work is to be performed Monday thru Friday between 8:00am and 4:00pm with as minimal down time as possible.
- 6. This price contract shall be in effect for two (2) years from the date of approval. This contract may be extended for two (2) additional one (1) year term(s) based upon the written agreement of the bidder and the LFUCG.

#### SCOPE OF WORK

#### **Load Interrupter Switches**

 Bidder/Contractor shall supply all equipment and labor necessary to perform the following maintenance and tests as indicated:

Specif	ication
Com	pliant
Yes	No

- Maintenance: Clean, Lubricate and Exercise
  - The medium voltage interrupter switches shall be cleaned and inspected for physical and mechanical condition. The operating mechanism shall be lubricated and then exercised to identify any worn or damaged components. The main and arcing contacts shall be cleaned, and the alignment arc interrupter operation shall be checked.
- Tests: Insulation Resistance, and Contact Resistance
  - Insulation resistance and contact resistance tests shall be performed on each pole. Adjustments shall be made to correct contact resistance values that exceed 100 micro-ohms.

#### Voltmeters and Ammeters

 Bidder/Contractor shall supply all equipment and labor necessary to perform the following maintenance and tests as indicated:

Specif	ication
Com	pliant
Yes	No

- Maintenance: Clean and Inspect
  - o The meters shall be cleaned and examined for broken parts. The connections to the meters and the switches shall be inspected.
- Tests: Inject Voltage/Current and Calibrate
  - o The meters shall be calibrated at mid-scale

#### **Power Circuit Breakers**

 Bidder/Contractor shall supply all equipment and labor necessary to perform the following maintenance and tests as indicated:

Specif	ication
Com	pliant
Yes	No

- · Maintenance: Clean, Inspect, and Lubricate
  - o The low voltage air circuit breakers shall be removed from their cubicles and inspected for physical damage and mechanical condition. The alignment of the racking mechanism and breaker disconnecting stabs shall be closely inspected. The breaker arc chutes shall be removed and cleaned, and the main arcing contacts shall be cleaned and inspected. The breaker shall be cleaned, lubricated, and operated several times to exercise the operating mechanism, and to identify any mechanical problems.
- Tests: Contact Resistance, Insulation Resistance, and Primary High Current Injection
  - o A contact resistance test shall be performed on all poles of the breaker. An insulation resistance test shall be made from each pole to ground. Each function of the overcurrent trip device [Long Time, Short Time, Instantaneous, and Ground Fault] shall be tested with a high current generating set to verify the pickup and timing characteristics. When practical, adjustments shall be made to bring tripping functions to within the intended timing parameters.

#### 4160 Volt Vacuum Motor Starters

 Bidder/Contractor shall supply all equipment and labor necessary to perform the following maintenance and tests as indicated:

Specif Com	ication pliant
Yes	No

- Maintenance: Clean, Inspect, Lubricate and Check Contact Erosion Indicator
  - o The vacuum motor starters shall be cleaned and inspected for physical and mechanical condition. The operating mechanisms shall be lubricated and then exercised to identify any worn or damaged components. The vacuum interrupter assemblies shall be cleaned to remove any dirt and/or moisture which can be the cause of high dielectric losses across the vacuum bottles. Note: A bottle can be rendered ineffective if excessive dirt is allowed to accumulate on the surface of the interrupter.

- Tests: Contact Resistance, Insulation Resistance, and AC High Potential
  - o The contact erosion indicators shall be checked and contact resistance tests shall be performed. In order to evaluate the condition of the insulation system, insulation resistance and AC high potential test shall be performed.

#### **General Equipment Cleaning**

Clean and vacuum inside all 5 and 15kv equipment. Check all switchgear and pad mounted switches for dust and cobwebs, and clean and vacuum.

Specif	ication
Com	pliant
Yes	No

#### **Engineering Report**

Upon completion of the project, a Registered Professional Engineer, P.E., shall analyze the test data and provide an Engineering Report. The Report shall include a summary of the work performed, test results, deficiencies noted and recommended corrective action.

Specif	ication
Com	pliant
Yes	No

#### **Electrical Switchgear Inventory**

#### **Town Branch WWTP**

#### System "A"

- Main 15kv Switchgear
  - o (1) Pad mount 15kv selector/interrupter switch
  - o (7) 15kv load interrupter switches
- Substation "A"
  - o (2) Voltmeters
  - o (2) Ammeters
  - o (3) 1600 amp frame power circuit breakers
  - o (10) 800 amp frame power circuit breakers
- Blower Building
  - o (2) Pad mount 5kv interrupter switches
  - o (5) 5kv load interrupter switches
  - o (4) 5kv LimitAmp vacuum motor starters

#### System "B"

- Main 15kv Switchgear
  - o (1) Pad mount 15kv selector/interrupter switch
  - o (5) 15kv load interrupter switches
- Substation "B"
  - o (2) Voltmeters
  - o (2) Ammeters
  - o (3) 3200 amp frame power circuit breakers
  - o (12) 800 amp frame power circuit breakers
  - o (2) 2000 amp frame power circuit breakers

#### Please write Bid Price(s) as indicated below

Item	Description	Bid Price
Electrical Switchgear Maintenance and Testing	Perform maintenance, cleaning and tests as indicated within	\$27,000.00

Additional Work Hourly Rate		
Item	Description	Hourly Rate
Electrical Switchgear Maintenance and Testing and/or Repairs	Additional work activities needed and/or recommended beyond scope presented within (As agreed upon by the Bidder/Contractor and the LFUCG)	\$146.00 /hour

- Bidders must schedule an appointment for site visit to verify the information included within these specifications prior to bid submittal. Appointments can be arranged by contacting the Town Branch WWTP Operations Supervisor, Mark Stager, at the following number: 859.425.2413.
- Bid questions contact Brian Marcum, Division of Central Purchasing, at the following number: 859.258.3325