



COVER PAGE

Bid #2216

ALUMINUM CONDUCTOR COMPOSITE CORE WIRE FOR 138KV TRANSMISSION UPGRADE

Sealed bids and electronic submitted bids for the above will be received until **10:00 AM CDT, Tuesday, December 11, 2018**, and publicly opened in the City of Alexandria Council Chambers or Council Committee Room.

Please file bid by one of the following means:

Hand-Delivered or Express Delivery:

**Attention: Donna Jones, City Clerk
City of Alexandria - City Hall
915 Third Street, First Floor
Alexandria, LA 71301
Phone: 318-449-5090**

Mailed via USPS:

**Attention: Donna Jones, City Clerk
City of Alexandria - City Hall
PO Box 71
Alexandria, LA 71309-0071**

Electronic Bid Submission: Central Bidding

Pursuant to Louisiana R.S. 38:2212 B.(6)(a) through E. (1-7) and R.S. 38:2212.1 B.(4)(a), vendors/contractors have the option to submit their bids and bid bonds electronically. Bids and bonds to be filed electronically shall be posted with **Central Bidding** at www.centralauctionhouse.com (phone 1-225-810-4814). Registration will need to be completed prior to posting of bid.

Complete bid specifications are available for viewing and downloading at the City of Alexandria's website www.cityofalexandriala.com ; on the left hand side of the opening page, go to the heading "*Business*" then drop down to "*RFP/RFQ/Bids*"; the current bids will be listed for your convenience.

City of Alexandria Buyer Name:	<u>Christine Sims, Senior Buyer</u>
Phone Number:	<u>(318) 441-6183</u>
Fax Number:	<u>(318) 619-3414</u>
E-Mail Address:	<u>christine.sims@cityofalex.com</u>



Christine L. Sims
Acting Purchasing Manager

City of Alexandria

Purchasing Department
P.O. Box 71
Alexandria, Louisiana
71309-0071



Office: (318) 441-6180
Fax: (318) 441-6185

Sealed bids will be received until **10:00 AM, CDT, Tuesday, December 11, 2018**, and publicly opened in the Council Chambers or Council Committee Room.

City of Alexandria Bid Proposal #2216

Page: 1 of 16

Date Specifications Prepared: October 25, 2018

Bid Bond Requirements: A bid bond or check for N/A% of the total amount of bid.

Performance Bond Requirements: In the event bid is accepted, a performance bond shall be required in the amount of N/A%.

Please file bid with the following:

Donna Jones, City Clerk
City of Alexandria - City Hall
915 Third Street
P.O. Box 71
Alexandria, LA 71309-0071
Phone: 318-449-5047

INTRODUCTION

Aluminum Conductor Composite Core Wire for 138 kV Transmission Upgrade

It is the intent of the City of Alexandria to secure pricing on **Aluminum Conductor Composite Core Wire, CTC Global Corporation's ACCC® brand, Grosbeak; or equal**, to be used for 138 kV Transmission Line Upgrades in the City of Alexandria by the Electric Distribution Department. Bids submitted shall be for the material only. Installation will be handled by Electric Distribution Department.

The City will purchase a maximum of 56,400 feet of the specified Aluminum Conductor Composite Core Wire. Bid price shall remain in effect for a period of ninety (90) days from bid award date.

All bid prices shall include any and all freight charges. Material shall be shipped F.O.B., freight pre-paid, to the City of Alexandria Electric Distribution Warehouse, to the attention of Henry Jacobs, 1015 N. Third Street, Alexandria, LA 71301, phone 318-473-1353.

Completed bid packet should be returned as issued by the City of Alexandria with ALL PAGES intact and all specification response columns filled in. Incomplete columns or missing pages, to include addendum pages, may result in the bidder's (proposer's) entire bid being rejected.

Questions and/or clarifications of bid specifications are to be in written form only, either mailed, faxed, or e-mailed to the attention of Christine Sims, City of Alexandria - Purchasing Department, P.O. Box 71, Alexandria, LA 71309-0071; Fax #318-619-3414; e-mail christine.sims@cityofalex.com; and must be received by **5:00 PM CDT, Thursday, November 29, 2018**.

CITY OF ALEXANDRIA BID SPECIFICATIONS FOR:
Aluminum Conductor Composite Core Wire for 138 kV Transmission Upgrade

GENERAL CONDITIONS FOR BIDDERS - PLEASE READ CAREFULLY

1. Pursuant to LA R.S 38:2212.1. C.(1)(2), any manufacturer's preference in this proposal is descriptive, but non-restrictive, and is used only to indicate minimum requirement for type, grade and quality unless otherwise specified.
2. Pursuant to LA R.S. 38:2212 B.(1), the provisions and requirement of this bid shall not be considered as informalities and shall not be waived by the City of Alexandria. Therefore, conditions and specifications on this bid form shall be strictly enforced and any and all alterations, deviations, and non-compliance to said conditions and specifications, either on the bid form or by separate attachment, shall be grounds for immediate disqualification.
3. Preference shall be given to bidders quoting F.O.B. Destination (the City of Alexandria using department), FREIGHT PREPAID, unless otherwise requested.
4. Each bidder shall submit his proposal on the proposal form furnished by the City of Alexandria Purchasing Department. The complete bid package must be returned as issued by the City with all pages intact and all specification response columns filled in. Incomplete columns or missing pages, to include addendum pages, shall result in the vendor's entire bid package being rejected.
5. Literature, brochures, and other related paperwork attached to the bid should be identified with the name of the bidder and bid item number.
6. In case of a mathematical discrepancy between unit price and extensions, the unit price shall prevail.
7. Pursuant to LA R.S. 38:2212 F., the bid specifications may contemplate a fixed escalation or de-escalation in accordance with the United States Bureau of Labor Statistic's Consumer Price Index or the Producer Price Index. Bids based on specifications which are subject to a recognized escalation index shall be legal and valid for any item of a public work, at the discretion of the City.
8. Pursuant to LA R.S. 38:2212.1. F., any public procurement unit may participate in a cooperative purchasing agreement with the City of Alexandria to acquire quantities of the above listed items under a contract with the City of Alexandria for items awarded by public bid, pursuant to the cooperative purchasing provisions of Part VII of Chapter 17 of Subtitle III of Title 39 of the Louisiana Revised Statutes of 1950, R.S. 39:1701 et seq.
9. The City of Alexandria reserves the right to award by item or by total bid, unless otherwise specified in the bid specifications. (Price(s) should be itemized.)
10. All erasures or corrections on the bid form must be initialed and the City of Alexandria may rely on the apparent authority represented by the initials.
11. The City of Alexandria reserves the right to reject for cause any and all bids or parts of bids, or accept bids most beneficial to the City.

**CITY OF ALEXANDRIA BID SPECIFICATIONS FOR:
Aluminum Conductor Composite Core Wire for 138 kV Transmission Upgrade**

General Conditions for Bidders - Please Read Carefully (Continued)

12. Any bid submitted which contains additions, conditional or alternate bids, or irregularities which may make the proposal incomplete, indefinite, or ambiguous as to its meaning, thus requiring clarification after the specified date and time of bid opening shall be rejected.
13. Bids shall be opened publicly in the City Council Chambers or Council Committee Room.
14. Cash discounts may be accepted, but SHALL NOT be considered in making award.
15. Regarding a bid for purchase of materials, supplies or services, not to include construction of any public works, a written notice of acceptance mailed or otherwise furnished to the successful bidder shall result in a binding contract without further action by either party.
16. When any bid is accepted for the construction or doing of any public works, a written contract shall be executed by and between the City of Alexandria and the Contractor. No contract shall be binding upon the City until it has been executed by the City and delivered to the successful bidder. Should the bidder to whom the contract is awarded fail to execute the contract, the award shall then be made to the next lowest responsible bidder, or re-advertised for public bid, said decision to be in the sole judgment of the City of Alexandria. This action may result in the loss of bidding privileges for a period of one (1) year.
17. The City of Alexandria shall schedule for payment the invoices for articles or services purchased under this bid within thirty (30) days after due and proper delivery accompanied by invoice.
18. The City of Alexandria is exempt from all sales taxes. A sales tax exempt form shall be furnished by the City of Alexandria Purchasing Department, if requested.
19. Bidder(s) awarded item(s) by the City of Alexandria shall be responsible for supplying all products at the awarded price(s). Failure may result in the City's cancellation of the remaining items awarded.
20. Regarding Service Contracts and Procurement Contracts, the terms of the contract shall be binding upon any and all parties involved until goods and supplies are delivered, services have been rendered, and/or work has been completed and accepted by the Mayor on behalf of the City of Alexandria and all payments required to be made to the Contractor have been made. However, a contract may be terminated under any and all of the following conditions:
 - (a) By mutual agreement and consent of either party upon thirty (30) days written notice to the other party;
 - (b) By the Mayor, on behalf of the City of Alexandria, as a consequence of the failure of the Contractor to comply with the terms and conditions of the contract or the progress or quality of work to be performed in a satisfactory manner, proper allowance being made for circumstances beyond the control of the Contractor; or
 - (c) By satisfactory completion of all services and obligations described in the contract.

**CITY OF ALEXANDRIA BID SPECIFICATIONS FOR:
Aluminum Conductor Composite Core Wire for 138 kV Transmission Upgrade**

General Conditions for Bidders - Please Read Carefully (Continued)

If the contract is terminated for any of the terms and conditions authorized in sub-paragraph (b) above, Contractor shall be formally notified in writing by the City of Alexandria Purchasing Department by means of certified mail informing him of cancellation of the contract, giving specific reasons for said cancellation. Contractor shall have the right to appeal to the City Council within ten (10) days from the date that said notification is placed in the U.S. Mail. Contractor's appeal shall be accomplished by means of a letter addressed to the City Council and delivered to the City Clerk, stating that an appeal to the decision of cancellation is desired. The City Council shall thereafter hold a hearing on the appeal, giving all parties the opportunity to present any and all evidence concerning the decision of cancellation. After hearing the appeal, the city Council may, by a majority vote, sustain, modify, or reverse the findings for said decision and shall provide, if requested by Contractor, a written determination of its findings.

21. Contractors submitting bids for Public Works construction projects in excess of \$1.00 must show his Contractor's License Number on the front of the bid envelope, except for certain projects for which a Contractor's License Number is not required by the State Contractor's Licensing Board. Failure to comply with this directive shall result in automatic bid rejection, furthermore, any Contractor who submits a bid for a type of construction for which he is not properly licensed shall be acting in violation of LA R.S. 37:2163, and shall be subject to all provisions for violation and penalties thereof. Contractors who are owned by, and are submitting a bid as a subsidiary of a parent company, whose name is listed in the State of Louisiana's Roster of Licensed Contractors, may do so by including a letter of proof of ownership from the parent company with the submitted bid package. The letter must be signed as per LA R.S. 38:2212 B.(5)(a)(b)(c) (see Item #22 below).

22. All bids submitted via USPS (registered or certified), overnight courier or hand delivered, shall be signed by hand and in ink by an authorized company representative per LA R.S. 38:2212 B.(5)(a)(b)(c), which states:

(c)(i) Evidence of agency, corporate, or partnership authority shall be required for submission of a bid to the division of administration or the State of Louisiana. The authority of the signature of the person submitting the bid shall be deemed sufficient and acceptable if any of the following conditions are met:

(aa) The signature on the bid is that of any corporate officer listed on the most current annual report on file with the Secretary of State, or the signature on the bid is that of any member of a partnership or partnership in commendam listed in the most current partnership records on file with the Secretary of State.

(bb) The signature on the bid is that of an authorized representative of the corporation, partnership, or other legal entity and the bid is accompanied by a corporate resolution, certification as to the corporate principle, or other documents indicating authority which are acceptable to the public entity.

(cc) The corporation, partnership, or other legal entity has filed in the appropriate records of the Secretary of State in which the public entity is located, an affidavit, resolution, or other acknowledged or authentic document indicating the names of all parties authorized to submit bids for public contracts. Such document on file with the Secretary of State shall remain in effect and shall be binding upon the principal until specifically rescinded and canceled from the records of the office.

**CITY OF ALEXANDRIA BID SPECIFICATIONS FOR:
Aluminum Conductor Composite Core Wire for 138 kV Transmission Upgrade**

General Conditions for Bidders - Please Read Carefully (Continued)

23. In-State preferences shall not apply to procurements involving federal funds.
24. Pursuant to LA R.S. 38:2212 O.(2)(a)(b), any modifications of plans and specifications will be made through an addendum. No addendum shall be issued within seventy-two (72) hours of the bid opening, excluding weekends and legal holidays, without the extension of the bid opening date. An extension of at least seven (7) but no more than thirty (30) working days is required but, re-advertising is not required. The addendum shall be transmitted by any one of the following methods: (1) facsimile transmission; (2) e-mail; (3) by hand; or (4) posted on the City of Alexandria's website (www.cityofalexandria.com) and posted on Central Bidding's website (www.centralauctionhouse.com) if applicable.
25. All Federal Transit Administration (FTA) funded procurements, including operating assistance funding contracts, are to follow the *Master Agreement*, to include all applicable federal clauses.
- a. Any bidder that is found listed on the Federal Government's *System for Award Management* (SAM) website, at www.sam.gov/portal/sam , under the advanced search feature for *Excluded Parties List System* (EPLS), shall automatically be rejected for the award of this bid, by Category and/or in its entirety. This applies to any portion of the bid that is a procurement funded by FTA.
26. Under the City's *AFEAT (Alexandria Fairness, Equality, Accessibility, and Teamwork Program)*, participation by minority and/or disadvantaged business enterprise firms is encouraged. Inquiries about the *AFEAT* Program should be directed to the Division of Finance. As a part of its RFP response, each Bidder ***shall*** submit documentation of its bona fide effort to secure subcontractors that meet the City's *AFEAT* goals. Each bidder ***shall*** also submit proof of engagement of any subcontractor selected because of its solicitations. The Bidder's bona fide efforts and engagement(s) are a consideration in bid review and rating.

**CITY OF ALEXANDRIA BID SPECIFICATIONS FOR:
Aluminum Conductor Composite Core Wire for 138 kV Transmission Upgrade**

Alexandria Fairness, Equality, Accessibility and Teamwork Program (AFEAT)

Dear Vendor:

Under the City's *AFEAT (Alexandria Fairness, Equality, Accessibility, and Teamwork Program)*, participation by minority and/or disadvantaged business enterprise firms is encouraged. The AFEAT Program should be inquired about through the Division of Finance. The goals for qualifying disadvantaged, minority and female owned business in the use of professional service agreements with prime contractors will help effectuate the goals of increasing: the competitive viability of small business, minority, and women business enterprise by providing contract, technical, educational, and management assistance; business ownership by small business persons, minority persons, and women (including professional service opportunities); and the procurement by the City of professional services, articles, equipment, supplies, and materials from business concerns owned by small business concerns, minority persons, and women.

Prime contractors offering subcontracting should take specific action to ensure that a bona fide effort is made to achieve maximum results towards meeting the established goals. Primes shall document efforts and shall implement steps at least as extensive as the following in a good faith effort to reach or exceed the established goals:

- A. *Establish and maintain a current list of minority and female owned businesses in Alexandria, in Rapides Parish, and in the State of Louisiana.*
- B. *Document and maintain a record of all solicitations of offers for subcontracts from minority or female construction contractor and suppliers in Alexandria, in Rapides Parish, and in the State of Louisiana.*
- C. *Secure listing of minority and women owned businesses from the City of Alexandria Purchasing Department, the Central Louisiana Business Incubator, and the State of Louisiana Department of Minority Affairs.*
- D. *Participate in associations which assist in promoting minority and women owned businesses such as the Central Louisiana Business League, the Central Louisiana Business Incubator, and the Entrepreneurial League System.*
- E. *Designate a responsible official to monitor all activity made in the effort to achieve or exceed the established goals; record contacts made, subcontracts entered into with dollar amounts, and other relevant information.*

For more information on AFEAT and the City of Alexandria's Diversity in Action Initiative, and to explore a local and statewide directory of minority businesses, please visit www.diversityinaction.org . Should you have any questions or comments, please do not hesitate to contact our Finance Department at 318-449-5091 or our Purchasing Department at 318-441-6180.

As a part of its RFP response, each Bidder ***shall*** submit documentation of its bona fide effort to secure subcontractors that meet the City's AFEAT goals. Each bidder ***shall*** also submit proof of engagement of any subcontractor selected because of its solicitations. The Bidder's bona fide efforts and engagement(s) are a consideration in bid review and rating.

Sincerely,

**CITY OF ALEXANDRIA BID SPECIFICATIONS FOR:
Aluminum Conductor Composite Core Wire for 138 kV Transmission Upgrade**

BID SPECIFICATIONS

SCOPE: The following bid specifications are to be used as minimum and maximum standards for Aluminum Conductor Composite Core Wire, for use by The City of Alexandria Electric Distribution Department for the 138 kV transmission upgrade. All quoted products shall either meet or exceed the following specifications.

Unless otherwise stated, the use of manufacturer's name and product numbers are for descriptive purposes and to establish general quality levels only, they are not intended to be restrictive.

Prospective bidders are required to state exactly what they intend to furnish, otherwise, it is fully understood that they shall furnish all items as stated. Bidder should indicate in the space provided below, under "*Bidder's Response*:", the necessary information to indicate he/she is conforming with the bid specifications for each item as written. If Bidder is in complete compliance with each bid specification item as written, please write "Comply" in the space provided; if not, please indicate in this space, the necessary information on the product you are proposing. Each specification response is necessary to ensure the proper evaluation and tabulation of this bid. If each "*Bidder's Response*" section is not filled in or completed, your bid may be rejected.

Bidder's Response:

1.0 General:

1.1 No bid may be withdrawn for at least thirty (30) days after the scheduled closing time for the receipt of bids. Bid prices shall remain firm until product has been accepted by the City of Alexandria as delivered.

1.2 Product shall be new and un-used only.

1.3 Aluminum Conductor Composite Core wire shall be *CTC Global Corporation's* ACCC® brand, code name Grosbeak; or equal.

1.4 The ACCC® conductor, or equal, shall be approved for overhead transmission lines.

1.5 The aluminum conductor composite core shall be produced with fully-annealed trapezoidal-shaped wire wrapped around a high-strength composite core; or equal design.

1.6 The ACCC® conductor, or equal conductor brand, shall meet the following minimum standards:

1.6.1. ASTM B609 – Standard Specification for Aluminum 1350 Round Wire, Annealed and Intermediate Tempers, for Electrical Purposes (applies only to annealed tempers portions of this standard.)

**CITY OF ALEXANDRIA BID SPECIFICATIONS FOR:
Aluminum Conductor Composite Core Wire for 138 kV Transmission Upgrade**

BID SPECIFICATIONS

Bidder's Response:

1.0 General: (Continued)

1.6.2. ASTM B857 – Standard Specification for Shaped Wire Compact Concentric-Lay-Stranded Aluminum Conductors, Coated-Steel Supported (ACSS/TW) (applies only to shaped wire portions of this standard.)

1.6.3. EN 50540 – Conductors for Overhead Lines – Aluminum conductor steel supported (ACSS) (applies only to shaped wire portion of this standard.)

1.6.4. ASTM B263 – Test Method for Determination of Cross-Sectional Area of Stranded Conductors

1.6.5. ISO 9001 or equivalent – Quality Management System

1.7 Bidders are requested to send guaranteed nominal and technical parameters on the manufacturer's name brand aluminum conductor composite core wire they are proposing.

1.8 The manufacturer of the successful bidder's proposed aluminum conductor composite core wire shall provide one day of onsite training, both classroom and hands-on, for the City of Alexandria personnel and their contractors. They shall also provide a field installation engineer that will remain onsite with the project for a period of up to seven (7) days at no additional cost to the City.

2.0 Operational Conditions:

2.1 Conductor Working Conditions:

Maximum continuous operating conductor temperature should be +356° F (+180° C).

**CITY OF ALEXANDRIA BID SPECIFICATIONS FOR:
Aluminum Conductor Composite Core Wire for 138 kV Transmission Upgrade**

BID SPECIFICATIONS

Bidder's Response:

2.0 Operational Conditions: (Continued)

Maximum short duration conductor temperature should be +392° F (+200° C). (The continuous short term duration temperature of the conductor is where the excess is experienced for up to eight (8) hours in any one period and for not more than a total of 10,000 hours during the life of the conductor is 392° F or 200° C.)

2.2 Required Data of Conductor: (Imperial units govern throughout this standard.)

<u>Description</u>	<u>Imperial Units</u>	<u>Nominal Imperial Value</u>	<u>Metric Units</u>	<u>Nominal Metric Value</u>
Number of strands of composite core	pcs	1	pcs	1
Diameter of composite core***	in.	0.320	mm	8.13
Calculated cross-sectional area of composite core	in ²	0.080	mm ²	51.9
Number of aluminum strand layers	pcs	2	pcs	2
Nominal aluminum cross-sectional area**	kcmil	821.4	mm ²	416.9
Nominal diameter of conductor*	in.	0.990	mm	25.15
Nominal cross-sectional area of conductor	in ²	0.725	mm ²	467.8
Rated breaking strength of conductor	kips	30.4	kN	135.2
Nominal Conductor DC resistance at 20°C	Ω/mile	0.1081	Ω/km	0.0672
Calculated mass of core	lbs/kft	66	kg/km	98.2
Calculated mass of aluminum	lbs/kft	770.9	kg/km	1147.0
Calculated mass of conductor**	lbs/kft	836.9	kg/km	1245.2
Conductor designation	ACCC® Grosbeak			

* Diameter tolerance ± 1%

** Weight and aluminum cross-sectional area tolerance ± 2%

*** Core diameter ± 0.002 in. (± 0.05 mm)

3.0 Materials:

3.1 Aluminum wires should be fully annealed type or equal design, to enable transmission capacity increases on existing structures while improving tensions and clearances.

3.1.1. Properties of the aluminum wires before stranding should meet the minimum tensile strength requirements of ASTM B609 (8500 psi, 58.6 MPa), but also exhibit a minimum IACS% value of 63% with a maximum resistivity of the aluminum wires that shall not exceed 16.642 ohm-cmil/ft at 20° C.

**CITY OF ALEXANDRIA BID SPECIFICATIONS FOR:
Aluminum Conductor Composite Core Wire for 138 kV Transmission Upgrade**

BID SPECIFICATIONS

Bidder's Response:

3.0 Materials: (Continued)

3.1.2. Wires should be drawn in a trapezoidal shape and designed to allow them to fit together during stranding in concentric layers; or equivalent design.

3.1.3. Before and after stranding, the aluminum wires shall be capable of meeting a 20% minimum elongation.

3.1.4. The surface of the aluminum wires should be smooth, without foreign particles, copper dust or any other material that can cause aluminum corrosion. Wires should not have cosmetic defects, irregular surface (scales), breaks or any other defects visible to the bare eye.

3.1.5. In an effort to reduce the propensity for the surface of the conductor to collect dust, or other surface contaminants from accumulating on the surface of the conductor, the manufacturer shall minimize the amount of stranding lubricant utilized in the manufacture of the aluminum conductor composite core wire.

3.2 Composite Core:

3.2.1. The composite core should have a higher strength to weight ratio and lower thermal expansion than a conventional steel core.

3.2.2. The composite core shall be a high strength combination glass and carbon fibers arranged such that the glass is concentrated in a ring outside the carbon and bonded together by polymer matrix; or an equal design.

3.3 Joints:

3.3.1. Joints of aluminum wires should meet the requirements of ASTM B857, along with the requirements stated in EN 50540 and IEC 60189.

**CITY OF ALEXANDRIA BID SPECIFICATIONS FOR:
Aluminum Conductor Composite Core Wire for 138 kV Transmission Upgrade**

BID SPECIFICATIONS

Bidder's Response:

3.0 Materials: (Continued)

Normal practice should be to have no joints in the aluminum wires unless otherwise specified by the customer, and then standards ASTM B857 and EN 50540 should be considered.

3.3.2. The carbon fiber shall be continuous, with no splices or joints between the end of one spool of carbon fiber and the start of another, in the polymer matrix composite core.

3.4 Stranding:

3.4.1. Multiple wire conductors should be stranded as concentric layers with pitch according to ASTM B857 and EN 50540 standards; or an equal design.

3.4.2. The direction of the draw of the next layer should be opposite to previous one with condition that the direction of the outer layer should be right.

3.4.3. The design and lay of the conductor strands shall be such as to produce a conductor essentially free from the tendency to unwind or spring apart when cut or during tension stringing operations.

3.4.4. Stranding of two layer conductors with aluminum wires should be made in one technological process meaning that both layers should be stranded simultaneously.

3.4.5. For stranding of three or greater layer conductors, a two-pass process is acceptable.

3.4.6. Stranding facilities shall comply with an ISO 9001 or equivalent Quality Management System.

3.4.7. All manufacturing and rework processes for the ACCC® conductors shall be reviewed and certified by *CTC Global Corporation*.

**CITY OF ALEXANDRIA BID SPECIFICATIONS FOR:
Aluminum Conductor Composite Core Wire for 138 kV Transmission Upgrade**

BID SPECIFICATIONS

Bidder's Response:

4.0 Testing:

4.1 Bidders should provide with their bid packets, information on the manufacturer's basic type registration tests for the aluminum conductor composite core wire they are bidding.

4.1.1. The type registration test information submitted should include:

- a. Conductor Stress-Strain Curve
- b. Core Stress-Strain Curve
- c. Conductor DC Electrical Resistance
- e. Conductor Ultimate Tensile Test
- f. Creep Test

4.2 The report of the type tests should include all necessary data for evaluation of the test according to requirements of the suitable ASTM, EN, IEC or other standards.

4.3 Type tests should be made in an independent laboratory that has a certified system of quality or in a laboratory selected by the City. The City and supplier may agree to allow testing in the supplier's facilities.

4.4 Routine Factory Tests: The product tests are the verification of the guaranteed quality of the product and accordance with required standards. Tests should be performed according to ASTM B857 and EN 50540. Sections 4.2.1 through 4.2.3 identify the range of products test performed before, during and after stranding.

4.4.1. The listed tests on fully annealed (O'tempered) aluminum wires before stranding, must meet the requirements in ASTM B609 and EN 50540 for the following:

- i) Tensile strength
- ii) Elongation
- iii) Resistivity
- iv) Cross-sectional area

**CITY OF ALEXANDRIA BID SPECIFICATIONS FOR:
Aluminum Conductor Composite Core Wire for 138 kV Transmission Upgrade**

BID SPECIFICATIONS

Bidder's Response:

4.0 **Testing:** (Continued)

4.4.2. Polymer Matrix Composite Core: The following tests on the polymer matrix composite core before stranding shall be performed in accordance to CTC Quality Control Procedures and relevant standards.

Tested Parameter	Minimum Requirement	Relevant Standard
Core Diameter	Nominal ± 0.002 in. (± 0.005 mm)	-----
Tensile Strength (Room Temperature)	313 ksi (2158 MPa)	ASTM D3916
Glass Transition Temperature	Peak in Loss Modulus $\geq 205^\circ$ C	ASTM D7028
Roller Bend Stress Test	Check Flexibility	-----

4.4.3. Conductor Tests: The following tests are recommended to verify the main characteristics of the conductor which depend mainly on its design. Test can be performed according to ASTM B857 and/or EN 50540, Section 6.4:

- 1) Visual (pitch, stranding, direction of the stranding, surface condition.)
- 2) Aluminum Cross-section
- 3) Diameter
- 4) Specific weight per unit length
- 5) Number and type of wires
- 6) Inertness

4.4.3.1. Reports of product testing should include all measured data and any relevant comments and/or statements of the person performing the tests.

5.0 Packaging, Identification & Storage:

5.1 The aluminum conductor composite core wire; or equal wire, shall be suitably protected from mechanical damage that may occur during transportation and handling. Marking the reels should be made according to IEC 1089 standard.

**CITY OF ALEXANDRIA BID SPECIFICATIONS FOR:
Aluminum Conductor Composite Core Wire for 138 kV Transmission Upgrade**

BID SPECIFICATIONS

Bidder's Response:

5.0 Packaging, Identification & Storage: (Continued)

5.2 The aluminum conductor composite core wire; or equal wire, shall be delivered on wooden, non- returnable reels suitable for line stringing only. The wooden reels must be produced and marked in accordance with ISPM15.

5.3 The manufacturer should cover the flanges with protective surface to protect the conductor from scratching and deformation.

5.4 The conductor should be protected from rubbing during rolling of the reel.

5.5 The manufacturer should ensure smooth and tight coil of the conductor in each layer on the reel.

5.6 The outer layer of the conductor on the reel should be protected with elastic material; or equal material.

5.7 Reels should be properly protected for transportation. The conductor manufacturer is responsible for all damages caused by the use of inappropriate protection methods.

5.8 Reels should be stored in a safe manner to ensure that both the reels and the conductor are not damaged during storage. Conductors reels should be stored on a hard surface in a covered area away from chemicals, high heat and standing water. Reels should be stored in an upright position with a protective covering.

**CITY OF ALEXANDRIA BID SPECIFICATIONS FOR:
Aluminum Conductor Composite Core Wire for 138 kV Transmission Upgrade**

BID SPECIFICATIONS

Bidder's Response:

6.0 Delivery Site:

6.1 Bids shall include any and all freight charges. All reels shall be shipped F.O.B. freight pre-paid to the City of Alexandria Electric Distribution Warehouse, located at 1015 N. Third Street, Alexandria, LA 71301.

6.2 Vendor is requested to contact the Electric Distribution Warehouse, Henry Jacobs, a minimum of twenty-four (24) hours prior to delivery, at phone 318-473-1353.

END OF SPECIFICATIONS

**CITY OF ALEXANDRIA BID SPECIFICATIONS FOR:
Aluminum Conductor Composite Core Wire for 138 kV Transmission Upgrade**

PRICE PAGE

Bid price for a **maximum** of **Nine (9) reels** with a total of **56,400 feet of Aluminum Conductor Composite Core Wire on wood reels only for 138 kV Transmission Upgrade**, delivered F.O.B., freight pre-paid, as per the bid specifications:

Bid Price Per Foot - \$ _____/per foot

Three (3) reels with 6400 feet per reel equals 19,200 feet extended Price:

\$ _____

Manufacturer's Name: _____

Product Code Name or Product Number: _____

Six (6) reels with 6200 feet per reel equals 37,200 feet extended Price:

\$ _____

Manufacture's Name: _____

Product Code Name of Product Number: _____

TOTAL: 9 reels with a total of 56,400 feet

\$ _____

Expected delivery date after receipt of order (ARO): _____

Bidder Information:

Company Name: _____

Address: _____

City/State/Zip: _____

Telephone #: (_____) _____ Fax #: (_____) _____

Email (optional) _____

Authorized Printed Name and Title: _____

Authorized Signature: _____

(Per LA R.S. 38:2212 B. (5)(a)(b)(c) - See General Conditions Item #22, Page 4 of these bid specifications.)