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CITY COUNCIL MEETING

NOVEMBER 16, 1983

ALUMINUM
CONCENTRIC
NEUTRAL SPECS
FOR CABLE APPROVD

COUNCIL APPROVED THE SPECIFICATIONS FOR THE PURCHASE OF
28,000 FEET OF #2 AND 25,000 FEET OF #2/0 15 KV XLP
ALUMINUM CONCENTRIC NEUTRAL CABLE AND AUTHORIZED THE
ADVERTISING FOR BIDS THEREON.

COUNCIL COMMUNICATION

TO: THE CITY COUNCIL

DATE

NO.

FROM: THE CITY MANAGER'S OFFICE

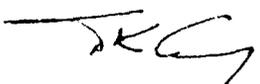
November 8, 1983

SUBJECT: SPECIFICATIONS FOR THE PURCHASE OF 15-KV XLP CABLE (UD-E83-9)

Specifications for the purchase of 28,000 feet of #2 and 25,000 feet of #2/0 15-kv XLP aluminum concentric neutral cable are presented for Council's approval and permission to advertise for bids is requested. The bid opening date has been set for Wednesday, December 7, 1983.

The cable will be used in Parkside Villa and Arbor Condominium projects; Park West #2, Adobe Court, Noma Ranch and Lakeshore Village Subdivisions; and to maintain an inventory for other cable needs as they develop.

The estimated cost of this purchase is \$43,000 with delivery expected in six to eight months.



David K. Cufry
Utility Director

Attach.

Specifications

15-KV XLP CABLE

UD-ES3-9

November, 1983

NOTICE TO SUPPLIERS INVITING BIDS TO
FURNISH AND DELIVER 15-KV XLP CABLE
TO
CITY OF LODI, CALIFORNIA

The City of Lodi hereby invites sealed proposals for furnishing and delivering 15-kv XLP Cable.

Each bid shall be in accordance with specifications on file in the office of the Utility Director, City Hall, City of Lodi, California, where copies of said specifications may be inspected or obtained. No bid will be considered unless it is submitted on a proposal form furnished by the City of Lodi.

Said sealed proposals shall be delivered to the Purchasing Agent at the City Hall, 221 West Pine Street, Lodi, California (P. O. Box 320, Lodi, California 95241-0320) at or before

11:00 A.M., WEDNESDAY, DECEMBER 7, 1983

and will be publicly opened on said day and hour in the Council Chambers in the City Hall, Lodi, California.

The City of Lodi reserves the right to accept all or part of any bid, reject any or all bids, waive any informality or irregularity in any bid, and to accept other than the lowest bid.

Reference is hereby made to said specifications for further details.

CITY OF LODI

James W. Pruss
Purchasing Agent

INFORMATION TO BIDDERS

BID OPENING

- A. The Purchasing Agent will receive sealed bids in his office, City Hall, 221 West Pine Street, Lodi, California 95240, until the time for opening bids as noted in the "Notice Inviting Bids." Bidders or their authorized agents are invited to be present.
- B. The proposal shall be submitted as directed in the "Notice Inviting Bids" under sealed cover plainly marked as a proposal, and identifying the equipment to which the proposal relates and the date of the bid opening. Proposals which are not properly marked may be disregarded.

PROPOSAL FORM

- A. Prospective bidders are furnished with one proposal form included with the specifications.
- B. The proposal must be signed with the full name and address of the bidder, if a co-partnership, by a member of the firm; if a corporation, by an officer in the corporate name.

REJECTION OF BIDS

Bids may be rejected if they show any alterations of proposal form, additions not called for, or alternative bids not properly documented. Bids proposing equipment with which the City has no prior in-service experience may be rejected. Erasures or irregularities of any kind may also be cause for rejection.

AWARD OF BID

- A. The award of the bid, if it be awarded, will be to the lowest responsible bidder whose bid proposal complies with all the requirements described.
- B. Where alternate bids are received, the City Council reserves the right to select the bid most advantageous to the City. The award, if made, will be made within thirty (30) days after the opening of the bids.

DELIVERY

Delivery time will be part of the bid evaluation, and delivery shall be clearly indicated on the proposal. Truck delivery shall be made only during normal working hours.

PRICES

All quoted prices shall be current* and firm for at least thirty (30) days after date of bid opening. Escalation clause(s) and base indices shall be clearly specified. Maximum escalation shall also be indicated. Prices to be F.O.B. Lodi, California.

SALES AND USE TAXES

All quotations submitted shall include California state sales or use taxes.

PAYMENTS

- A. Invoices shall indicate sales or use taxes as separate items apart from the cost F.O.B. point of delivery. Purchaser's specifications and order number shall appear on all invoices. All invoices shall be rendered in triplicate.
- B. Full payment by purchaser shall not release supplier of his responsibility to fully carry out his bid obligations nor be construed by supplier as acceptance of the work hereunder by purchaser.

GUARANTEES

- A. In addition to any or all guarantees mentioned elsewhere herein, the supplier shall replace entirely at his own expense, including freight, any faulty material, within a period of at least one year after the equipment has been accepted by the purchaser.
- B. This transaction will be covered by City of Lodi purchase order and all terms included in Information to Bidders, Proposal and Detailed Specifications will be binding.

PROPOSAL

UD-E83-9 - 15-KV XLP CABLE

FOR

THE CITY OF LODI, CALIFORNIA

PROPOSAL:

TO FURNISH EQUIPMENT AS SPECIFIED IN THESE SPECIFICATIONS FOR THE CITY OF
LODI, CALIFORNIA.

Name of Bidder _____

Address of Bidder _____

To the Lodi City Council
City Hall
Lodi, California

The undersigned, as bidder, declares that he has carefully examined the Notice Inviting Bids, Information to Bidders and Specifications filed for furnishing and delivering this equipment, and agrees that he is fully informed regarding all of the conditions affecting the materials to be furnished for the completion of the work, and that his information was secured by personal investigation and research and not from any estimate of a City engineer; and that he will make no claim against the City by reason of estimates, tests or representations of any officer or agent of the City; and he proposes and agrees that, if the proposal be accepted, he will furnish the City of Lodi the necessary apparatus and materials specified in the bid in the manner and time therein set forth. It has been noted the City of Lodi reserves the right to accept all or part of this bid and to reject any or all bids and to accept other than the lowest bid.

All items listed below are to be in accordance with the City of Lodi specification dated November, 1983. The bidder will submit a detailed list of any and all exceptions taken to these specifications. In the absence of such a list, it will be understood that the bidder's proposal is based on strict conformance to the specifications in all respects. If exceptions are taken, they will be cleared before the award is made.

If awarded the bid, the undersigned agrees to furnish and deliver the equipment described in the specifications and that he will take in full payment therefor the following unit and total prices, to-wit:

BID FOR 15-KV XLP CABLE

<u>ITEM NO.</u>	<u>QUANTITY</u>	<u>ITEM WITH UNIT PRICE WRITTEN IN WORDS</u>	<u>UNIT PRICE</u>	<u>EXTENDED PRICE</u>
1.	28,000 ft. (nominal)	#2 Alum. XLP 15-kv insulated concentric neutral cable, per attached specifications.	\$ _____	\$ _____
			Taxes:	\$ _____
			Subtotal:	\$ _____
2.	25,000 ft. (nominal)	2/0 Alum. XLP 15-kv insulated concentric neutral cable, per attached specifications.	\$ _____	\$ _____
			Taxes:	\$ _____
			Subtotal:	\$ _____
			Itemized Total:	\$ _____
		Lump Sum Total (based on award of all items), including taxes:		\$ _____

Delivery time is _____ weeks.

Maximum escalation is _____ percent.

Cable manufacturer: _____

Metals content in cable (lbs./1,000 ft.)

	Aluminum	Copper
#2 Alum.	_____	_____
2/0 Alum.	_____	_____

The base price of aluminum, 99.5% unalloyed ingot, for this bid is

\$ _____ per lb.

The base price of copper, electrolytic wire bar, for this bid is

\$ _____ per lb.

It is understood and agreed that if this Proposal is accepted, the price quoted above is inclusive of sales or use tax, or similar tax now imposed by Federal, State, or other governmental agency upon the material specified.

Shipment will be made by _____
(trucks, or railroad cars and trucks)
and will be consolidated into about _____ shipments.
(number of)

The undersigned submits with this Proposal complete manufacturer's specifications covering all material bid. Failure to provide adequate information may cause rejection of bid.

In any case where discrepancy in extensions may occur, the Bidder agrees that the unit price shall be taken as the correct figure.

The undersigned has checked carefully all the above figures and understands that the City and its officers and employees will not be responsible for any errors or omissions on the part of the undersigned in making up this bid.

The undersigned, as bidder, hereby declares that the only persons or firms interested in the proposal as principal or principals is or are named herein and that no other persons or firms than herein mentioned have any interest in this proposal, that his proposal is made without connection with any other person, company or parties making a bid or proposal; and that it is in all respects fair and in good faith, without collusion or fraud.

The undersigned hereby designates as his office to which such notice of acceptance may be mailed, telegraphed or delivered:

This bid may be withdrawn at any time prior to the scheduled time for the opening of bids or any authorized postponement thereof.

SIGNATURE OF BIDDER

By _____

Title _____

Dated: _____

Address _____

The full names and residences of persons and firms interested in the foregoing bid, as principals, are as follows:

EQUIPMENT SPECIFICATIONS

15-KV, XLP INSULATED CONCENTRIC NEUTRAL CABLE

GENERAL:

Cable furnished under these specifications shall be limited to cross-linked thermosetting polyethylene insulated cable rated 15,000 volts and suitable for installation in ducts or for direct burial in earth, in wet or dry locations, with normal conductor temperatures up to 90°C. Cables furnished shall meet the requirements of the applicable IPCEA, AEIC and ASTM Standards, modifications and additions.

SHIPPING:

Cable ends shall be adequately sealed to prevent the penetration of moisture. There shall be no water in the stranded conductor of the cable when the reel is shipped. Each cable reel shall have adequate protective covering across the flanges, so that cable will be protected from injury during shipment. Each end of the cable shall be firmly secured to the reel. All shipments shall be prepaid, F.O.B. Lodi, California.

MARKING ON REELS:

Each reel shall be marked with a durable label securely attached to a flange of the reel and plainly marked stating the destination, the purchaser's order number, shipping length of cable on reel, type and size of conductors, insulation type and thickness, voltage rating and manufacturer's identification number.

TESTING AND GUARANTEE:

Testing of cable shall be performed according to procedures set forth by the IPCEA, AEIC and ASTM. Certified copies of pass/fail test results shall be supplied. Any cable found defective either upon inspection, testing or installation shall be returned at the manufacturer's expense.

INSULATION:

The insulation shall be cross-linked, thermosetting polyethylene and shall be free from any contaminants larger than 10 mils in its largest dimension or porosities or voids larger than 5 mils. The maximum number of voids between 2 and 5 mils allowed shall be 30 voids per cubic inch of insulation. The insulation shall comply with the following requirements:

(1) Physical requirements:

Tensile strength	1,800 psi (min.)
Elongation at rupture	250% (min.)

(2) Aging:

After air oven test at 121 plus or minus 1° C for 168 hours:

Tensile strength	75% of original value (min.)
Elongation	75% of original value (min.)

(3) Heat distortion:

	<u>Filled</u>	<u>Unfilled</u>
4/0 AWG and smaller	20% (max.)	25% (max.)
Larger than 4/0 AWG	10% (max.)	15% (max.)

(4) Solvent extraction:

	<u>Filled</u>	<u>Unfilled</u>
Extractables after 20-hour drying	30% (max.)	30% (max.)

The average insulation thickness shall not be less than 220 mil. and the minimum thickness shall be not less than 90% of this value.

INSULATION RATING:

15 kv - 110 kv Bil.

SHIELDING:

The conductor (strand) shielding shall be extruded and shall consist of virgin black semi-conducting cross-linked, thermosetting polyethylene.

The extruded shield shall have an average thickness of not less than 15 mils

SHIELDING: (continued)

when measured over the top of the strands and a minimum thickness of not less than 12 mils. The outer surface of the conductor shield shall be cylindrical and shall be firmly bonded to the overlaying insulation.

The insulation shielding shall be extruded and shall consist of one layer of virgin black semi-conducting polyethylene or semi-conducting cross-linked polyethylene, compatible with and bonded to the insulation. It shall maintain its shielding properties after exposure to normal operating temperatures and environs. The thickness of the insulation shield shall be in accordance with the following table:

<u>Diameter of Core (inches)</u>	<u>Thickness of Extruded Insulation Shield in Mils</u>	
	<u>Average</u>	<u>Minimum</u>
0 - 1.000	30	24
1.001 - 1.500	50	40
1.501 - 2.000	70	56

SPECIFIC REQUIREMENTS:

Cable shall be furnished as follows:

ITEM 1

- (1) Size/type: #2 AWG aluminum, 7 strand, single conductor.
- (2) Conductor: Aluminum, EC grade, 1/2 to 3/4 hard, concentric stranding.
- (3) Cable neutral: Neutral conductor shall consist of concentric #14 AWG coated soft-drawn copper wires, applied spirally over the insulation shielding with uniform spacing between wires. The conductivity of the concentric neutral shall be equal to that of the insulated power conductor.
- (4) Total footage: 28,000 feet (nominal).

SPECIFIC REQUIREMENTS: (continued)

ITEM 2

- (1) Size/type: 2/0 AWG aluminum, 19 strand, single conductor.
- (2) Conductor: Aluminum, EC grade, 1/2 to 3/4 hard, concentric stranding.
- (3) Cable neutral: Neutral conductor shall consist of concentric #12 AWG or #14 AWG coated soft-drawn copper wires, applied spirally over the insulation shielding with uniform spacing between wires. The conductivity of the concentric neutral shall be one-third (1/3) that of the insulated power conductor.
- (4) Total footage: 25,000 feet (nominal).

Reel Makeup and Lengths:

Cable shall be nonreturnable wood cable reels meeting Western Underground Committee Guide 1.4.

The #2 Alum. and 2/0 Alum. cable shall be supplied on NEMA standard code reel #5832 (58" flange diameter, 32" traverse width).

<u>Cable Type</u>	<u>Reel Quantity</u>	<u>Cable Length (feet)</u>
#2 Aluminum	7	4,000
2/0 Aluminum	10	2,500