

**INVITATION TO BID  
BID #5876  
LP CABLE, U.G. 600V, AL Triplex**

Sealed bids will be received and publicly opened at the office of the Director Of Purchasing and Risk Management, PO Box 580, 215 North Mason St., 2nd floor, Fort Collins, Colorado 80524, at the time and date noted on the bid proposal and/or contract documents. If delivered, they are to be delivered to 215 North Mason Street, 2<sup>nd</sup> Floor, Fort Collins, Colorado 80524. If mailed, the address is P.O. Box 580, Fort Collins, 80522-0580.

**Bids must be received at the Purchasing Office prior to 2:00p.m. (our clock), September 10, 2004**

**A copy of the Bid may be obtained as follows:**

1. Call the Purchasing Fax-line, 970-416-2033 and follow the verbal instruction to request document #25876.
2. Download the Proposal/Bid from the BuySpeed Webpage, <https://secure2.fcgov.com/bsol/login.jsp>.
3. Come by Purchasing at 215 North Mason St., 2<sup>nd</sup> floor, Fort Collins, and request a copy of the Bid.

**Special Instructions**

All bids must be properly signed by an authorized representative of the company with the legal capacity to bind the company to the agreement. Bids may be withdrawn up to the date and hour set for closing. Once bids have been accepted by the City and closing has occurred, failure to enter into contract or honor the purchase order will be cause for removal of supplier's name from the City of Fort Collins' bidders list for a period of twelve months from the date of the opening. The City may also pursue any remedies available at law or in equity. Bid prices must be held firm for a period of forty-five (45) days after bid openings.

Submission of a bid is deemed as acceptance of all terms, conditions and specifications contained in the City's specifications initially provided to the bidder. Any proposed modification must be accepted in writing by the City prior to award of the bid.

Only bids properly received by the Purchasing Office will be accepted. All bids should be clearly identified by the bid number and bid name contained in the bid proposal.

No proposal will be accepted from, or any purchase order awarded, to any person, firm or corporation in default on any obligation to the City.

Bids must be furnished exclusive of any federal excise tax, wherever applicable.

Bidders must be properly licensed and secure necessary permits wherever applicable.

Bidders not responding to this bid will be removed from our automated vendor listing for the subject commodities.

The City may elect where applicable, to award bids on an individual item/group basis or on a total bid basis, whichever is most beneficial to the City. The City reserves the right to accept or reject any and all bids, and to waive any irregularities or informalities.

Sales prohibited/conflict of interest: No officer, employee, or member of City Council, shall have a financial interest in the sale to the City of any real or personal property, equipment, material, supplies or services where such officer or employee exercises directly or indirectly any decision-making authority concerning such sale or any supervisory authority over the services to be rendered. This rule also applies to subcontracts with the City. Soliciting or accepting any gift, gratuity, favor, entertainment, kickback or any items of monetary value from any person who has or is seeking to do business with the City of Fort Collins is prohibited.

Freight terms: Unless otherwise noted, all freight is F.O.B. Destination, Freight Prepaid. All freight charges must be included in prices submitted on proposal.

Discounts: Any discounts allowed for prompt payment, etc., must be reflected in bid figures and not entered as separate pricing on the proposal form.

Purchasing restrictions: Your authorized signature of this bid assures your firm's compliance with the City's purchasing restrictions. A copy of the resolutions is available for review in the Purchasing Office or the City Clerk's Office. Request Resolution 91-121 for cement restrictions.

Collusive or sham bids: Any bid deemed to be collusive or a sham bid will be rejected and reported to authorities as such. Your authorized signature of this bid assures that such bid is genuine and is not a collusive or sham bid.

Bid results: For information regarding results for individual bids send a self-addressed, self-stamped envelope and a bid tally will be mailed to you. Bid results will be posted in our office 7 days after the bid opening.

James B. O'Neill II, CPPO, FNIGP  
Director of Purchasing and Risk Management

CITY OF FORT COLLINS  
BID PROPOSAL  
BID NO. 5876

BID OPENING: 2:00 p.m. (our clock) September 10, 2004

WE HEREBY ENTER OUR BID FOR THE CITY OF FORT COLLINS' REQUIREMENTS FOR CABLE, U. G. 600V, AL PER THE BID INVITATION AND ANY REFERENCED SPECIFICATIONS.

**QUANTITY:**

140,000 Ft.

**DESCRIPTION:**

CABLE, U.G., 600V, AL, COMPRESSED, TRIPLEX, 2-#1/0 19 STRD., INSULATED BLACK, 1-#2 7 STRD., INSULATED YELLOW OR YELLOW STRIPED, PER SPEC. #369-100, REV. , SERIAL #04, SHIP ON N/R REELS, APPROX. 1000 FT/REEL  
(See supplemental instructions for shipping)

\$ \_\_\_\_\_ Ft. \_\_\_\_\_ Total

Mfr. \_\_\_\_\_ Mfr. # \_\_\_\_\_

Delivery in Weeks: \_\_\_\_\_

Delivery times may be evaluated in the award of this bid. Stated delivery will be expected to be met; failure to perform can result in the removal of your firm from the City's bid list for up to three years.

ACCURATE GROSS REEL AND TARE WEIGHTS ARE CRITICAL.

- Please weigh empty reel, and verify weights prior to shipping
- Averaged weights are unacceptable since specific cable is issued by foot per pound units.
- Refusal to comply with these terms may result in removal from the bidder's list for future orders.

For purposes of warranty and service ONLY approved manufacturers or distributors authorized by an approved manufacturer to serve the Fort Collins area may bid.

Does cable conform to referenced specifications without exception? \_\_\_\_\_ Yes \_\_\_\_\_ No, please list exception(s), including specification paragraph number, on a separate sheet.

Price is firm? \_\_\_\_\_ Yes \_\_\_\_\_ No, if no, bid price is based on \_\_\_\_\_ lbs. of aluminum @ \_\_\_\_\_ cents/lb. as reported by Metals Week U.S. Market dated \_\_\_\_\_.

Bids not based on Metals Week U.S. Market as specified in the supplemental instructions to bidders may be rejected as non-responsive. Escalation occurring after quoted delivery will not be paid.

Additional charges, if any, in \$/mft. Please give explanation of charges. Extra charges not included on bid sheet will not be paid.

\_\_\_\_\_/mft. For \_\_\_\_\_

\_\_\_\_\_/mft. For \_\_\_\_\_

The City of Fort Collins reserves the right to split the award between two or more bidders to expedite delivery or for evaluation of the cable in actual conditions prior to subsequent requirements. Consideration for the best price and delivery will be evaluated and an award will be made which is considered to be in the best interest of the City.

Future orders of cable may be authorized, at the option of the City, from this bid for a period of five years after date of award. Satisfactory pricing and delivery is required for future orders based on this bid.

**SUPPLEMENTAL INSTRUCTIONS**

Prices quoted must remain firm for a 30 day period after the opening date.

Freight terms: F.O.B. destination freight prepaid. All freight charges must be included in pricing submitted on proposal and not entered as separate pricing.

Any discount allowed by Vendor for prompt payment, etc. must be reflected in quoted figure, and not entered as separate pricing.

The City reserves the right to accept or reject any and all quotes.

Bidder not responding to the services requested in this bid shall be removed from our automated listing for: Not applicable

Any questions or inquiries regarding this bid should be directed to:

Opal F. Dick, CPPO, Senior Buyer - (970) 221-6778

\_\_\_\_\_  
SIGNATURE AND TITLE TYPED OR PRINTED NAME AND TITLE

\_\_\_\_\_  
COMPANY NAME (AREA CODE) TELEPHONE NUMBER/FAX NUMBER

\_\_\_\_\_  
ADDRESS: STREET, CITY, STATE, ZIP DATE


THE CITY OF FORT COLLINS

Light and Power Department  
P.O. Box 580  
Fort Collins, CO 80521

SPECIFICATION NO: **369-100**

**Single and Multiconductor Cross-Linked  
Polyethylene 600 Volt Secondary Power Cable**

APPROVED BY:

  
Kraig E. Bader  
Standards Engineering Manager

ORIGINATED: 3/22/73

Revised: 10/28/2003

## REVISION DESCRIPTIONS

REVISION DESCRIPTION (Previous on file)	CHANGE NOTICE	APPROVED
Revision <b>N</b> : <ul style="list-style-type: none"> <li>Page 6. para. 3.2.1: Add quadruplex assembly;</li> <li>Page 10. para. 5.0: Add open-bed truck Requirement</li> <li>Repaginate</li> </ul>	N/A	Tim M. Sagen Susan Coram 5-23-90
Revision <b>O</b> : <ul style="list-style-type: none"> <li>Update Appendix A, Alcoa Now ACPC, remove Kaiser &amp; Reynolds</li> </ul>	N/A	Susan Coram 7-26-93 Tim M. Sagen 7-26-93
Revision <b>P</b> : Reissue <ul style="list-style-type: none"> <li>Page 1, add filename</li> <li>Update Appendix A: Remove ACPC</li> </ul>	N/A	Tim M. Sagen 6-9-94 Susan Coram
Revision <b>Q</b> : <ul style="list-style-type: none"> <li>Page 1, add "prepared by"</li> <li>Page 7, para 3.2.3.1;</li> <li>Update Heat distortion test to Hot Creep and Set</li> <li>Page 11, Update Cablec to BICC</li> </ul>	N/A	Tim M. Sagen 7-21-95 Susan Coram
Revision <b>R</b> : <ul style="list-style-type: none"> <li>Reformatted, converted to MS Word and delete List of Active Pages</li> <li>Page 6 Updated Table 1 - Added 350kcmil single conductor cable (7503-1038).</li> <li>Updated BICC to General Cable.</li> <li>Grammar correction in Section 3.2.1</li> </ul>	April 11, 2002	Kraig Bader 4/11/2002 Tim Sagen 4/11/2002
Revision <b>S</b> : <ul style="list-style-type: none"> <li>Page 6 Updated Table 1 to include stranding as one of the specific options for each cable. Changed 500 kcmil single conductor cable (7503-1036) to compact stranding.</li> <li>Added #6AWG triplex to Table 1</li> </ul>	October 28, 2003	Kraig Bader 10/28/2003

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**SPECIFICATION FOR  
SINGLE AND MULTICONDUCTOR CROSS-LINKED  
POLYETHYLENE 600 VOLT SECONDARY POWER CABLE**

**1 SCOPE**

This specification establishes the minimum requirements for 600 volt, cross-linked polyethylene insulated, secondary power cables suitable for direct burial, installation in ducts, or aerial applications.

**2 APPLICABLE DOCUMENTS**

The following documents of the issue shown form a part of this specification to the extent specified herein. In those cases when the document is not dated, the latest issue in effect on the date of invitation for bids shall form a part of this specification.

## 2.1 ICEA S-66-524

Cross-Linked-Thermosetting-Polyethylene-Insulated Wire and Cable for the Transmission and Distribution of Electrical Energy.

## 2.2 ASTM B-230

**3 REQUIREMENTS**

## 3.1 GENERAL REQUIREMENTS

Cable purchased under this specification shall meet all applicable requirements of the Insulated Cable Engineers Association (ICEA) Standard Publication S-66-524 with additions or deletions as detailed herein.

## 3.1.1 APPROVED MANUFACTURERS

Cable purchased under this specification shall be of the manufacturers listed in Appendix A. Manufacturers not listed may submit written proposals demonstrating compliance with these specifications for consideration of addition to the accepted manufacturer list prior to the next request for bids. Acceptability of the listed manufacturer's cable will not be determined solely by inclusion in this list. Listed manufacturers must satisfy all requirements of this specification to be acceptable.

## 3.2 SPECIFIC REQUIREMENTS

## 3.2.1 CABLE ASSEMBLY

When multi-conductor cable is required the assembly shall be as follows:

- **Two** conductor cables shall consist of two black insulated single conductors duplexed. The length of lay shall not be less than 30 nor more than 60 times the insulated conductor diameter.
- **Three** conductor cables shall consist of two black phases and one yellow or yellow striped neutral insulated single conductors triplexed. The length of lay shall not be less than 35 nor more than 60 times the larger single insulated conductor diameter.
- **Four** conductor cables shall consist of three black phases and one yellow or yellow striped neutral insulated single conductors quadruplexed. The length of lay shall not be less than 40 nor more than 60 times the larger single insulated conductor diameter.

## 3.2.2 CONDUCTOR

The conductor shall be "EC" grade aluminum, compressed or compact stranding, in applicable sizes, as defined in Table 1. Stranding shall be in accordance with ICEA S-66-524 Part 2. Tensile



strength shall be 12,000 to 20,000 psi for solid conductors. Conductor diameters for the various cable sizes purchased under this specification shall be in accordance with Table 1.

### 3.2.3 INSULATION

Insulation shall be extruded cross-linked polyethylene (XLP) applied as an integral insulation-jacket in accordance with ICEA S-66-524. In triplexed assemblies, phased conductors shall be black and neutral conductor shall be either solid yellow or have three (3) equally spaced extruded yellow stripes. Minimum insulation thickness at any point shall be not less than 90 percent of the minimum average thickness values shown in Table 1. The insulation shall be applied in a manner which prevents inclusions of insulation in the interstices of the conductor. If a mylar separator is used, it must be opaque. Insulation properties shall be as required by ICEA S-66-524 and the following paragraphs.

#### 3.2.3.1 PHYSICAL AND AGEING REQUIREMENTS

Tensile strength (minimum).....	1,800psi
Elongation at rupture (minimum).....	250%
After air oven test at 121°C±1°C for 168 hours – tensile strength and elongation at rupture, minimum percentage of un-aged value .....	75%
Hot creep, 150° C ± 2° C maximum percent:	
Unfilled .....	175%
Filled.....	100%
Hot creep set maximum percent:	
Unfilled .....	10%
Filled.....	5%
Solvent extraction, maximum percent, after 20 hours drying time (referee test):.....	30%

#### 3.2.3.2 ELECTRICAL REQUIREMENTS

Insulation resistance constant (k) at 15.6°C (60°F), minimum .....	10,000
SIC at 75°C, 80 VPM, 60 cycle, maximum.....	6.0

#### 3.2.3.3 WATER ABSORPTION

Electrical Method	
Dielectric constant after 1 day, maximum.....	6.0
Increase in capacitance, maximum percent:	
1 to 14 days.....	3.0%
7 to 14 days.....	1.5%
Stability factor after 14 days, maximum.....	1.0
Alternate to stability factor -- stability factor difference, 1 to 14 days, maximum.....	0.5

### 3.2.4 INDIVIDUAL CABLE REQUIREMENTS

The following table shows the catalogue numbers and the various requirements for insulation thickness, compressed or compact stranding, and assembly, for cable purchased under this specification.

Table 1: Cable Requirements

Stores Number	Serial Num.	# of cond.	Config.	Phase				Neutral			
				Size	# of Strands	Nominal Dia. (inches)	Insulation Thickness (mils)	Size	# of Strands	Nominal Dia. (inches)	Insulation Thickness (mils)
7503-0982	03	1		#1/0	19	.361	80				
7503-1017	11	3	triplex	#6	7	0.310	60	#6	7	0.310	60
7503-1021	04	3	triplex	#1/0	19	.361	80	#2	7	.283	60
7503-1027	05	3	triplex	#4/0	19	.512	80	2/0	19	.406	80
7503-0993	06	1	-	#4/0	19	.512	80				
7503-1032	07	3	triplex	350	37	.661	95	4/0	19	.512	80
7503-1036 *	08	1	-	500	37	.789 / .736*	95				
7503-1034	09	4	quadpix	350	37	.661	95	4/0	19	.512	80
7503-1038	10	1	-	350	37	.661	95				

Note:- Compressed stranding is preferred, but compact will be allowed for conductors marked with an asterisk (\*). Cables without the asterisk marking shall be compressed stranding.

### 3.3 IDENTIFICATION

Each conductor shall have a durable continuous marking showing the manufacturer's name or trademark, voltage rating, and conductor size. The separate phase conductors shall be individually identified. Marking shall not cause surface irregularities.

## 4 QUALITY ASSURANCE

### 4.1 RESPONSIBILITY FOR INSPECTION

Unless otherwise specified, the vendor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified, the vendor may utilize his own facilities or any commercial laboratory acceptable to the City of Fort Collins. The City reserves the right to perform or witness any of the inspections set forth in this specification where such inspections are deemed necessary. If required by the Purchase Order, representatives of an independent test laboratory acceptable to the City of Fort Collins shall witness or perform all tests required therein and shall certify all test reports.

### 4.2 TESTS

All cable manufactured under this specification shall be tested according to the applicable paragraphs of ICEA specification S-66-524. If required by the Purchase Order, certified test reports shall be furnished to the City of Fort Collins.

## 5 PREPARATION FOR DELIVERY

Packaging and marking of articles procured under this specification shall be in accordance with the Purchase Order and the following: Each reel shall be legibly tagged with type, voltage, and length of the cable, the purchase order number and the name and address of the manufacturer. **Each** reel shall be weighed and marked with actual tare, gross and net weights. **Average weights are NOT acceptable.** Reels shall be shipped on open-bed truck(s) with reels in the upright position; i.e., on flanges, and blocked to prevent movement during shipping.

**SUPPLEMENTAL INSTRUCTIONS TO BIDDERS  
SPECIFICATION 369-100**

In addition to the requirements of the "Invitation to Bid" and the "Purchase Requisition", the following shall apply:

A. Price Quotation

If metal escalation is quoted, the following statement and information shall be included on the bid sheet:

Prices quoted herein are firm except for metal escalation/de-escalation on date of shipment based on producer's price of metal as reported in the Metals Week U.S. Market and the following quantity:

\_\_\_\_\_ pounds of aluminum @ \_\_\_\_\_¢/lb.

Aluminum adjustments upward or downward will be based on Metals Week U.S. Market price as published in "Metals Week" for the entire month prior to quoted ship date.

If any other escalation is quoted, the bidder shall indicate on the bid sheet the specific items or materials subject to escalation and shall give the method, the current index and the reporting publication or source of the index to be used in computing the amount thereof.

Escalation occurring after quoted delivery date will not be paid.

B. Shipping Terms

Shipment shall be by open bed truck.

Terms: FOB point of destination. Freight prepaid and allowed.

C. Failure to Meet Quoted Delivery

If a manufacturer fails to meet quoted delivery that manufacturer may be debarred from consideration for award of contracts for a period not to exceed three years.

D. Date of Receipt of Order Defined

The purchase order will be sent by certified mail, return receipt requested and the date shown on the return receipt shall be considered the date of receipt of order.

E. Date of Shipment Defined

The date of shipment shall be defined as the date the bill of lading is signed by the carrier.



REQUISITION  
CITY OF FORT COLLINS

8/24/2004

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Order Number 20672 - 000 - OR

Branch/Plant 1

Shipped From DEFAULT VENDOR FOR STOCK DESCRIPTIO Ship To UTILITY SERVICE CENTER - WAREHOUSE  
CITY OF FORT COLLINS  
700 WOOD ST  
FORT COLLINS CO 80521

Ordered 8/16/2004 Freight  
Requested 11/1/2004 Order Taken By  
Delivery

PER SPEC. 369-100, REV. Q  
last order: 9/17/2003  
PREVIOUS BID #17416 (PO 3306165; Pirelli)

Line	Description / Supplier Item	Quantity	UOM	Unit Price	Extended Price	Branch Plant	Account Number	Buyer Number
1.000	7503-1021	140000	FT	.5210	72,940.00	501	501.141101	1
	1/0 AL UG TRIPLEX CABLE							
	75031021 YARD CABLE, U.G., 600V, AL, COMPRESSED, TRIPLEX, 2-#1/0 19 STRD., INSULATED BLACK, 1-#2 7 STRD., INSULATED YELLOW OR YELLOW STRIPED, PER SPEC. #369-100, REV. , SERIAL #04, SHIP ON N/R REELS, APPROX. 1000 FT/REEL							

2.000	supplemental instructions		LS	.0000		501	501.141101	1
	CABLE SUPPLEMENTAL INSTRUCTIONS FOR SHIPPING: ACCURATE GROSS REEL AND TARE WEIGHTS ARE CRITICAL PLEASE WEIGH EMPTY REEL, AND VERIFY WEIGHTS PRIOR TO SHIPPING. AVERAGED WEIGHTS ARE UNACCEPTABLE SINCE SPECIFIC CABLE IS ISSUED BY FOOT PER POUND UNITS. REFUSAL TO COMPLY WITH THESE TERMS MAY RESULT IN REMOVAL FROM THE BIDDER'S LIST FOR FUTURE ORDERS.							

Totals 72,940.00

**From:** Opal Dick  
**To:** Christine Patterson-Jarvis  
**Date:** Wednesday, August 25, 2004 9:19AM  
**Subject:** 369-100\_rS.pdf

Specifications for Req. 20672

**From:** Opal Dick  
**To:** Christine Patterson-Jarvis  
**Date:** Wednesday, August 25, 2004 9:29AM  
**Subject:** 369-100a\_rQ.pdf

Part 2 - Req. #20672

# BID TALLY SHEET

Bid Number: 5876

REF

Standard 7503-1021

Bid Date and Time sent (Our Clock)

SUPPLIER	\$/Ft	\$/Total	MFR.	Mfr. #	Delivery	Meet Spec's ?	Price Firm (Y/N)	Price Based on Aluminum			Additional Charges	
								#s	\$	reported date	m/ft.	m/ft.