

Invitation to Bid

South Hadley Electric Light Department

Wire and Cable Requirements

January 1, 2019 to December 31, 2020

Bid is for a 2 year period.

Bidders are to submit two (2) copies of each sealed bid to the Office of the General Manager before 1:00 P.M., on FRIDAY, NOVEMBER 16, 2018.

Please mark envelopes: “*Biennial Bid for Wire and Cable*” and be sure to return the signed “**Certification of Signature Sheet**”.

Detailed specifications, for any of the above, may be obtained at the Office of the Manager, 85 Main Street, South Hadley, MA 01075. Proposals will be opened in consecutive order commencing at **1:00 P.M. on November 16, 2018.** No fax or electronic bids will be accepted. All bids must be clear and legible in order to be considered.

Any technical questions or concerns regarding the Biennial Bid, please call Ed Morrin (413) 536-1050 or e-mail at emorrin@sheld.org. The Invitation to Bid is also available on our website: www.sheld.org, under “About”, “RFP and Specifications”. If you would prefer to have the bid forms emailed to you, please contact kmendoza@sheld.org.

The Municipal Light Board reserves the right to reject any or all bids that are not in the best interest of the Department.

Sean Fitzgerald, General Manager
South Hadley Electric Light Department
85 Main Street
South Hadley, MA 01075

CERTIFICATION OF SIGNATURE SHEET

The undersigned hereby certifies that under the penalties of perjury that his bid is in all respects bonafide, fair and made without collusion or fraud with any other person. As used in the subsection, the word "person" shall mean any natural person, joint venture, partnership, corporation or any other business entity.

The undersigned further certifies that under pains and penalty of perjury that to the best of my knowledge and belief, the vendor/contractor has filed all state tax returns and paid all state taxes required under law and has complied with all laws of the Commonwealth of Massachusetts relating to taxes.

COMPANY NAME AND ADDRESS: _____

TELEPHONE AND FAX NUMBER: _____

FEDERAL I.D. NUMBER: _____

DATE: _____

Signature of Corporate or Company Officer

Print Name

IF THE REMIT ADDRESS IS DIFFERENT THAN THE ADDRESS TO WHERE THE PURCHASE ORDERS ARE MAILED, PLEASE ENTER BELOW:

Remit to: _____

Approval of this contract will not be granted unless this certificate clause is signed by the applicant. This request is made under the authority of Mass. G.L. c. 62C S. 49A.

SOUTH HADLEY ELECTRIC LIGHT DEPARTMENT

TERMS AND CONDITIONS FOR BIENNIAL WIRE & CABLE BIDS

The Terms and Conditions listed below may or may not apply to this procurement.

1. **Preparation of Bids**

These Specifications cover the Department's biennial requirement for material, both General and Pole Line Hardware. The quantities of each item are the expected requirement for the term of this bid. The Department does not guarantee to purchase any minimum quantity. The Department also reserves the right to increase the purchase quantities during the term of this bid by a maximum of 100% of the expected requirement, and the successful bidder agrees to maintain the unit or item price.

2. **Bid Form**

Bids will not be accepted in any other form that is not accompanied by a completely filled out Bid Form. All bids must be submitted in duplicate (original with copy). Items quoted that are not in complete accordance with the Specifications must be clearly labeled as alternates and illustrations to verify their equivalency must be included.

All information, including item price and delivery date that will be used in awarding the contract(s) must be referenced on the Bid Form. Any additional information or explanation of terms may be attached, but will not supersede the Bid Form or the Department's terms and conditions.

All prices listed on the Bid Form are to be net, including any prompt payment discounts. Statements requiring group purchases will not be accepted. All bid figures will be typed and priced on a per unit basis. All prices are firm for orders issued within the twelve-month period noted on the Bid Form.

Bids will be considered even if they do not include each type or style of material. All bids will be based upon an item number and awards may be made on an item basis.

3. **Delivery**

Delivery shall be at the expense of the Bidder to 85 Main Street, South Hadley, MA 01075. Deliveries are accepted Monday through Friday between 8:00 a.m. - 12:00 p.m. and 1:00 p.m. - 3:00 p.m. only. The Department is closed on Holidays. A 24-hour notice is to be given if unloading assistance is required.

4. **Guarantee**

The Bidder shall guarantee all material against defects in design, materials, and workmanship and shall also guarantee that the material shall give successful service under the required conditions.

The material shall be manufactured, tested and meet all applicable industry, Federal and State standards.

5. **Award**

The Department will make a comparison of all properly received, qualifying bids for material based upon unit price and delivery date. Bidders' attention is directed to the policy of the Department to support, whenever possible, American industries. Notification of award will be made in the form of a purchase order for a particular item. No material will be accepted until a purchase order has been issued.

All items must be received by the South Hadley Electric Light Department within the specified delivery date of the bid, ARO, unless a longer delivery time has been agreed to in advance. Excessive delivery time is a factor in the award. The Vendor shall impose no penalties for cancellation of any order that was not received by the South Hadley Electric Light Department within the specified time.

6. **Contract and Payment Terms**

The successful Bidder shall agree that the following shall constitute the entire contract:

- 1) The completed bid form submitted by the Vendor shall be considered the offer; and
- 2) The Department's purchase order for each bid item will be considered the acceptance of the Vendor's offer; and
- 3) The terms and conditions contained within these specifications.

No other terms, conditions, or agreements shall be considered part of this contract unless agreed to in writing by both parties. The Department's contract shall be with the Vendor submitting the bid and not with any third party. No portion of the bids shall be sublet to any other Vendor without prior written approval of the Department.

The Department agrees to pay the Bidder in full within 30 days after delivery and acceptance of the material.

Massachusetts Tax Exempt Purchaser Certificate No. 046-001-303.

7. **Bids**

The Municipal Light Board hereby reserves and retains the right to reject any and all proposals that, in their opinion, are not in the best interest of the South Hadley Electric Light Department.

All bids must be submitted in a SEALED envelope plainly marked "***Biennial Bid for Wire & Cable***".

8. **Mass. Tax Laws**

The Bidder certifies that he has complied with all Mass. Tax Laws, (CH 62C SEC 49A).

SOUTH HADLEY ELECTRIC LIGHT DEPARTMENT
Bid Form - Wire and Cable
 January 1, 2019 to December 31, 2020

<u>Department Stock Code</u>	<u>DESCRIPTION</u>	<u>Purchase Quantity</u>	<u>Bid Amount (per ft)</u>
	<u>.....OVERHEAD.....</u>		
546	Wire, Guy 1/4", 7-Wire, Galv.	2,000 ft	
582	Wire, Guy 3/8", 7-Wire, Galv.	2,000 ft	
604	Wire, Guy 7/16", 7-Wire, galv.	2,000 ft	
446	Wire, 2 AL SEU 3/C	500 ft	
447	Wire, 4/0 AL SEU 3/C	500 ft	
239	Wire, #14 CU Street Light, 2 Wire, 14/2 UF	5,000 ft	
580	Wire, Line, 1/0 AL Bare, Alloy #6201, "AZUZA"	5,000 ft	
494	Wire, 2 STR AL TPLX, "SHRIMP"	30,000 ft	
130	Wire, 1/0 AL TPLX, "GAMMARUS", 42" lay	18,000 ft	
077	Wire, 1/0 AL QUAD, "SHETLAND"	15,000 ft	
576	Wire, 1/0 AL Tree Wire, 3 Pass, 165 Mil, Grey, HAC15-TPG	5,000 ft	
834	Wire, Line, 397.5 AL Tree Wire, 3 Pass, 165 Mil Grey HAC15-TPG	20,000 ft	
406	Wire, 4 SOL CU Poly Line, Soft Drawn	2,000 ft	

SOUTH HADLEY ELECTRIC LIGHT DEPARTMENT
Bid Form - Wire and Cable
 January 1, 2019 to December 31, 2020

<u>Department Stock Code</u>	<u>DESCRIPTION</u>	<u>Purchase Quantity</u>	<u>Bid Amount (per ft)</u>
258	Wire OH, 6 Solid CU Bare	5,000 ft	
603	Wire OH, 4 Solid AL Bare	5,000 ft	
641	Wire OH, 4/0 AL Quad	5,000 ft	
UNDERGROUND.....		
724	Wire, 1/0 CU Bare, Soft Drawn, 7 Strand	2,000 ft	
995-054	*Wire, 1/0 AL URD EPR Insulated (133%) 220 Mil Filled Strand, 100% Neutral w/Polyethylene Jacket (15AEUUDO1J)	15,000 ft	
195	Wire, 2 STR CU, XHHW-2, 600V	5,000 ft	
342-806	*Wire, 2/0 CU, XHHW-2, 600V	2,000 ft	
313	Wire, 2 STR AL, TPLX, Direct Burial, "RAMAPO"	3,000 ft	
808	Wire, 1/0 STR CU, XHHW-2, 600V	2,000 ft	
778	Wire, 1/0 STR AL, TPLX, 1/0 Neutral, Direct Burial "BERGEN"	3,000 ft	
055	Wire, 4/0 STR AL TPLX, 2/0 Neutral, Direct Burial "SWEETBRIAR"	3,000 ft	
197	Wire, 2 STR CU, Bare	2,000 ft	

SOUTH HADLEY ELECTRIC LIGHT DEPARTMENT

Bid Form - Wire and Cable

January 1, 2019 to December 31, 2020

<u>Department Stock Code</u>	<u>DESCRIPTION</u>	<u>Purchase Quantity</u>	<u>Bid Amount (per ft)</u>
605-815	*Wire, 350 MCM CU, XHHW-2, 600V	2,000 ft	
602	Wire, 4/0 STR CU, Bare, 7 Strand	2,000 ft	
814-897	*Wire, 4/0 SSTR CU, XHHW-2, 600V	2,000 ft	
870	Wire, 6 CU Red, XHHW-2 for Street Light/Metering	1,000 ft	
872	Wire, 6 CU White, XHHW-2 for Street Light/Metering	1,000 ft	
871	Wire, 6 CU Black, XHHW-2 for Street Light/Metering	1,000 ft	
Please provide Lead Times on each item			
	NOTE: Please provide the following information on items that contain *		
	Pricing per foot for phase marking (red, white, and blue wire identification)		
	Pricing per foot for cradling		

SOUTH HADLEY ELECTRIC LIGHT DEPARTMENT

WIRE & CABLE REQUIREMENTS

ATTACHMENT A

SCOPE This specification covers high-density polyethylene covered Aluminum Alloy Grade Cable for use on distribution voltage of 15 KV where a tree-proof cable is required.

CONDUCTOR: The conductors shall be concentric round, #6201 T-81 AAAC, concentric lay 19 strand for 397.5 KC mil equivalent size and 7 strand for 1/0 AWG, aluminum alloy in accordance with ASTM B400-71.

COVER: The cable supplied shall have .150" three-pass extrusion with strand shielding consisting of .015" semi-conducting polyethylene strand shielding, an inner layer of .075" natural high molecular weight polyethylene, and an outer layer of .075" gray track resistant high density polyethylene. A continuous spark test of 150 volts per mil shall be applied on each extrusion of covering. Positive adhesion of all layers must be guaranteed. Eccentricity of each extrusion to be limited to 7-1/2% maximum.

PACKAGING: Maximum reel size of 72" x 48". Approximately three feet of the inside end of the cable shall be brought outside of reel and fastened securely.

REEL MARKING: Reel markings are to include size, voltage rating, length, net and gross weights.

SOUTH HADLEY ELECTRIC LIGHT DEPARTMENT

ANNUAL WIRE & CABLE REQUIREMENTS

ATTACHMENT B

SCOPE: This specification covers thermosetting rubber-based compound insulated cables rated 15 KV phase-to-phase with 133% insulation level for use on single or three-phase 60 Hz systems. These cables shall be suitable for direct burial installation in earth or in conduit, in wet or dry locations, for normal operation at a maximum conductor temperature of 185 degrees centigrade.

All cables supplied under this specification shall meet the requirements of the latest revisions of all herein mentioned references.

PHASE CONDUCTORS: The phase conductors shall be EC Grade aluminum. Compressed concentric stranding in accordance with the current ASTM standards shall be used.

INSULATION SYSTEM: The insulation system shall be concentrically extruded and composed of a black conductor energy suppression layer or black thermosetting semi-conducting conductor shielding layer, the thickness of which shall be in accordance with Table I and AEIC CS6-96, and a compatible insulation wall of thermosetting rubber based elastomers, having a minimum average insulation thickness of 220 mils at 15 KV. The ethylene content shall not exceed 72% by weight nor shall the insulation contain any polyethylene.

The integrity of the conductor energy suppression layer, if applicable, shall be continuously monitored prior to the extrusion of the primary insulation using an electrode system covering the circumference of this layer at a test voltage of 1 KV DC.

The integrity of the semi-conducting conductor shielding layer, if applicable, shall be applied continuously with the primary insulation utilizing a triple extrusion method.

The manufacturing process shall provide for the detection and removal of contaminants from the insulation compound just prior to their entrance into the extruder. The minimum size of the screen shall be a 100 mesh.

The insulation system shall be continuously monitored by an electronic or optical concentricity gauge.

TABLE I

<u>Conductor Size AWG Or kcmil</u>	<u>Conductor Shield Minimum Point</u>	<u>Thickness Mils Minimum Average</u>
8-4/0	12	15

INSULATION SHIELDING LAYER: The insulation shielding layer shall be extruded and shall consist of black semi-conducting material compatible with the insulation system and the concentric neutral wires. The insulation shielding layer shall be easily removable in the field with conventional stripping tools. The extruded shielding thickness shall be as listed in Table II, and AEIC CS6-96, Table D2.

The insulation, at its interface with the insulation shielding layer, shall be smooth and free of contaminants and intrusions.

Table II

<u>Calculated Minimum Diameter Over Insulation Inches</u>	<u>For Cables With An Overall Jacket Insulation Shield In Mils</u>		
	<u>Minimum Average</u>	<u>Minimum Point</u>	<u>Maximum Point</u>
0 -1.000	30	24	50
1.001-1.500	40	32	75
1.501-2.000	50	40	100
2.001	50	40	105

CONCENTRIC WIRE NEUTRAL: Uniformly spaced concentric neutral wires shall be helically applied over the insulation shielding system for 1/0 cable.

JACKET: A polyethylene jacket, per ANSI/ICEAS-94-649, shall be applied over the concentric neutrals or drain wires.

QUALIFICATION TESTS: The qualification tests shall be performed by the manufacturer initially on each design of cable and whenever any change occurs in the insulation system, semi-conducting insulation shielding layer, or in any other cable component. Any cable furnished under this specification shall consistently comply with the qualification test requirements.

<u>AEIC CS6-96 Tests</u>	<u>Reference</u>
High Voltage Time	Section M.2.1
Impulse Breakdown	Section M.2.2
Cyclic Aging	Section M.2.3 to M.2.3.4
Resistance Stability*	Section M.5.2
Accelerated Water Treeing Test**	Section M.2.4
Time Aging Hot Creep Test	Section C.4

* Maximum resistive value of 50,000 ohm-cm for semi-conducting conductor and insulation shields.

** The applied Test II voltage shall be maintained for 300 days.

PRODUCTION TESTS: The following 100% production tests of every length of cable furnished, under this specification, shall be performed unless otherwise specified.

<u>Type of Test</u>	<u>Reference</u>
Conductor	ASTM B-230, B-231, B-262, B-323, and ICEA S-68-516
Insulation Voids And Contaminants Insulation Thickness	AEIC CS6, Section D.5 ANSI/ICEAS-94-649, Section 6.4, and AEIC CS6-96 Table 1
Conductor/Insulation Shield*	ANSI/ICEAS-94-649, and AEIC CS6-96 Table D.1 and D.2
Insulation Shield Stripability	AEIC CS6-96
Conductor DC Resistance	ANSI/ICEAS-94-649
Conductor Shield-Solvent Extraction*	AEIC CS6-96
Conductor Shield Projection*	AEIC CS6-96
Conductor Energy Suppression Layer a. Integrity Of	1 KV DC Electrode Monitoring At Room Temperature And 60 Hz

b. Specific Inductive Capacity

SIC 10; Frequency Per
(SIC) AEIC CS6-96.

*For Semi-conducting Shields Only.

TESTSON COMPLETED CABLES: The completed cable shall be tested dry on the shipping reel at room temperature in accordance with Part 6 of ANSI/ICEAS-94-649 and AEIC CS6-96 with the following exceptions:

1. The maximum partial discharge shall not exceed 5 picocoulombs at AC test voltages of 27 KV for 15 KV rated cables.
2. The 5 minute AC test shall be conducted at no less than 35 KV for 15 KV rated cables.

TESTS - GENERAL: All tests, whether qualification, production, performance or factory, performed under this specification are to be furnished by the manufacturer, at the manufacturer's expense.

The purchaser, at its option, may elect to witness tests and to make inspection of the cable during the manufacturing process. Processes of a confidential nature are exempt from this section.

Two copies of certified test reports shall be sent to South Hadley Electric Light Department, 85 Main Street, South Hadley, MA 01075.

IDENTIFICATION: The outer surface of the insulation shielding layer shall be durably marked at one foot intervals throughout its length per AEIC CS6, plus the following:

1. Identification of the insulation shielding layer as being semi-conducting.
2. Instructions to remove the insulation shielding layer at splices and terminations.
3. Jacketed cables shall have, in addition to the above, the identification information inscribed into the jacket.

SHIPPING LENGTHS AND REEL MARKINGS:

1. Cable to be shipped on a reel not exceeding 96" diameter over lagging and 52" width over the hub plates. If cutting length required exceeds standard package length and an oversize reel is necessary, approval of South Hadley Electric Light Department is required.
2. All cable under this specification shall be shipped on heavy duty, wooden reels in accordance with NEMA Standard WC 21. The total weight of the cable and reel shall be clearly marked on the reel.
3. Each end of the cable shall be firmly and properly secured to the reel. Each end shall be hermetically sealed before shipment. The inner end of the cable, when projected through the flange of the reel, shall be protected from injury by a suitable covering.
4. The cable shall be protected on the reel against physical damage, dirt and weathering in transit, in storage and in ordinary handling, in accordance with Class 3 of NEMA Standard WC 25. Each reel to be lagged or covered with suitable material to provide this protection.
5. Reels to be shipped and stored with the flanges in the vertical plane so as to allow the insertion of a mandrel through the arbor hole for cable reel handling.

WARRANTY: The manufacturer shall warrant that the cable furnished under this specification conforms to this specification and will be free from defects in material, design, and workmanship for 40 years.

The manufacturer agrees to replace (i.e., supply new cable to the delivery point specified in the original order) in the event of the following:

Any length of cable found defective in material or workmanship during the installation of the cable or during inspection at the manufacturer's facility.

Any length of cable failing during normal and proper use, which shows defects in material, manufacture or workmanship, provided in each case that immediate written notice of each failure is given to the manufacturer, and said manufacturer is given all reasonable opportunity to inspect such failure.

All replacements by the manufacturer shall be made free of charge F.O.B. at the delivery point called for in the original order.

Lengths of cable that have been replaced under this specification shall become the property of the manufacturer, and shall be returned to him at his expense.

APPROVED SUPPLIERS Approval of any manufacturer to furnish cable under this specification and any changes in design from those previously submitted and approved, or exceptions, shall be submitted for consideration and approval to South Hadley Electric Light Department, 85 Main Street, South Hadley, MA 01075.

Approval, in writing, shall be obtained for all exceptions or changes in design of the above items before proceeding with manufacturing.