

## BUSINESS PROCEDURE

<b>EVERSOURCE</b>	SUBJECT	NUMBER
	STREET AND SECURITY LIGHTING	NB-200
DATE REVISED	DATE EFFECTIVE	ISSUED BY
June 2017	May 1, 2018	Director-Distribution Engineering

### **PURPOSE**

To set forth a policy for providing or removing facilities for all full-service street lighting, decorative lighting, floodlighting and spotlighting.

This policy shall be administered in association with the applicable provisions of EVERSOURCE Rate 116.

### **SCOPE**

This policy applies to all municipal or private retail customers of EVERSOURCE. Street lighting service for municipal-owned street lighting is covered under NB-208 and EVERSOURCE Rate 117.

### **POLICY**

- A) EVERSOURCE will cooperate with municipalities and others as required to design street and security lighting in accordance with the recommended practices of the American National Standards Institute and the Illuminating Engineering Society of North America.
- B) Upon written request, EVERSOURCE will provide lighting service on public roads, highways, property owned by a municipality and in easement areas on private property where Company-owned facilities exist for distribution of electric service.
- C) Under EVERSOURCE Rate 116, lamps, brackets, luminaires, and related equipment shall be furnished and maintained by the Company on poles provided by the Company or municipal-owned and installed poles that are approved by the Company.
- D) If, at the request of the customer or as a result of nonpayment, street lighting equipment is removed or will no longer be billed to any customer prior to being installed for at least fourteen (14) years, a premature abandonment/early termination charge will apply. The customer, upon removal of the equipment or removal from the Company's billing records, will be billed an amount which approximates the unrecovered installation cost. Credit for salvage will be given. Exhibit A, attached, provides a schedule of these premature abandonment/early termination charges.
- E) Requests for removal or temporary disconnection/reconnection of streetlights will be fulfilled only upon receipt of a written request from the customer and payment of the applicable charges.
- F) Temporary disconnects will be permitted for periods not to exceed one year. The customer will be required to pay the Company's current cost to disconnect and the current cost to subsequently reconnect, prior to such actions being taken by the Company (see Exhibit B).

## BUSINESS PROCEDURE

<b>EVERSOURCE</b>	SUBJECT	NUMBER
	STREET AND SECURITY LIGHTING	NB-200
DATE REVISED	DATE EFFECTIVE	ISSUED BY
June 2017	May 1, 2018	Director-Distribution Engineering

- G) Standard street and security lighting service provides operating cycles from dusk-to-dawn. Customers have the option of selecting either dusk- to-dawn or dusk-to-midnight operation. The operating hours of each light is controlled by a photocell and the dusk-to-midnight option requires a programmable photocell. If a customer chooses dusk-to-midnight operation, a non-refundable charge equal to the incremental cost difference between a standard and programmable photocell will be collected prior to installation. In addition, if a customer selects the dusk-to-midnight option it must stay with this option for a minimum of one year. Full photocell replacement charges will be assessed in advance for conversion back to dusk-to-dawn service within one year.

For new installations and retrofit of existing lights during scheduled maintenance cycles (commonly referred to as group relamping) the charge will be the incremental cost of the photocell. If a customer requests a service change to an existing light outside of the maintenance schedule the charge will include the incremental cost of the programmable photocell and the installation costs. These charges are shown in Exhibit B.

### Limitations

1. Company-owned poles normally will not be set on private property for lighting purposes only. Poles for street lighting only may be set on private property with easements/private property permits or on municipal-owned property.
2. Lights will be installed only in locations that are accessible by Company maintenance vehicles.
3. The Company shall not install or replace a permanent outdoor luminaire for roadway lighting, if the cost of operating such luminaire is paid for by municipal funds, unless (1) the luminaire is designed to maximize energy conservation and to minimize light pollution, glare and light trespass, (2) the luminaire's illuminance is equal to the minimum illuminance adequate for the intended purpose of the lighting, and (3) for a luminaire with a rated output of more than 1800 lumens used on municipal roads, such luminaire is a full cutoff luminaire. All such installations or replacements shall comply with the provisions of CT Public Act 01-134, as applicable.
4. No floodlight intended for private property illumination shall be located within the state right-of-way on any state highway unless (1) the luminaire is designed to maximize energy efficiency and to minimize light pollution, glare and light trespass, (2) the maintained illuminance levels produced by the luminaire are equal to the minimum maintained levels recommended by the Illuminating Engineering Society of North America for the lighting application, (3) the luminaire is sufficiently shielded and aimed so that no direct light from the luminaire is visible at any point in the highway where the viewing height is four feet or greater and the distance from the mounting pole is seventy feet or greater, and (4) the luminaire is sufficiently shielded and aimed to prevent light trespass onto properties other than

## BUSINESS PROCEDURE

<b>EVERSOURCE</b>	SUBJECT <b>STREET AND SECURITY LIGHTING</b>	NUMBER <b>NB-200</b>
	DATE REVISED <b>June 2017</b>	DATE EFFECTIVE <b>May 1, 2018</b>

the property intended for illumination and so that no direct light is visible at a viewing height of five feet or greater at any point along the adjacent property line.

5. Floodlighting and spotlighting luminaires will not be installed so as to create excessive glare or other safety hazards. No floodlight intended for private property illumination shall be located within the state right-of-way if the structure or object intended for illumination is across a public highway from the utility pole on which the floodlight would be mounted.
6. Street lighting service normally will be available only where the Company installs, owns, and maintains all facilities. However, where municipal-owned ornamental poles that are approved by the Company are available in a clearly defined geographic area as agreed to by the municipality and the Company, they may be utilized subject to the following conditions:
  - a) The Company will continue to own, operate, and maintain the luminaire mounted on municipal-owned poles.
  - b) The municipality will own, maintain, and replace the pole.
7. When an EVERSOURCE fixture is mounted on a municipal-owned pole, the fixture is billed on the appropriate schedule of EVERSOURCE Rate 116. The Company may assume ownership of municipal-owned poles at the request of the municipality. When the Company is obligated to replace the pole, the municipality will then be billed on the appropriate schedule within EVERSOURCE Rate 116 that includes an equivalent pole.

### H) Luminaire Types and Lamp Ratings

1. All new installations will utilize high-pressure sodium ("HPS"), metal halide ("MH"), or light emitting diode ("LED") fixtures. It is also the Company's objective that existing incandescent and mercury vapor luminaires be replaced by HPS, MH or LED as soon as practical.
2. Lumen ratings listed in the Company rates are the nominal ratings produced by the combination of lamp and fixture. Actual output will vary depending on the age of the lamp, the specific design of the fixture, difference between manufacturers and changes in manufacturer ratings. Current ratings are shown in Exhibit C.

### I) Receptacle

1. A receptacle will be installed in accordance with Company standards for ornamental lighting when requested by the municipality. Each receptacle will be protected by a time delay fuse and will be controlled by a street lighting photocell. The municipality must pay a non-refundable contribution prior to the Company beginning the installation. The contribution amount is listed in Exhibit B.

## BUSINESS PROCEDURE

<b>EVERSOURCE</b>	SUBJECT <b>STREET AND SECURITY LIGHTING</b>	NUMBER <b>NB-200</b>
	DATE REVISED <b>June 2017</b>	DATE EFFECTIVE <b>May 1, 2018</b>

2. Energy usage shall be billed under EVERSOURCE Rate 117. The monthly equivalent wattage for each receptacle shall be calculated by multiplying the wattage of the lights to be connected by the total number of burn hours (based on the monthly burn hours listed in Rate 116) then divide by 4,150 hours for dusk-to-dawn operations or 1,904 hours for dusk-to-midnight operation. This monthly equivalent wattage will be billed for each of the twelve months.
3. The municipality will pay the Company to replace fuses blown due to any type of negligent use of the receptacle. The fee to replace a blown fuse is listed in Exhibit B.

### **INSTALLATION PROCEDURE**

A) Processing Requests

All requests for new installations, changes to an existing installation, or removal of an existing installation will be processed on the Company's standard request form which includes a signed agreement from the customer.

B) Work Scheduling

To provide for orderly work scheduling, the Company will undertake major installations or modernizations only on the condition that they will be conducted over a reasonable period of time as necessitated by local work loads. All work will be scheduled as promptly as possible.

C) Existing Distribution Lines

Where adequate distribution facilities already exist (all necessary poles, primaries, secondaries, and transformers), or will be installed for other purposes, as determined by the Company, there will be no charge to the customer other than the applicable rate.

D) Construction for Street Lighting Only

Where construction of any distribution facilities (all necessary poles, guys, primaries, secondaries, ducts, cable, and transformers) is required for street lighting purposes only, the customer will make a nonrefundable payment prior to the start of construction. Where it is necessary to acquire an interest in an existing pole or pole line in order to attach streetlights, the actual costs to purchase the interest will also be charged to the customer. Whenever possible, NB-2 will be used to derive the customer charges. When required construction includes items not listed in NB-2, the charges will be computed by alternate means.

### **DISCONNECT/REMOVAL PROCEDURE**

- A) Prior processing of a request for disconnection or removal of municipal street lighting, the Company may provide the responsible municipal official with a synopsis of the benefits of

## BUSINESS PROCEDURE

<b>EVERSOURCE</b>	SUBJECT	NUMBER
	STREET AND SECURITY LIGHTING	NB-200
DATE REVISED	DATE EFFECTIVE	ISSUED BY
June 2017	May 1, 2018	Director-Distribution Engineering

good street lighting and the official should be encouraged to review the original need for the light in relation to the following considerations:

- Accidents
- Public security
- Pedestrian safety
- Vandalism
- Crime
- Municipal liability
- Tax revenues
- Resident opposition and unrest

- B) Company representatives shall not be authorized to make recommendations for removal of specific quantities of lights and/or specific pole locations. Customers should only be advised of basic street lighting principles and practices.
- C) All requests for disconnection or removal of municipal street lighting service must be made in writing by an authorized municipal official and must include acceptance of any associated charges.
- D) It is the responsibility of the Company representative to establish a date of disconnect which should include at least one month's written notice and would normally coincide with the regular cycle billing date. The disconnect will be made on or as near as possible to the established disconnect date. Work management requirements must be considered when scheduling disconnects. Request for disconnect or removal of large numbers of lights may require scheduling of disconnects. Billing charges will stop as of the "disconnect" date. The original installation date shall be preserved in the records until the light is actually removed.
- E) The Field Engineering Design Supervisor is responsible for notifying the Billing and Accounting Department about all changes.
- F) Field Engineering Design is responsible for calculating, quoting, and authorizing billing of the established charges for temporary disconnect/reconnect or premature abandonment/early contract termination of streetlights. Charges will be billed in accordance with EVERSOURCE Rate 116 and the latest schedule of charges listed in Exhibits A and B. Lights installed for over fourteen (14) years may be removed at no charge, but reinstallation after physical removal of the lights will incur liability for premature abandonment charges as a new light. Equipment requested to be removed is to remain in place for 30 days or longer, as directed, after the date of initial disconnect. This adjustment period will allow for reconnection without incurring any liability for premature abandonment charges regardless of whether the reconnection is for the same customer or a different one. If reconnected, the original installation date will continue on the records. A reconnection does not constitute an installation. Removal of street lighting equipment, after the adjustment period, will be at the convenience of the Company and as local workloads permit. The Field Engineering Design Supervisor will establish an order of priority for removal and arrange billing for any premature abandonment charges. The Field Engineering Design Supervisor will also arrange for removal work orders and billing

## BUSINESS PROCEDURE

<b>EVERSOURCE</b>	SUBJECT <b>STREET AND SECURITY LIGHTING</b>	NUMBER <b>NB-200</b>
	DATE REVISED <b>June 2017</b>	DATE EFFECTIVE <b>May 1, 2018</b>

for premature abandonment charges or early termination charges in the event that the ownership of the street lighting equipment is to be transferred to a municipality.

- G) After the 30-day adjustment period, there will be no charge for a new installation at the same location (or a reinstatement of a fixture that has not yet been removed). Tariff rates include installation charges. However, new installations will be made as work schedules permit and new installations at old locations will be treated as a new installation for purposes of computing any subsequent premature abandonment charges.
- H) At the time of any disconnect (either temporary or as a prelude to removal), a yellow tape marker will be placed on the luminaire bracket approximately one foot from the pole end to identify the unit as a disconnected light.
- I) A listing of the lights to be disconnected, including types, size, street location and pole number will be made available to the Customer Service Center at the time that the disconnect order is issued. Unnecessary service calls for "lights out" can be reduced by first checking against the list of disconnected lights. Questions concerning reconnection of lights and other matters of general public concern should be referred to the appropriate Account Executive.
- J) The Account Executive should advise EVERSOURCE Communications of any substantial municipal disconnect/removal program.

**Premature Abandonment**

HIGH PRESSURE SODIUM STREETLIGHT (INCL. BRACKET)

	4,000 - 16,000	27,500	50,000	140,000
	<u>LUMEN</u>	<u>LUMEN</u>	<u>LUMEN</u>	<u>LUMEN</u>
CURRENT INSTALLED COST	\$493.70	\$552.68	\$655.49	\$1,084.56
LESS COST OF LUMINAIRE	76.41	104.60	153.85	510.86
<u>INSTALLED COST LESS CREDITS</u>	<u>\$417.29</u>	<u>\$448.08</u>	<u>\$501.64</u>	<u>\$573.70</u>

AGE OF LIGHTS

INSTALLED

0	\$417.29	\$448.08	\$501.64	\$573.70
1	403.70	433.48	485.30	555.01
2	364.66	391.57	438.37	501.34
3	369.94	397.24	444.72	508.60
4	336.31	361.12	404.29	462.37
5	284.72	305.73	342.27	391.44
6	246.43	264.62	296.25	338.80
7	207.77	223.10	249.77	285.65
8	148.41	159.36	178.41	204.04
9	123.47	132.58	148.42	169.74
10	93.29	100.17	112.14	128.25
11	62.98	67.63	75.71	86.59
12	38.25	41.07	45.98	52.58
13	18.62	20.00	22.39	25.60
14	0.00	0.00	0.00	0.00





**Premature Abandonment**

LIGHT-EMITTING DIODE STREETLIGHT (INCL. BRACKET)

	4,000 - 9,500 <u>LUMEN</u>	16,000 <u>LUMEN</u>	27,500 <u>LUMEN</u>	50,000 <u>LUMEN</u>
CURRENT INSTALLED COST	\$613.90	\$574.79	\$631.41	\$692.69
LESS COST OF LUMINAIRE	119.91	85.71	135.22	183.24
<u>INSTALLED COST LESS CREDITS</u>	<u>\$493.99</u>	<u>\$489.08</u>	<u>\$496.19</u>	<u>\$509.45</u>

AGE OF LIGHTS  
INSTALLED

0	\$493.99	\$489.08	\$496.19	\$509.45
1	477.90	473.15	480.03	492.85
2	431.69	427.40	433.61	445.20
3	437.94	433.58	439.89	451.64
4	398.13	394.17	399.90	410.58
5	337.05	333.70	338.55	347.60
6	291.73	288.83	293.03	300.86
7	245.96	243.52	247.06	253.66
8	175.69	173.94	176.47	181.19
9	146.16	144.71	146.81	150.73
10	110.43	109.33	110.92	113.89
11	74.56	73.82	74.89	76.89
12	45.28	44.83	45.48	46.69
13	22.05	21.83	22.15	22.74
14	0.00	0.00	0.00	0.00

**Premature Abandonment**

STANDARD DECORATIVE LIGHTING HPS AND MH

	5,800 - 16,000 <u>LUMEN</u>
INSTALLED COST	\$726.23
LESS COST OF FIBERGLASS POLE	180.00
LESS COST OF LUMINAIRE	157.06
<u>INSTALLED COST LESS CREDITS</u>	<u>\$389.17</u>

AGE OF LIGHTS  
INSTALLED

0	\$389.17
1	376.49
2	340.09
3	345.01
4	313.65
5	265.53
6	229.83
7	193.77
8	138.41
9	115.15
10	87.00
11	58.74
12	35.67
13	17.37
14	0.00

**Premature Abandonment**

FLOOD LIGHTING HPS AND MH

	27,500 - 50,000 <u>LUMEN</u>	140,000 <u>LUMEN</u>
INSTALLED COST	\$370.94	\$608.82
LESS COST OF FLOODLIGHT	158.38	318.68
<u>INSTALLED COST LESS CREDITS</u>	<u>\$212.56</u>	<u>\$290.14</u>

AGE OF LIGHTS  
INSTALLED

0	\$212.56	\$290.14
1	205.64	280.69
2	185.75	253.55
3	188.44	257.22
4	171.31	233.83
5	145.03	197.96
6	125.53	171.34
7	105.84	144.46
8	75.60	103.19
9	62.89	85.85
10	47.52	64.86
11	32.08	43.79
12	19.48	26.59
13	9.49	12.95
14	0.00	0.00

**Premature Abandonment**

REPLACEMENT OF LUMINAIRE ONLY, SUBTRACT THE COST BELOW

	<u>4 FT</u>	<u>6 FT</u>	<u>8 FT</u>
CURRENT COST OF BRACKET	\$52.75	\$68.13	\$102.20

<u>AGE OF LIGHTS INSTALLED</u>	<u>BRACKET COST</u>
0	\$74.36
1	71.94
2	64.98
3	65.92
4	59.93
5	50.74
6	43.91
7	37.02
8	26.45
9	22.00
10	16.62
11	11.22
12	6.82
13	3.32
14	0.00

**Premature Abandonment**

UNDERGROUND SERVICE WITH A WOOD OR ALUMINUM POLE, ADD THE FOLLOWING COSTS

	<u>30 FT</u>	<u>35 FT</u>	<u>40 FT</u>	<u>AVG.</u>
CURRENT COST OF WOOD POLE	\$882.99	\$941.99	\$1,134.29	\$986.42
CURRENT COST OF ALUMINUM POLE	\$2,258.01	N/Applic.	N/Applic.	\$2,258.01

<u>AGE OF LIGHTS INSTALLED</u>	<u>WOOD POLE</u>	<u>ALUMINUM POLE</u>
0	\$986.42	\$2,258.01
1	954.29	2184.45
2	862.01	1973.23
3	874.50	2001.80
4	795.00	1819.81
5	673.04	1540.66
6	582.54	1333.48
7	491.15	1124.28
8	350.82	803.06
9	291.86	668.09
10	220.52	504.78
11	148.88	340.79
12	90.41	206.95
13	44.02	100.78
14	0.00	0.00

**Premature Abandonment**

<u>PREMIUM DECORATIVE STREETLIGHT HPS AND MH</u>						
<b><u>Proposed</u></b>						
		MH	CATEGORY A	CATEGORY B	CATEGORY C	CATEGORY D
		8,500	5,200 - 27,500	5,200 - 27,500	5,200 - 27,500	5,200 - 27,500
		<u>LUMEN</u>	<u>LUMEN</u>	<u>LUMEN</u>	<u>LUMEN</u>	<u>LUMEN</u>
CURRENT INSTALLED COST		\$ 2,978.13	\$ 2,293.89	\$ 2,636.99	\$ 3,151.64	\$ 3,666.87
LESS COST OF LUMINAIRE		689.43	331.95	396.20	855.34	942.96
LESS COST OF POLE (INCL. BASE)		1,033.48	817.55	1,053.30	1,044.16	1,407.04
INSTALLED COST LESS CREDITS		\$ 1,255.22	\$ 1,144.39	\$ 1,187.49	\$ 1,252.14	\$ 1,316.87
	AGE OF LIGHTS					
	<u>INSTALLED</u>					
	0	\$ 1,255.22	\$ 1,144.39	\$ 1,187.49	\$ 1,252.14	\$ 1,316.87
	1	1,214.33	1,107.11	1,148.81	1,211.35	1,273.97
	2	1,096.91	1,000.06	1,037.72	1,094.22	1,150.78
	3	1,112.79	1,014.54	1,052.75	1,110.06	1,167.44
	4	1,011.63	922.31	957.04	1,009.15	1,061.31
	5	856.45	780.82	810.23	854.35	898.51
	6	741.28	675.83	701.28	739.46	777.68
	7	624.98	569.80	591.26	623.45	655.68
	8	446.42	407.00	422.33	445.32	468.34
	9	371.39	338.60	351.35	370.48	389.63
	10	280.61	255.83	265.46	279.92	294.39
	11	189.45	172.72	179.22	188.98	198.75
	12	115.04	104.89	108.84	114.76	120.69
	13	56.02	51.07	53.00	55.88	58.77
	14	-	-	-	-	-

**Premature Abandonment**

SHIELDS

	SPOT LIGHT <u>GLARE</u> <u>SHIELD</u>	CUT OFF <u>VANDAL</u> <u>SHIELD</u>
CURRENT INSTALLED COST	\$329.32	\$467.71
LESS COST OF SHIELDS	204.00	325.00
<hr/> INSTALLED COST LESS CREDITS	<hr/> \$125.32	<hr/> \$142.71

AGE OF  
 LIGHTS  
 INSTALLED

0	\$125.32	\$142.71
1	121.24	138.06
2	109.51	124.71
3	111.10	126.52
4	101.00	115.02
5	85.51	97.37
6	74.01	84.28
7	62.40	71.06
8	44.57	50.75
9	37.08	42.22
10	28.02	31.90
11	18.91	21.54
12	11.49	13.08
13	5.59	6.37
14	0.00	0.00

Disconnect/Reconnect Costs	\$149 per unit
Receptacle Installation Contribution	\$230 per unit
Receptacle Fuse Replacement Fee	\$122 per incident
Programmable Photocell Replacement	
• New Installation/Part of Group Relamping	\$39.57 per luminaire
• * Replacement Outside of Group Relamping	\$163.63 per luminaire

\*Note: This charge includes a Conservation and Load Management incentive. If this incentive is reduced or eliminated in the future, the charge for photocell replacement outside of group relamping would increase accordingly.



<u>Fixture Type</u>	<u>Nominal Rating</u>		
	<u>Lumens</u>	<u>Watts*</u>	<u>Total Watts**</u>
<u>High Pressure Sodium</u>	4,000	50	59
	6,300	70	84
	9,500	100	118
	13,000	150	190
	16,000	150	172
	27,500	250	311
	50,000	400	472
	140,000	1,000	1,103
<u>Mercury Vapor</u>	4,000	100	118
	8,000	175	206
	12,500	250	287
	22,500	400	455
	40,000	700	781
	60,000	1,000	1,103
<u>Incandescent</u>	600	58	59
	1,000	103	104
	2,500	202	203
	4,000	327	328
	6,000	448	449
	10,000	690	691
<u>Metal Halide</u>	3,450	50	63
	5,200	70	89
	8,500	100	119
	14,400	175	207
	22,000	250	289
	36,000	400	451
	110,000	1,000	1,080
<u>Light Emitting Diode</u>	2,500	28	28
	4,100	44	44
	4,800	54	54
	8,500	102	102
	13,300	169	169
	24,500	275	275

\*Lamp watts only.

\*\*Total of lamp, ballast, and control watts.