

**REGULATIONS OF CONNECTICUT STATE AGENCIES**

**Department of Energy and Environmental Protection**

Public Utilities Regulatory Authority

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**Construction and Maintenance Standards Governing Traffic Signals  
Attached to Public Service Company Poles**

**I. General Construction for New Installations and Revisions**

The following procedures shall be followed for the standardization of traffic signal installations, as an aid to the Traffic Division of the Connecticut Department of Transportation ("DOT"), Towns, Cities, Boroughs, Fire Districts, Public Service Companies and Municipalities in the State of Connecticut.

**Sec. 16-243-1. Clearance from utility poles**

All traffic signal equipment mounted on supporting structures other than span wire, including flashing or illuminated signs and their controls, shall be located to provide a clearance of at least 10 feet wherever possible and a minimum of 5 feet from utility poles. If a pole of a public service company is to be used as a riser pole, rigid metal conduit shall be installed from the signal equipment to the pole and up to the point of attachment of the weatherhead as outlined elsewhere in these instructions.

(Effective February 4, 1976)

**Sec. 16-243-2. Driven ground rods**

At each foundation, handhole, and at each riser locating not associated with a foundation or handhole, a  $\frac{5}{8}$ "  $\times$  8' minimum, driven ground rod shall be provided and connected to all controllers, conduits, walk lights, pole mounted radar vehicle detector brackets and pedestrian push button switches.

(Effective February 4, 1976)

**Sec. 16-243-3. Controller equipment—external fuse or disconnect device**

All controller equipment and associated external fuse or disconnect devices for traffic signals, flashing or illuminated signs shall be installed so as to (1) insure that an electrical connection exists between the service neutral conductor, the metallic controller enclosure, any metallic external fuse or disconnect device enclosure and the metallic conduit and (2) preclude the possibility of reversing the phase and neutral connections.

(Effective February 4, 1976)

**Sec. 16-243-4. Use of utility poles**

No traffic signal, flashing or illuminated sign or associated equipment, other than conduit, cable and support or guy strand may be installed on poles of any public service company.

(Effective February 4, 1976)

**Sec. 16-243-5. Protection and grounding requirements**

Electrical equipment protection and grounding requirements for socket type flashers and flashing or illuminated signs are:

(1) A fused disconnecting means or a circuit breaker device (of the lowest current rating consistent with the load requirements of the equipment and cable) shall be provided for power service to the flasher controller or sign. This device may be included within the equipment housing or it may be in a separate weatherproof, lockable enclosure, and shall be acceptable to the electric distribution company. In either case the neutral terminal shall, by design, be interconnected with the metallic protective device enclosure and the electric distribution company shall insure that the neutral conductor is connected to the neutral terminal;

(2) Where the power service protective device is in an enclosure which is external to and not part of the controller case, this enclosure and the controller case shall be made electrically continuous by a means other than the power service neutral conductor; and

(3) Properly identified line and neutral conductors for connecting electrical service conductors shall be provided.

(Effective February 4, 1976; amended August 23, 2000)

## II. Construction Details

### Sec. 16-243-6. Construction details

(a) The following construction details shall be followed:

(1) All traffic signal equipment and appurtenances, attached to or associated with poles of public service companies shall comply with the National Electrical Safety Code (NESC), 1984 edition, as may be from time to time amended;

(2) Rigid metal electrical conduit, installed and grounded as indicated in sections 16-243-1 TO 16-243-3, inclusive, of the regulations of Connecticut state agencies, is acceptable for riser and underground conduit and shall be installed in accordance with the National Electrical Safety Code (NESC), 1984 edition, as may be from time to time amended;

(3) Stand-offs, if required to support the conduit on the pole, shall be provided by the department of transportation, Town, City, Borough, or Fire District. In order to provide a four inch (4") clearance from the pole, stand-offs will be used on poles of public service companies only in accordance with at least one of the following requirements:

(A) The conduit size is 2 1/4 inches or greater;

(B) The final number of conduits (total on the pole) exceeds 2;

(C) There are stand-offs already in use on the pole; or

(D) There is an existing obstruction on the pole which does not allow the conduit to be directly attached to the pole;

(4) Metering is not required for these installations;

(5) A single conduit on the pole, containing both line and load conductors, is acceptable provided the load conductors have over-current protection; and

(6) There shall be a limit of 2 conduits on any one pole for traffic signal use and all such conduits shall be installed with a weatherhead.

(b) Each electric distribution company, may, consistent with sections 16-243-1 to 16-243-12, inclusive, of the regulations of Connecticut state agencies, specify the manner in which work will be accomplished on poles in which such electric distribution company has an interest, and shall determine all guying strand size and locations. Each electric distribution company shall perform all work higher than ten feet above the ground on poles in which it owns an interest. The electric distribution company shall provide and install all anchors, span wire, messenger, guy strand and associated hardware, at the expense of the department of transportation, Town, City, Borough, or Fire District installing the traffic signal. The public service company shall furnish an estimate of costs for all required work, but actual costs incurred by the public service company for both labor and materials shall be reimbursed by the department of transportation, Town, City, Borough, or Fire District installing the traffic signal. All required rights of way, guying permission, etc. shall be the responsibility of the department of transportation, Town, City, Borough, or Fire District installing the traffic signal.

(Effective April 22, 1986; amended August 23, 2000)

**Sec. 16-243-7. Interconnect cables**

Any Town, City, Borough or Fire District may run synchronizing (Interconnect) cables in the communication space according to Section 16-233 of the Connecticut General Statutes. Such circuits shall comply with communications requirements for Class 2 or Class 3 circuits according to the National Electrical Code (NEC) (725-31).

(Effective February 4, 1976; amended August 23, 2000)

**Sec. 16-243-8. Clearance requirements for conductors**

All conductors to span mounted traffic signal lights, when attached to poles of public service companies shall be installed to comply with the clearance requirements of the National Electrical Safety Code (NESC), 1984 edition, as may be from time to time amended. In general the following will apply:

(A) All traffic signal conductors (except certain interconnect cables) shall be installed 40" minimum above communications.

(B) Interconnect for a two signal system when attached to poles of a public service company, may be either by traffic signal conductor, leased communications lines, or according to Paragraph 7 above.

(C) Interconnect for a three or more signal system when attached to poles of a public service company, shall be via leased communication lines throughout the system, if available, or according to Paragraph 7 above.

(D) Span wire or messenger carrying conductors shall be attached 12" minimum below secondary if running parallel and 6" minimum if running other than parallel. All messenger, guys and span wires shall be installed so as to prevent midspan conflicts due to unequal sagging of different wires.

(E) Span wire or messenger not carrying conductors and insulated according to plate #2 may be installed a minimum of 6" above communications.

(F) All circuits connected to leased communication lines shall comply with Class 2 or Class 3 circuits as outlined in Article 725-31 of the NEC.

(G) Span or support poles shall be installed so as to maintain clearance requirements from existing conductors as set forth in The National Electrical Safety Code (NESC), 1984 edition, as may be from time to time amended. In no case may any such pole be located closer than 10' to an existing utility pole.

(H) Mastarms and other similar supporting structures must be installed so as to pass a minimum of 12" from communications cables.

(I) Any traffic signal equipment installed in accordance with these rules and regulations and with less than 40" clearance from communications will be subject to temporary relocation, if necessary, to allow for communications cable work.

(Effective April 22, 1986)

**Sec. 16-243-9. Field meetings**

Public Service Companies and the DOT, Towns, Cities, Boroughs and Fire Districts will make every effort to coordinate their departments so that only one field meeting is necessary. At this meeting the necessary pole heights, guying, clearances and stranding shall be worked out and the following information provided to each public service company involved:

(A) The electrical load characteristics of the traffic signals which will affect billing.

(B) A plan showing the existing geometry of the intersection and any proposed changes, the final location of all poles and the proposed locations of all traffic signal equipment.

(C) The name of the customer to be billed for monthly electrical energy costs.

(D) The identity of the party to be billed for any construction costs, i.e., DOT, Town, City, Borough, Fire District or Contractor.  
(Effective February 4, 1976)

**Sec. 16-243-10. NESC—NEC**

The department of public utility control recognizes the provisions of the National Electrical Safety Code and the National Electrical Code as minimum requirements and recommends the same as a guide to good practice for the installation, maintenance and operation of electrical facilities in all cases not governed by specific department orders and the provisions of this code as contained herein.  
(Effective February 4, 1976; amended August 23, 2000)

**Sec. 16-243-11. Exceptions**

The installation procedures set forth in sections 16-243-1 to 16-243-12, inclusive, of the regulations of Connecticut state agencies, shall be followed unless a specific alteration, on a case by case basis, is allowed by the Department of Public Utility Control.  
(Effective February 4, 1976; amended August 23, 2000)

**III. Maintenance Responsibilities**

**Sec. 16-243-12. Maintenance responsibilities**

(a) All new, relocated or revised attachments to poles owned by a public service company shall be accomplished by the electric distribution company, having an interest in said pole, or its authorized agent. All revisions involving changes in loading on public service company poles shall have prior approval of the electric distribution company having an interest in the pole.

(b) All other maintenance functions shall be the responsibility of the Department of Transportation, Town, City, Borough or Fire District normally performing such maintenance.

(c) All maintenance functions shall be performed in accordance with the construction standards outlined in sections 16-243-1 to 16-243-11, inclusive, of the Regulations of Connecticut State Agencies.

(d) The Department of Transportation, Town, City, Borough or Fire District shall hold the electric distribution company free and harmless from and against any and all demands, claims, suits, costs of defense, liabilities and other expenses in any way arising from the above mentioned maintenance unless caused by the negligence of the electric distribution company or its authorized agents and employees.  
(Effective February 4, 1976; amended August 23, 2000)

APPENDIX  
Plate #1  
Secondary Service and Riser

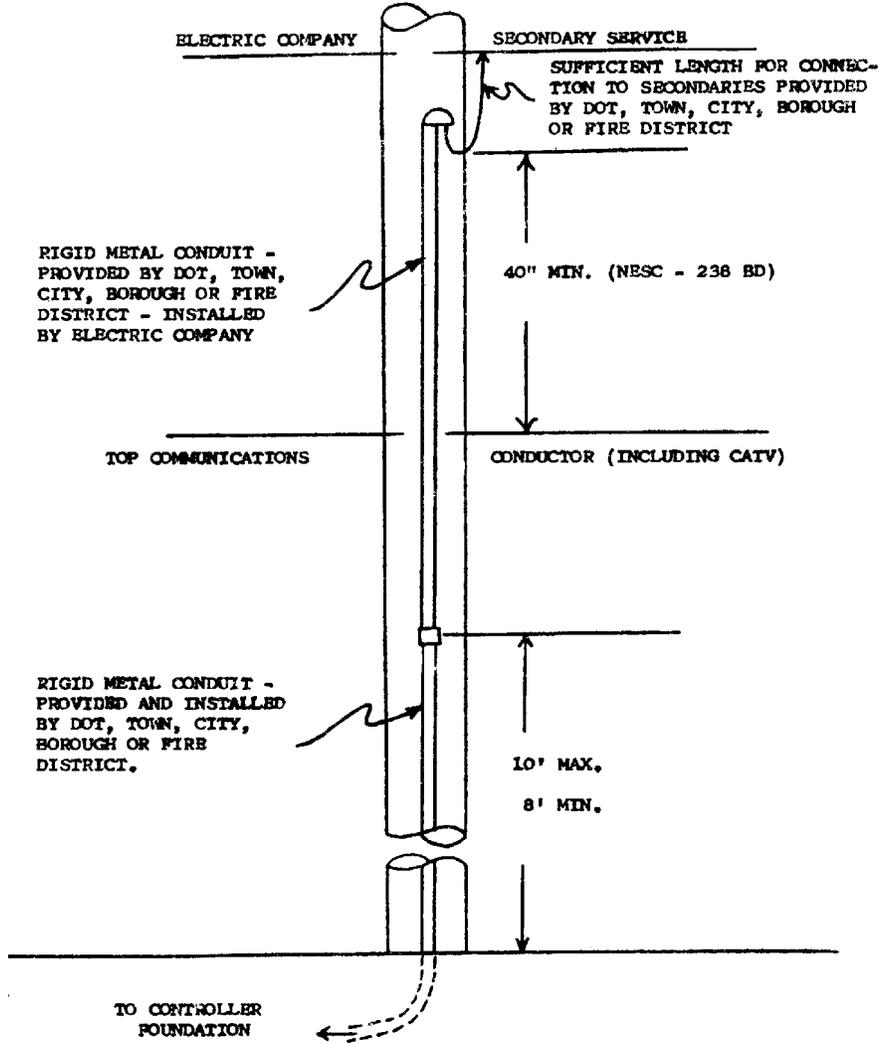
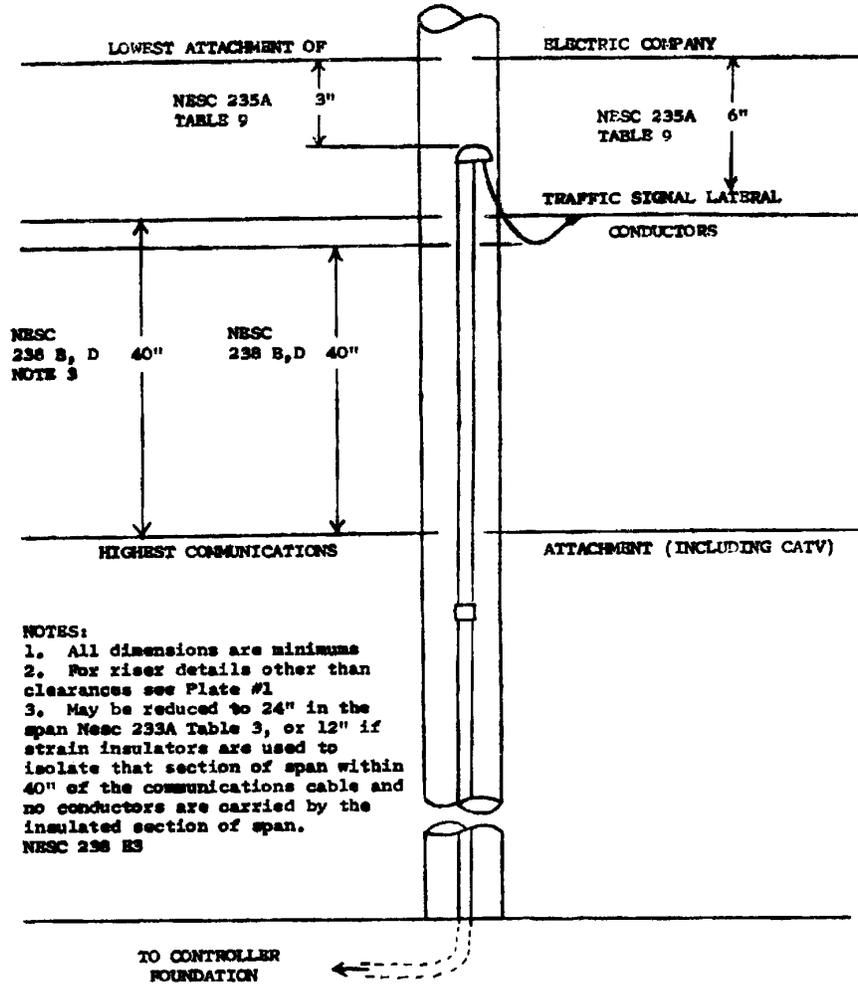
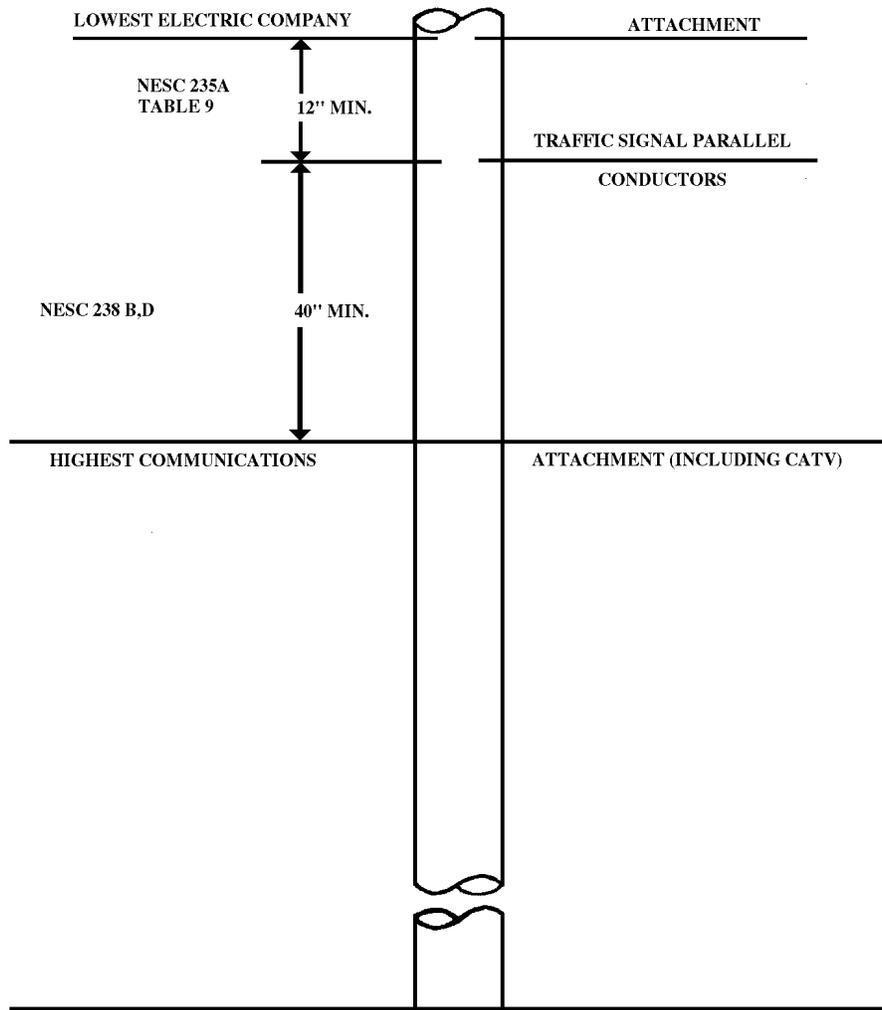


Plate #2  
Traffic Signal Conductors and Riser



**Plate #3**  
**Traffic Signal Conductor Parallel Run**



**Plate #4**  
**Leased Communications Lines or Interconnect**

