

SECTION 810 POWER SUPPLIES

810.01. DESCRIPTION.

This work shall consist of furnishing materials and installing power supply systems of the various types in accordance with these Specifications and in reasonably close conformity with the locations and dimensions shown on the Plans or established by the Engineer.

Temporary lighting service shall be used to provide electrical power to the existing highway lighting system and all temporary lighting installed as called for in the plans. All existing lighting circuits and temporary lighting shall operate from this temporary lighting service. The temporary lighting service shall be metered and the Contractor shall be reimbursed for the cost of electricity to power the temporary service pole(s).

810.02. MATERIALS.

Materials used shall meet the requirements specified in the following Subsections of these Specifications or as otherwise specified.

Wood Poles	American National Standards Institute 05.1
Electrical Conduit and Fittings	Section 709
Portland Cement Concrete, Class A	Section 701
Reinforcing Steel	Section 723
Conductors	Subsection 811.02

All miscellaneous pole line hardware required to complete the installation as planned shall be standard material manufactured for pole line construction. All metal parts shall be hot-dipped galvanized, or other noncorrosive metals.

Control equipment shall conform to NEMA Specifications, as applicable.

810.04. CONSTRUCTION METHODS.

The construction of power supplies shall be in accordance with National Bureau of Standards Handbook 81 Safety Rules for the Installation and Maintenance of Electric Supply and Communication Lines. When in conflict, these Specifications shall supersede. Cooperate with the local utility company in locating, installing, and connecting all power supplies. Also, contact local "excavator alert" organizations prior to trenching or boring operations.

- (a) **Voltage and Construction Specifications.** The voltage for the permanent or temporary service pole(s) shall be as shown on the plans.
- Concrete construction shall be in accordance with Section 509.
- Reinforcing steel construction shall be in accordance with Section 511.

- (b) **Temporary Power Supplies.** The temporary lighting service shall supply electricity for, but not be limited to, the following:
1. Temporary lighting on wood poles. Supply electrical service for the temporary lighting of traffic control crossovers, points of conflict, and /or other locations as determined and approved by the Engineer.
 2. Existing lighting circuits. Keep the existing lighting systems within the project in operation. In the event an existing lighting system is disrupted due to construction, use additional temporary lighting on wood poles to supplement the existing lighting at these locations.
 3. New permanent lighting circuits. Use the temporary lighting service and the temporary service pole(s) to supply electricity during the construction to both the temporary lighting poles and the new permanent lighting circuits. Upon completion of the project, connect the permanent service pole to the new permanent lighting circuits. Install the permanent electrical service for the new highway lighting systems as shown on the plans. These new permanent lighting circuits include conventional highway lighting poles, high-mast towers, underpass lighting, and overhead sign structure lights.

For the temporary service pole, arrange for all the electrical power connections for the temporary lighting to be made as soon as construction allows. Arrange power connections for the locations not identified on the traffic control plans through the local utility company, with the approval of the Engineer.

The temporary lighting system shall be erected and energized, as well as deactivated and removed, at various stages of the traffic control plans as specified on the plans, in these specifications, or as otherwise directed or approved by the Engineer.

The suggested spacing of the temporary lighting on wood poles is approximately 150 feet (50 m) or as specified in the plans. Protect these light poles from motorists in a manner approved by the Engineer.

NOTE: Do not use aerial conductors to connect power temporarily or permanently to light poles having breakaway bases.

Install the temporary light poles and temporary service pole(s) and repair any damage inflicted during the installation, relocation, and/or removal of these items. In addition, maintain the existing permanent, new permanent, and temporary lighting systems—including light bulbs—throughout the construction period. The Department of Transportation will not incur any additional cost for this maintenance in accordance with Subsection 105.14. After a semi-completion of any portion of the lighting system within the project limits, the following shall apply:

In the event a lighting pole assembly is damaged or knocked down, through no fault of the Contractor, the Contractor shall repair or replace the damaged lighting pole assembly to its original condition and be reimbursed by ODOT at the contract unit price bid for all pay items necessary to complete the repair or replacement, excluding any costs for concrete footing removal.

Upon the completion of the lighting system or the completion of the project, make connections from the temporary service pole(s) to the permanent service pole(s). Connect

the completed circuits to the permanent service pole(s) for final acceptance of the lighting system.

Handle with care the items that are to be removed and/or reset, taking responsibility for any damages occurring during these operations. Neatly store the removed items in an area designated by the Engineer.

All removed service poles, light poles, mast arms, luminaires and pertinent equipment that is used for temporary lighting shall become the property of the Oklahoma Department of Transportation and stockpiled at a location approved by the Engineer, unless otherwise noted on the plans.

Leave the temporary service pole(s) and the temporary lighting system items in place or remove these at the end of the project as directed by the Engineer. If any temporary service pole(s) or temporary lighting system is necessary to provide a safe driving environment, leave such items in place during the interim period between the project and the next construction project at this location, as approved by the Engineer.

Upon completion of the project, the Contractor shall be relieved of any payments or costs for the temporary lighting system. Payment shall become the responsibility of the Oklahoma Department of Transportation or local authority.

810.05. METHOD OF MEASUREMENT.

Power supplies of the various types will be measured by each unit installed.

Temporary service poles will be measured by each unit installed. The temporary lighting service will be metered, and measured in units of kilowatt-hour. Prior to payment, furnish the Engineer with copies of the utility company's invoice and proof of payment.

Wood poles will be measured by each unit installed of the various sizes as specified on the plans.

810.06. BASIS OF PAYMENT.

The accepted power supply items, measured as provided above, will be paid for at the contract unit price as follows:

- (A) SERVICE POLE EACH
- (B) POLE-MOUNTED TRANSFORMER STATION EACH
- (C) PAD-MOUNTED TRANSFORMER STATION EACH
- (D) TEMPORARY SERVICE POLE EACH
- (E) TEMPORARY LIGHTING SERVICE KWH
- (F) WOOD POLE EACH

Such payment shall be full compensation for furnishing all materials, equipment, labor, and incidentals required to complete the work as specified.