

FirstEnergy

One Touch Make Ready (OTMR)

Minimum Requirements Guide

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One Touch Make Ready (OTMR) Minimum Requirements Guide – Table of Contents

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I. INTRODUCTION

A. Overview

1. The joint use of poles is governed by the applicable Pole Attachment Agreement established between the FirstEnergy Operating Companies (hereafter Company) and the Communications Company. Communications lines are permitted on the Company poles upon review and approval by the Company. This document will provide guidance to the Communications Company on how to properly install communications lines when approved by the Company. The Company reserves the right to refuse any attachments that do not meet the following requirements, regulations, rules, or would pose a risk to both the health and safety of the public and/or our employees. Outage/emergency events, including storm restoration, may delay the Company's scheduled work. These specifications convey general knowledge and do not provide every detail or every requirement. Contact the Company for any questions concerning this document.
2. Mandatory rules in this document are those that identify action that are specifically required or prohibited and are characterized by the terms shall or shall not.

B. Communication

1. All applications and approvals shall occur through the SPANS system.

II. DEFINITIONS

Terms frequently used in this Guide are as defined below:

- **Approved Contractor:** Survey/engineering and construction contractors approved by the Company for OTMR.
- **Clearance:** The specified minimum distance between two objects (measured surface-to-surface) to assure adequate space for safety, security, or access.
- **Code:** The National Electrical Code (NEC), National Electrical Safety Code (NESC), or other electrical codes or regulations in effect and that are applicable in the area served.
- **Communications Company:** Any eligible person, partnership, association, corporation, or agency of municipal, county, state, or federal government that installs communication lines on one or more Company poles.
- **Communications Lines:** The conductors and their supporting or containing structures, equipment and apparatus that are used for public or private signal or communications service. Fiber optic cables are considered communication lines.

The owner of the communication lines shall follow the proper attachment permit procedures as specified by the appropriate Pole Attachment Agreement.

- **Company:** Refers individually to the FirstEnergy Operating Companies (FEOC) operating in:
 - Pennsylvania and New York – Met-Ed, Penelec, Penn Power, or West Penn Power
 - Maryland – Potomac Edison
 - West Virginia – Mon Power or Potomac Edison
 - Transmission System – American Transmission Systems Inc. – ATSI; Mid-Atlantic interstate Transmission – MAIT; Trans-Allegheny Interstate Lines – Trail; Allegheny Energy Service Corporation – AESC.
- **Complete Application:** A SPANS proposal submitted to the Company by the Communications Company or its agent stating its desire to install a new communication lines attachment to one or more Company poles. The application shall satisfy the requirements stated in the Complete Application Requirements.
- **Customer Guide for Electric Service:** The Company's requirements by state for service to individual locations including information on service laterals, meter installations, and customer equipment.
- **Distribution Lines:** Company lines of medium voltage and below typically located in the public right-of-way in/or along streets, alleys, highways, or on private property for general distribution of electric service to customers.
- **Extension Arm:** Denotes extension arms, brackets, bolts, cross-bars, straps and any other techniques that are used to maintain, or have the effect of maintaining, some horizontal distance between an attachment and the pole.
- **Federal Communications Commission (FCC):** The regulatory body of the US Government with the power to regulate commerce and activities that affect the communications industry.
- **Final Grade:** The eventual permanent ground level after all finished grading, paving, and landscaping is completed. Final grade is used to determine sufficient clearance for overhead and underground facilities.
- **J-Hook:** A curved fastener made from a hook-shaped piece of metal or other hard substance that is used for catching, pulling, holding, or suspending a line or cable.
- **National Electrical Safety Code [IEEE C2] (NESC):** A set of national standards that govern the installation, operation, and maintenance of the electric supply and communication lines. NESC applies to equipment located on the electric utility's side of the point of service. All references to the NESC in the guide refer to the latest edition.
- **One Touch Make Ready (OTMR):** Simple make-ready in the communications space performed by the new attacher using a utility approved contractor. OTMR does not include pole replacements. OTMR is a rules-based process where exceptions are not available.
- **Point of Electrical Connection:** Point where the Company's equipment or conductors connect to the customer's conductors or equipment of the facility.

- **Pole Attachment Agreement:** An executed agreement between the Company and the Communications Company defining all terms and conditions governing the pole attachment process.
- **Pole Boxing:** The placement of communication lines or equipment on opposing sides of the same pole, within the climbing column, creating a safety risk for electrical line workers to climb. Pole boxing shall not be permitted.
- **Primary:** Conductors (cables) connected to distribution substations that carry medium voltage (2 kV to 35 kV) power to distribution transformers located near the customers premises.
- **Secondary:** Conductors (cables) connected to the secondaries of distribution transformers from which customers services are supplied.
- **Service:** Delivering electric energy from the Company's distribution electrical system to a single point of electrical connection at a customer's premises.
- **Service Territory:** Area in which the Company or Communication Company can legally provide service. The area is governed by a set of agreements and maps on file with the state agency that regulates public utilities.
- **SPANS: Spatially-enabled Permitting And Notification System,** is an electronic web-based system of communicating between pole attachers and pole owners where proposals with corresponding data are issued, and approvals or rejections are communicated.
- **SPANS Proposal Number:** A unique number assigned in SPANS and used by the Company for designing, tracking, constructing, and billing of a specific job.
- **Transmission Pole:** A column or post used to support overhead transmission power lines that usually carry voltages of 46 kV to 115 kV.

III. PRE-CONSTRUCTION REQUIREMENTS

A. Contacting the Company

1. To establish a Pole Attachment Agreement the Communications Company shall contact the Company by email at: corpjointuse@firstenergycorp.com
2. To submit a Complete Application the Communications Company shall contact the Company via SPANS at:
 - <https://mdpawv.wlsspans.com> (Met-Ed, Mon Power, Penelec, Penn Power, Potomac Edison, West Penn Power).

B. Application Requirements

1. The Communications Company shall check the OTMR box in SPANS Application. OTMR requires the use of Company Approved Contractors for survey/engineering

and construction. A list of Company Approved Contractors is available in SPANS and on the Company's website.

2. The Communications Company is required to provide advance notice and allow representatives of existing attachers and the Company a reasonable opportunity to be present when surveys and OTMR work are performed. Ride-outs and survey/engineering expenses for OTMR shall be at the sole expense of the Communications Company.

IV. CONSTRUCTION REQUIREMENTS

A. General

1. Any rearrangement of the Company's electrical facilities or other communication facilities necessary to accommodate the additional attachment of communication lines on the Company's poles shall be negotiated by the Communications Company with the existing facility owner and completed prior to making the new attachment. The Company shall have the final decision on all additional attachments of communication lines on the poles. OTMR rules shall not apply to any application requiring electrical facilities to be rearranged to accommodate the additional attachments. These applications must be resubmitted into SPANS without the OTMR box checked (Non-OTMR Process).
2. All new communication lines attachments and approved devices shall be marked at each pole in a manner such that the ownership of the facility can be determined by the Company's personnel from ground level. Existing communication lines attachments and approved devices should be marked when maintenance is performed on that facility.
3. Bolt ends shall not project more than two inches beyond the surface of the pole.

B. Communication Lines Attachments

1. The communication lines shall be attached directly to the pole surface. The Company prohibits the use of J-hooks and extension arms which can be a hazard to climbing line workers. All communication lines attachments require the use of through bolts with substantial strength suitable for 30 or more years of service.
2. Communication lines attachments to wood distribution poles shall be made with through bolts. Lag screws, screws, or J-hooks are not permitted. New holes drilled into the pole shall be more than 2 inches from the edge of an existing hole.
3. Communication lines attachments on metal poles may only be attached to unpainted metal distribution poles and shall be clamped or banded to the poles with stainless

steel straps. The drilling of holes in a metal pole for a bolt attachment is prohibited. Requests to drill a metal pole must be made through the Non-OTMR Process.

4. Communication lines shall not be attached to fiberglass poles.
5. The Communications Company is required to obtain its own right-of-way (ROW).

C. Clearance Requirements

1. Clearance between the Company's electrical facilities and communication lines attachments shall be in accordance with the latest edition of the National Electrical Safety Code (NESC). Vertical clearances are measured surface-to-surface. Additional vertical clearance may be needed on the pole to achieve the required in-span clearances. All surfaces of the communication lines attachments shall be considered when measuring vertical clearances between communication lines attachments and electrical facilities.
2. The in-span vertical clearance as specified by the NESC in Rule 235 between the lowest electrical conductor and the highest communication line is 30 inches based on the following conditions:
 - a) The electrical conductor is at final sag at 120°F or the maximum conductor operating temperature and the highest communication line is at final sag at the same ambient conditions as the electrical conductor without electrical loading, or
 - b) The electrical conductor is at final sag at 32°F with a 1/2-inch radial ice thickness and the highest communication line is at final sag at the same ambient conditions as the electrical conductor without electrical loading and without ice.
 - c) When the Company's bottom conductor is a neutral, triplex secondary, or primary aerial cable and is bonded to the communications messenger at the intervals specified in section H, it shall not be less than 22.5 inches when the communications line is ungrounded.
3. The minimum clearance between communication lines (center-to-center) supported by different suspension strands shall be 12 inches at the pole and 6 inches in span. This will be a vertical clearance. A minimum vertical clearance of 6 inches shall be maintained between any strand-mounted equipment of cable expansion loops and the communication lines below. Requests for reduced spacing must be made through the Non-OTMR Process. Reinforcing straps should not be considered when measuring clearances at the pole between communication lines attachments.
4. The vertical clearance for communication lines attachments above ground and paved surfaces at the low point in the span under specific conditions shall be in accordance with NESC (2017) Table 232-1 federal, state, local, railroad, or highway regulations (minimum values given below):

- a) 9.5 feet to ground over spaces accessible to pedestrians only.
 - b) 15.5 feet to ground over spaces subject to truck traffic such as roads, streets, driveways, parking lots, and alleys.
 - c) 18 feet to travelled way and shoulders within the right-of-way of state highways (state turnpikes may have additional requirements).
 - d) 23.5 ft per NESC other RR (Conrail & NS 27 ft).
- 5. Any in-span service-drop or device mounted on a communication line or messenger shall be a minimum of 15 inches from the pole face at its nearest point to assure adequate climbing space.
 - 6. Effectively grounded communication lines attachments passing near a Company structure without being attached thereto shall have a horizontal clearance, without wind, from any part of such structure of not less than three feet. Ungrounded communication lines attachments shall have a horizontal clearance, without wind, from any part of such structure of not less than five feet (per NESC Rule 234B).
 - 7. A vertical run of communication lines attached to the pole surface shall be covered with a suitable non-metallic material and shall have two inches of clearance from through bolts or other metallic objects which are associated with the Company's equipment.

D. Attachment Position

- 1. The usable space on the pole as defined by the FCC is that pole space 18 feet and higher above ground level. The top of the usable pole space is reserved for the Company's electrical attachments. The middle portion of the usable pole space is reserved for third party (Telcom, CATV, and public/private) communication lines, or service drop attachments. The recommended minimum height of the initial third-party communication lines attachment is 23 feet if conditions permit. The bottom portion of the usable pole space is reserved for the communication line or service drop attachments owned by the incumbent telephone company. The recommended maximum height for the initial telephone cable attachment is 21 feet if conditions permit or lower, if possible.
- 2. All communication lines shall be attached on the same side of the pole as the neutral or service conductor to avoid boxing. The placement of communication lines or equipment on opposing sides of the pole commonly known as "pole boxing" creates a safety risk for line workers and is prohibited. Refer to the NESC 236 for guidance to accommodate a climbing column.

3. The Communications Company shall not “weave” its communication lines from one vertical position to another with respect to other communication lines on the same sides of the pole line route. “Weaving” from one side of the pole to the other along the pole line route (except where it crosses a road) is also not permitted.

E. Guying

1. The Communications Company shall guy unbalanced loads imposed on the pole by dead ending, wind loading, or changes in direction of the communication lines attachment. The communication lines attachment shall not alter the vertical position of the Company’s poles or change the sag characteristics of the Company’s conductors.
2. The proposed communication lines attachment shall be installed with the proper tension so that its final sag meets clearance requirements to existing electrical facilities and communication lines attachments. There shall not be more than one reduced tension span, maximum 100 feet in length.
3. All guying shall be installed prior to the installation of the communication lines.
 - a) The Company’s anchor rods are assumed to be sized only for the loads considered at original installation.
 - b) The number of guy wires to one anchor rod may not exceed the number of eyes on the anchor rod.
4. If the Company’s anchor rod cannot support an additional guy wire attachment, the Communication Company shall make provisions to install another anchor rod at least 6 feet from the Company’s anchor rod in its own secured right-of-way (ROW).
5. The spacing (center-to-center) between adjacent guying attachments or between adjacent communication facility and guying attachments shall not be less than six inches.

F. Underground Communication Cable Risers

1. Underground (UG) electric and communication cable risers attached directly to the pole surface shall be limited to one quadrant of the pole. This permits one side (180 degrees) of the pole to be kept clear of obstructions for safe line worker climbing space and/or replacing the pole. UG communication cable risers should be located on the same quadrant of the pole as their overhead communication lines attachments.

2. Underground communication cable risers shall not be installed on poles supporting transmission circuits.

G. Communication Cabinets

1. Communication cabinets and equipment cases are prohibited on the Company's poles or any pole where the Company has attached primary conductor.

H. Grounding

1. On multi-grounded Company distribution lines, the owner of the communication lines attachment shall install and maintain an electrical bond between the metallic communication line or messenger and the Company's vertical pole ground wire per NESC 097G and 099. Make the electrical bond using #6 AWG copper wire and connectors suitable for the purpose.
2. Where there is an existing vertical ground wire connected to the Company's multi-grounded neutral system, the Communications Company shall connect the bond wire to the vertical ground wire keeping the bond wire as short as practical. Where there is no vertical ground wire, the Communications Company shall place a coiled length of bond wire connected to its communication lines attachment and notify the Company to connect the bond wire to the multigrounded neutral system.
3. All communication lines attachment guy wires shall be bonded to an effectively grounded communication lines suspension strand, and the Company's vertical pole ground wire.
4. On the Company's lines which are not multi-grounded, the Communications Company shall not bond either its guy wire or its metallic communication lines to any the Company's vertical pole ground wire unless specifically directed to do so by the Company's engineering personnel. The Communications Company shall install and maintain its own grounding electrode (ground rod).

I. Emergency Electric Supply

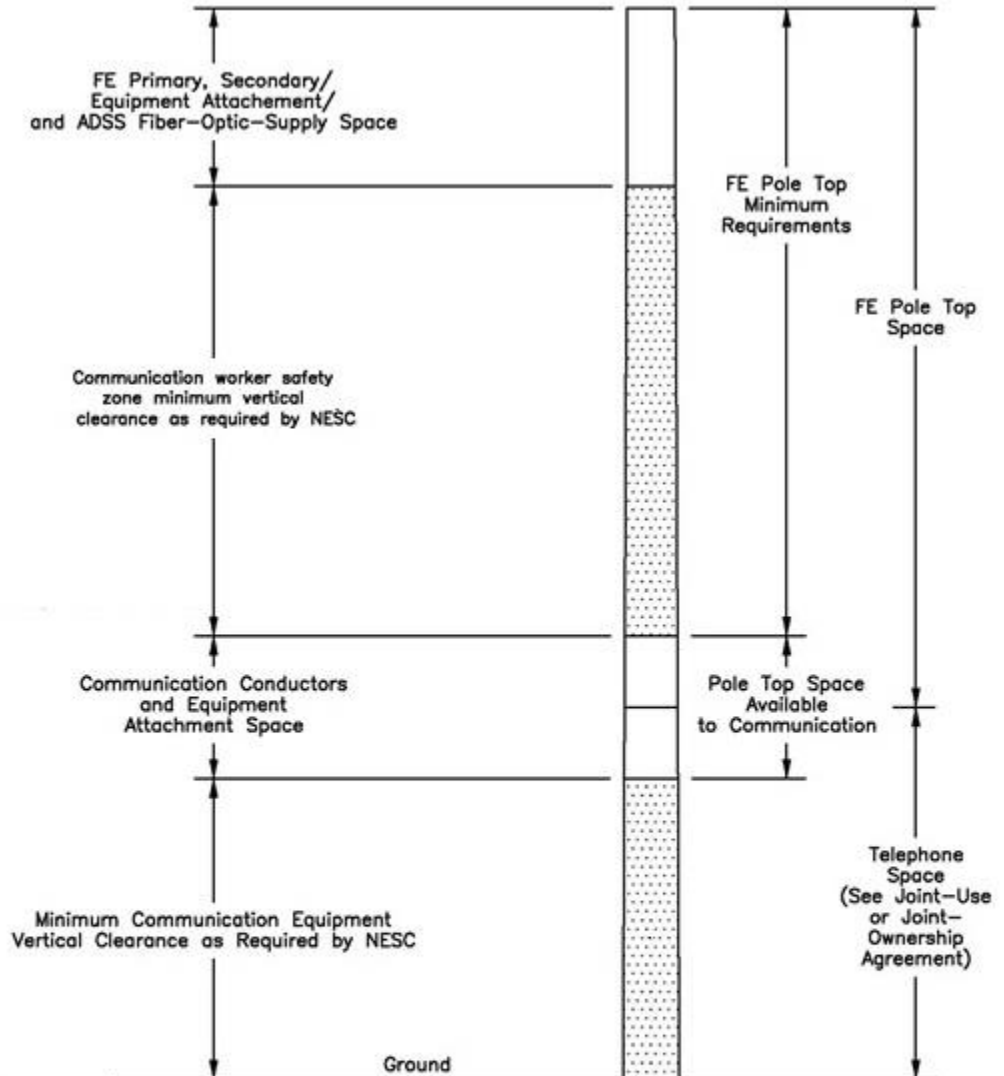
1. Installations of emergency electric supply equipment shall conform to the latest revision of the Company's "Company Guide for Electric Service". The type of device to be used shall ensure that there cannot be an interconnection between the emergency electric supply and the Company's electric system.

J. Transmission Poles

1. Transmission Poles are not eligible for OTMR.

V. FIGURES

A. Joint Use – Attachment Locations of Power Supply and Communication lines on Jointly Used Poles



Notes:

1. CATV line amplifiers shall not be installed within a minimum of 8' with 15' preferred of the pole.

**Joint Use – Attachment Locations of
Power Supply & Communication Lines
on Jointly Used Poles**