

Nebraska Public Power District

Joint Pole Attachment Manual

February 2026

Procedures, Guidelines, and Requirements
Covering the Installation of Communication
Lines and Wireless Communication Equipment
on NPPD Owned and/or Maintained Poles



Nebraska Public Power District

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1. OVERVIEW

The purpose of this document is to provide uniform, consistent guidance for the attachment of foreign communication lines and wireless communication equipment to poles owned and/or maintained by Nebraska Public Power District (NPPD). This document identifies who may attach to NPPD poles, as well as the conditions that must be satisfied prior to granting permission to the Foreign Communications Attaching Party to attach. This document applies only to the attachment of foreign communication lines and wireless communication equipment and does not address the attachment of foreign electric supply lines.

It is the responsibility of all organizations that apply for attachment to NPPD facilities to read and understand this document as well as follow all applicable standards.

DEFINITIONS

Attachments – Any material, device, or apparatus attached to a joint pole.

Communication Line – The communication cable and its supporting hardware and equipment used for communication service.

Communication Space – The space on the pole dedicated for communication lines and wireless equipment as specified by the National Electrical Safety Code (NESC) Section 235.

Distribution – Electrical system designed to operate at nominal voltages less than 34.5kV.

Electric Supply Line – Those conductors used to transmit electric energy and their supporting hardware and equipment.

Foreign Communications Attaching Party – A telecommunications company, cable TV company, fiber optic company, or retail distribution system lessor.

Franchise – The right or license granted to an individual or group to market a company's goods or services in a particular territory.

Joint Pole – A pole occupied by the attachment of facilities of two or more Attaching Parties.

Joint Use – The simultaneous use of any pole for the attachment of facilities of two or more Attaching Parties.

License Agreement – A written contract outlining the terms and conditions for attachment between NPPD and the Foreign Communications Attaching Party.

Make-Ready Cost – All costs associated with the actions necessary to accommodate the joint use attachment.

Overlash Attachment – Each additional cable owned and operated by the Attaching Party placed onto an existing licensed cable owned and operated by the Attaching Party already attached to a pole.

Sub-Transmission –Electrical system designed to operate at nominal voltages of 34.5 kV and above, but less than 115 kV.

Telecommunications – The transmission of information between points specified by the user.

Transmission – Electrical system designed to operate at nominal voltages of 115 kV and above.

Wireless Communications – Radio communications equipment, including transmitters, receivers, antennas, and supporting equipment.

AUTHORIZED JOINT USE PARTIES

Foreign Communication Companies

NPPD will allow foreign communication companies providing a telecommunications service to attach facilities to non-transmission poles owned and/or maintained by NPPD, provided the Attaching Party requesting joint use meets all the requirements outlined in this document.

Retail Distribution System Lessor

The municipality that owns the electric distribution system that NPPD is leasing may attach facilities to non-transmission poles owned and/or operated by NPPD provided that all of the requirements outlined in this document have been met. The attachments must be associated with providing a telecommunications service.

2. APPLICATION PROCESS

2.1 Joint Pole Attachment (JPA) Request Form

Prior to making attachments, the applicant must have a Communication Attachment License Agreement with NPPD on file for the area of work and apply for and obtain prior permission for the use of each pole. To initiate this process, the applicant must complete the [Joint Pole Attachment Request Form](#) located on the NPPD.com website.

2.2 Submittals

The following items shall be submitted as an attachment to the JPA Request Form:

- (1) A map in pdf format which shows town/city and street names and the proposed route and location of all Joint Poles where the Attaching Party proposes to install its attachments. The map shall also include the proposed locations of splice points and excess cable storage. These maps shall be in one of the following standard drawing formats:
 - A size drawing 8 ½” x 11”
 - B size drawing 11” x 17”
 - C size drawing 17” x 22”
 - D size drawing 24” x 30”
 - E size drawing 30” x 42”
- (2) Communication cable and/or wireless communication design information as requested by NPPD Distribution Engineering. Cable information shall include but is not limited to weight per foot, design tension and diameter.
- (3) Copy of Surety Bond (See JPA Request Form for description)
- (4) Copy of Certificate of Insurance (See JPA Request Form for description)
- (5) A franchise, letter, or other form of approval from the municipality granting the Attaching Party the right to occupy public right-of-way and authorization to attach to poles owned by the municipality.

2.3 POLE LOADING ANALYSIS

- (1) A pole loading analysis shall be completed for each pole where a new communication attachment is proposed. This pole loading analysis shall utilize criteria detailed in the Design Requirements section of this manual.
- (2) The following tasks shall be completed for the pole analysis:
 - A. Field survey of existing structures (calibrated photos) utilizing IKE+ Devices and IKE Office Pro software.
 - B. Creation of pole loading models utilizing IKE PoleForeman software.
 - C. Creation of informational spreadsheet that includes pole

information, heights of all existing attachments, proposed cable size, proposed attachment height, proposed mid-span height and make ready recommendations.

- (3) The pole loading analysis shall be completed by NPPD personnel or by a third party under the direction of NPPD.
- (4) If the Attaching Party has access to an IKE+ Device and has received training on use of the device, they will be permitted to complete the field survey portion of the pole loading analysis. The field survey data will then be sent to the ikeGPS team for further analysis.
- (5) Any new Overlash Attachments are subject to the pole loading analysis requirements as described above. If the Attaching Party removes the existing cable already attached to the pole and replaces it with new cable of lesser diameter and weight, no pole loading analysis will be required.
- (6) The Attaching Party is responsible for all costs associated with the pole loading analysis. A cost estimate will be provided to the Attaching Party prior to starting the pole loading analysis. Payment of the amount of the cost estimate shall be required before starting the pole loading analysis.
- (7) Any portion of the estimated costs exceeding the actual charges to complete the pole loading analysis will be refunded to the Attaching Party. In the event the actual charges exceed the estimated costs, the Attaching Party is obligated to pay the additional amount to cover the actual charges.

2.4 MAKE READY

- (1) If Make Ready Costs are required, NPPD will inform the Attaching Party in writing explaining the reasons. If the Attaching Party chooses to proceed, a request in writing will be made to NPPD.
- (2) After receipt of the written request, NPPD will provide a cost estimate of the proposed work to the Attaching Party.
- (3) If the Attaching Party agrees with the estimate and submits payment for the Make Ready Costs, NPPD will proceed with the work.
- (4) Any portion of the estimated costs exceeding the actual charges to complete the Make Ready work will be refunded to the Attaching Party. In the event the actual charges exceed the estimated costs, the Attaching Party is obligated to pay the additional amount to cover the actual charges.

3. DESIGN REQUIREMENTS

3.1 GENERAL

- (1) NPPD does not allow new communication attachments on transmission structures. Any modifications to existing attachments on transmission structures will be reviewed by NPPD Transmission Engineering on a case-by-case basis and may be subject to additional requirements beyond those included in this manual.
- (2) Communication attachments will not be permitted on metal or decorative street light poles.
- (3) Attaching Party shall be responsible for the proper design, construction and maintenance of its attachments. Attachments generally will be limited to strand-supported cable, service drops, terminals and necessary appurtenances deemed by NPPD to be suitable for pole mounting.
- (4) Any rearrangements of NPPD facilities or replacement of poles required to accommodate Attaching Party's attachments shall be completed by NPPD personnel.
- (5) Attaching Party's attachments shall be plainly identified by an appropriate identification tag. The identification tag material shall be weatherproof, resistant to UV exposure, abrasion and temperature fluctuations and shall include the Attaching Party's name and cable type. The information on the tag shall be permanently marked and easily readable from a distance. The tag shall be securely fastened to the communication cable using a tie wrap, clamp or other suitable method appropriate for the cable type. At a minimum, an identification tag shall be installed at each pole attachment location.
- (6) Attaching Party's workers shall assure themselves that any pole to be climbed has sufficient strength or is adequately braced or guyed to support the additional weight of the workers.
- (7) All requirements of the National Electrical Safety Code (NESC) referred to herein shall mean the current Edition of such code, or any later amendment or replacement thereof, and shall include any additional requirements of any applicable Federal, State, County or Municipal code. Reference to the Safety Code, or the NESC, is one and the same meaning.
- (8) While many of the standards and technical requirements for Attaching Party's cable equipment and facilities are set forth herein, NPPD reserves the right to specify the type of construction required in situations not otherwise covered in this document. In such cases, NPPD will, in its

reasonable discretion, furnish to Attaching Party written materials which will specify and explain the required construction. NPPD requirements shall be applied in cases where codes, regulations, or NPPD requirements vary.

3.2 VOLTAGE, POWER, ELECTRICAL INTERFERENCE

- (1) Attaching Party's attachments shall not use voltages or carry currents in excess of the limits prescribed for communications conductors by the NESC. However, all parts of Attaching Party's attachments with voltages in excess of 50 volts AC (rms) to ground or 135 volts DC to ground, except for momentary signaling or control voltages, shall be enclosed in an effectively grounded sheath or shield. All energized parts of Attaching Party's attachments shall be suitably covered to prevent accidental contact by the general public, NPPD employees or workers of other Joint Users having facilities on the same pole.
- (2) NPPD shall determine whether Attaching Party's attachments cause or may cause electrical interference with NPPD facilities or with communication facilities of any other Joint User. On demand of NPPD, Attaching Party shall immediately correct any such interference at Attaching Party's expense including, if necessary, removal of the attachments causing the interference.
- (3) No attachment shall use the earth as the sole conductor for any part of the circuit.
- (4) Attaching Party shall not circumvent NPPD's or any other joint user's corrosion mitigation measures (e.g., short circuit insulating joints).

3.3 GROUNDING AND BONDING

- (1) Attaching Party's power supply cabinets shall be grounded. The neutral side of the power drop shall be continuous and not fused. The neutral line shall also be bonded to the power supply cabinet. The cabinet shall be connected to an earth ground at the pole. In areas where NPPD has a ground wire (which is connected to NPPD's neutral) running down the pole, the cabinet ground can be connected to it. Where a NPPD vertical ground wire is not available, Attaching Party must place a ground rod. All cabinets, housings and metal socket bases on a common pole shall be bonded to each other, to the communication strand and to Attaching Party's strand. Ground rods installed by Attaching Party shall be in accordance with the NESC.
- (2) Where two or more aerial suspension strands are located on the same pole, the suspension strands shall be bonded together. Attaching Party shall

attach the bonding wire to its strand and leave a sufficient length of wire to complete the bond. Where the strands of two or more Attaching Partys are to be bonded together, Attaching Party placing the last strand, if authorized to do so by the other Attaching Partys, shall make both connections. Where such authorization is not granted by Attaching Party owning the existing strand, Attaching Party shall attach the bonding wire to its strand and leave enough wire to permit making a connection to the other strand. In such case, Attaching Party owning the existing strand shall be responsible for completing the bonding. Attaching Party may bond its cable sheath to NPPD's common neutral, vertical ground wires, and ground rods at whatever frequency Attaching Party desires. All vertical ground wires shall be covered by a wood molding. Ground rods installed by Attaching Party shall be in accordance with the NESC.

- (3) Strands attached to the same bolt do not have to be bonded.
- (4) Where Attaching Party's strand leaves a pole which carries other strands supporting communications cables, and Attaching Party's strand continues to a pole carrying power facilities but no communications facilities, Attaching Party's cable shall be:
 - A. Bonded to the other communications strands on the pole that it leaves,
 - B. Bonded to an effective ground, preferably within two spans but not greater than ten (10) spans, after leaving said pole, and,
 - C. Bonded with a No. 6 solid, soft-drawn copper wire. The wire must be attached to the strand with an approved clamp, such as a lashing wire clamp, designed for attachment to each specific size of strand involved (for example, Chance Lashing Wire Clamp, Catalog No. 9000, or equivalent).
- (5) Strands supporting drop wire shall be bonded to the cable suspension strand.
- (6) Any connecting or bonding to NPPD facilities shall be done by NPPD and the connecting or bonding wire shall be sufficient length to allow NPPD to complete the connection or bond.

3.4 CLEARANCES

- (1) Both clearances at midspan and at pole attachment must satisfy all NESC minimum clearances.

- (2) Clearances shall be calculated using heavy loading district requirements per NESC Rule 250.
- (3) Clearances include all of the following: ground clearances, clearances to structures, clearances to electrical primary and secondary conductors, clearances to all other joint-use utilities.
- (4) Submittals shall document and evaluate:
 - A. All existing and proposed attachment heights at pole locations
 - B. All clearances between existing power/joint-use utilities at midspan or largest vertical sag.
 - C. All ground clearances for power/joint-use utilities at midspan or largest vertical sag.
- (5) Communication workers shall maintain minimum approach distances to any exposed electric supply lines as listed in Table 431-1 located in Section 43 of the NESC.
- (6) Minimum clearances at Pole
 - A. Primary electric wire(s) - 60"
 - B. Secondary electric wire(s) - 40"
 - C. Neutral - 40"
 - D. Street Light drip loop - 12"
 - E. Other non-electric joint-use utilities - 12"
 - F. Street light arms - 40" ungrounded or 20" grounded
 - G. Top of power risers - 40"
 - H. Guy wires - 6"
- (7) Minimum clearance at MID-SPAN or largest vertical sag.
 - A. Primary electric wire(s) - 48"
 - B. Secondary electric wire(s) - 30"
 - C. Neutral - 30"
 - D. Other non-electric joint-use utilities - 12"
- (8) Minimum ground clearance at MID-SPAN or largest vertical sag.
 - A. Non-accessible to vehicle traffic - 9.5' (Approval from NPPD)

- Distribution Engineering required to utilize this clearance)
 - B. NDOT Highways - 18'
 - C. Railroad Crossings - See Railroad Company Requirements
 - D. Water, Lake or Pond Crossing - Follow NESC
 - E. All other locations - 15.5'
- (9) The clearance and separations set forth in this document represent conditions most frequently encountered. The values listed are minimum and greater clearance shall be obtained where possible.

3.5 RISER LOCATIONS

- (1) Clean poles are preferred for communication risers, but when a clean pole is not available within one span of the preferred riser location, the following poles are acceptable:
- A. Poles with single phase fused or unfused taps
 - B. Single phase transformer poles
 - C. Poles with one existing secondary or communication riser. All risers should be located in the same quadrant of the pole to minimize conflicts if climbing is required.
 - D. Three phase transformer poles without a riser
- (2) Communication risers are **not allowed** on the following poles:
- A. Load break switch poles (LB, circuit ties)
 - B. Primary cable riser poles
 - C. Equipment poles including capacitor banks, recloser banks and regulators
 - D. Three phase transformer poles with a riser
 - E. Three phase junction poles
 - F. Transmission poles
 - G. Steel or decorative streetlight poles
 - H. Poles with more than one existing secondary or communication riser

3.6 LOCATION AND SPACING

- (1) Attaching Party's facilities shall be placed below and on same side of pole as existing communication attachments unless alternate attachment location is approved by NPPD. Existing communication conductors or equipment shall not be raised on pole to accommodate installation of new communication conductors unless approved by NPPD and the existing Attaching Party(s). Where there is no existing communication attachment, Attaching Party's attachments shall be placed on same side of pole as NPPD's secondary wires and/or common neutral wire.
- (2) Power supply cabinets and other pole-mounted equipment shall not be permitted below communication facilities on a pole where any of the following are present:
 - A. Underground riser cable or pipe.
 - B. Communication terminal.
 - C. Communication distribution terminal.
 - D. Communication closure.
 - E. Communication case.
 - F. Communication air dryer.
 - G. Other equipment of a size that would impair climbing or working space if an additional pole-mounted facility were installed.
- (3) Attaching Party shall be required to place all of its attachments, including amplifiers, power supplies, terminals, splitters and taps, so as not to interfere with climbing space, as defined in NESC Rule 236. Power supply conduit, weatherhead and arrester shall be approximately twelve (12) inches below NPPD's secondary wires.
- (4) Attaching Party shall not attach its facilities, except the termination of the bond wire when authorized, to communication strand or suspension bolt.
- (5) Attaching Party shall not install pole steps on NPPD owned or maintained poles.
- (6) Fiber optic splice enclosures shall be mounted on the communication messenger and located between ten (10) and twenty-five (25) feet from pole.
- (7) Excess communication cable shall be lashed on the messenger with a plastic "snowshoe" turnaround storage system. Round slack storage coils hanging vertically from messenger shall not be permitted.

- (8) When required, communication slack spans shall be limited to 50 feet or less.
- (9) A minimum of 3 continuous overhead spans shall be required for new communication attachments. If this minimum cannot be met, Attaching Party shall be required to utilize underground installation.

3.7 LOADING

- (1) Attaching Party shall furnish to NPPD the details as to the ultimate strength, tension at 60° F and maximum tension in its suspension strand or conductor under the applicable storm loading specifications of the NESC. Attaching Party shall furnish to NPPD details as to the weight and size of its cables, suspension strands and/or conductors, with and without the ice loading, as specified by the NESC Rule 251. Ice and wind loading shall be based on the heavy loading district per NESC Rule 250.
- (2) Distribution poles shall be evaluated using minimum Grade B construction. If existing pole loading fails at Grade B construction, evaluating using minimum Grade C Crossing construction shall be permitted. All new pole installations will be designed to minimum Grade B construction.
- (3) Sub-Transmission poles shall be evaluated using minimum Grade B construction.

3.8 GUYING

- (1) Guying will be required on poles where the total unbalanced load including the tension due to Attaching Party's attachments under the appropriate storm loading prescribed by NESC Rule 251, exceeds 200 pounds unless the pole was designed as an unguyed pole and the pole has adequate strength and stability, in the opinion of NPPD, to withstand the additional load.
- (2) Guys, when required, shall be of such material and dimensions as to provide adequate strength to withstand the transverse loads specified in NESC Rule 252B, and the longitudinal load assumed in NESC Rule 252C. Guys shall also be in compliance with NESC Rules 261C and 282. Material used for guys shall be compatible from a corrosion standpoint with the hardware to which it is attached. Communication guys shall meet the following minimum requirements:
 - A. 5/16" guy strand
 - B. 8" single helix anchor

C. 10' lead length

- (3) Guy guards shall be installed in compliance with NESC Rule 282E.
- (4) Communication guys shall be anchored separately from NPPD anchors.
- (5) Guy anchors must maintain a minimum of 5'-0" separation from all other anchors.
- (6) More than one Attaching Party may use a common guy to sustain their combined load. If an unused anchor rod eye is not available, a suitable auxiliary rod eye shall be used.
- (7) No new overhead or sidewalk guys shall be installed with prior approval from NPPD Distribution Engineering.
- (8) Guys shall be insulated as specified in NESC Rules 215 and 283 and at any location where Attaching Party's guy parallels an NPPD guy with an insulator. Attaching Party's guys shall not short circuit NPPD's guy insulators.
- (9) Cross guying of Attaching Party's guys with NPPD guys is not allowed.

4. POST INSTALLATION INSPECTION

Attaching Party shall provide written notification of completion to NPPD within thirty (30) days after completed installation of an attachment (including overlash, riser attachments, and/or service drops).

NPPD or its contractors may perform a post-installation inspection for each attachment made to NPPD owned or maintained pole. Attaching Party is responsible for all costs associated with the post-installation inspection. The inspection cost will be included in the cost estimate required to start the pole loading analysis. Attaching Party shall be responsible any additional charges that exceed the initial cost estimate.

If NPPD elects to not perform any post-installation inspection, such non-inspection shall not be grounds for any liability being imposed on NPPD or a waiver of any liability of Attaching Party.

NPPD will notify Attaching Party if the post-installation inspection reveals that the Attaching Party's facilities have been installed in violation of applicable standards or the approved design. The Attaching Party shall have thirty (30) days from the date of receipt of such notice to correct such violations. NPPD may perform subsequent post installation inspections once the correction has been made to ensure Attaching Party 's attachments have been brought into compliance.

NPPD will provide notice of the continuing violation if the Attaching Party 's attachments remain out of compliance with applicable standards or approved design after any subsequent inspection. The Attaching Party will have thirty (30) days from receipt of such notice to correct the violation.