



# Omaha Public Power District

## Joint Use Pole Attachment Manual

Revision #5

Issued 07/01/2026



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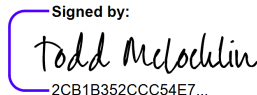


## 1.0 ACKNOWLEDGEMENT

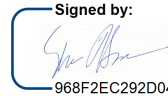
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### 1.01 Key Personnel

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### 1.02 Document Revisions

- Revision #2 Issued 10/11/2022
- Revision #3 Issued 02/21/2023
- Revision #4 Issued 05/10/2024
- Revision #5 Issued 07/01/2026



## **2.0 GENERAL INFORMATION**

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### **2.01 Scope**

The scope of this document is to provide guidance for joint use pole attachments on OPPD distribution line assets.

As a political subdivision of the State of Nebraska, OPPD is not subject to Federal Communications Commission pole attachment regulations; however, OPPD is committed to supporting broadband access throughout our service territory.

### **2.02 Definitions**

For the purposes of this document, the following definitions shall apply:

- **“Licensee”** shall refer to any entity proposing attachments to OPPD distribution line assets.
- **“Licensor”** shall refer to OPPD.
- **“Attachments”** shall refer to messengers, guy strands, aerial wires, cables, amplifiers, shrouds, associated power supply equipment, and any other transmission apparatus necessary for the proper operation of Licensee’s communications system.

### **2.03 National Electrical Safety Code (NESC)**

All requirements of the National Electrical Safety Code referred to herein shall mean the most 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. References to simply the “Safety Code”, or to “NESC”, have the same meaning. Licensee shall ensure attachments are installed and maintained in compliance with all applicable sections of the NESC, regardless of whether the section is specifically called out within this document.

### **2.04 Applying the Manual**

The requirements outlined within this manual are intended to ensure efficient use of space on OPPD poles while providing clearances required for public and worker safety, optimal operational performance, and OPPD’s ability to maintain a reliable, resilient electrical system for our customer-owners.

This manual is intended to be adaptable to all new and existing distribution lines within OPPD’s service territory. The responsible engineer(s) should educate themselves of special conditions that pertain to each individual project and/or distribution line, such as existing lines, land rights, local regulations, and other specific conditions that may justify altering or deviating from this manual. OPPD reserves the right to deny any attachment that, in its sole discretion, is detrimental to any of these objectives.

This manual is not an exhaustive list of requirements. While many of the standards and technical requirements for Licensee’s cable equipment and facilities are set forth herein, Licensor reserves the right to specify the type of construction required in situations not otherwise covered in this document. In such cases, Licensor will, in its reasonable discretion, furnish to Licensee written materials which will specify and explain the required construction. Where Codes, local regulations, or Licensor requirements vary, the more stringent shall apply. At a minimum, in all cases, all provisions of the NESC shall be met.



All exceptions to this manual, or applications not explicitly covered within the manual, shall be reviewed by Licensor or its designee, with any approved exceptions made in writing prior to attaching or installing. Any approved exceptions shall be applicable only to the specific location in question, and in no way shall be deemed to set any precedents for future applications. Such alterations or deviations from this manual shall not violate the provisions of the NESC.



## **3.0 GENERAL REQUIREMENTS**

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### **3.01 Licensee Responsibilities**

Licensee is responsible for the proper design, construction, and maintenance of its attachments.

### **3.02 Permissible Attachment Types**

Attachments generally will be limited to strand-supported cable, service drops, terminals, and necessary appurtenances reasonably deemed by Licensor to be suitable for pole mounting.

### **3.03 Prohibited Attachment Types**

Leasing of communication ducts utilizing OPPD manholes is not generally permitted. Requests for lease exceptions shall be submitted separately to OPPD by Licensee and reviewed by Licensor or its designee, with any approved exceptions made in writing prior to installation. ALL approvals shall be at OPPD's sole discretion.

Any communications ducts present in OPPD manholes shall be racked or otherwise mounted to the manhole surface. Communication splices and coils are strictly prohibited in OPPD manholes.

### **3.04 One-Touch Make-Ready**

To streamline the installation process, OPPD has adopted a "One-Touch Make-Ready" policy requiring Licensee or their approved contractor to make all necessary changes to communications and/or fiber attachments on a pole as part of their make-ready work. Any rearrangements of Licensor's facilities or replacement of poles required to accommodate Licensee's attachments shall be done by Licensor or a contractor authorized by Licensor.

### **3.05 Large Builds**

For larger builds (generally >199 poles), Licensee should discuss with Licensor options to hire an OPPD-approved 3rd party power make-ready contractor.

### **3.06 Fees**

The fees and charges specified in the "License Agreement" shall be applicable to all licenses granted to Licensee hereunder, without regard to the methods of attachment used.

### **3.07 Attachment Identification**

Licensee's attachments shall be plainly and clearly identified by appropriate marking satisfactory to Licensor.

### **3.08 Safety**

Licensee's workmen shall assure themselves that any pole to be climbed has sufficient strength or is adequately braced or guyed to support the weight of the workmen.



### **3.09 Inspection**

Licensors reserves the right to perform periodic inspection of Licensee attachments. Any attachments found to be made beyond the approved make-ready plan, or without having submitted a Joint Use Application, shall be subject to the terms in Article X of the Joint Use Agreement.

### **3.10 Priority and Removal**

OPPD operational requirements shall take priority over all communications attachments.

Licensors reserves the right to revoke approval or require removal of any Licensee attachments, as necessary, per Article VII of the terms of the "License Agreement".

Licensors reserves the right to refuse, revoke, or surrender of existing license by Licensee, as necessary, per Article IX the terms of the "License Agreement".



## **4.0 ELECTRICAL CONSIDERATIONS**

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### **4.01 Voltage**

Licensee's attachments shall not use or carry voltages or currents in excess of the limits prescribed for communications conductors by the National Electrical Safety Code (Definitions). However, all parts of Licensee's attachments carrying 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 Licensee's attachments shall be suitably covered to prevent accidental contact by the general public, Licensor's workmen, or workmen of another licensee having facilities on the same pole.

### **4.02 Electrical Interference**

Licensor shall reasonably determine whether Licensee's attachments cause or may cause electrical interference with Licensor's or any other Licensee's communication facilities. Licensee shall, on notice of Licensor, correct promptly at Licensee's expense any such interference including, if necessary, removal of the attachments causing the interference.

### **4.03 Earth Conduction**

No attachment shall use the earth as the sole conductor for any part of the circuit.

### **4.04 Corrosion Mitigation**

Licensee shall not circumvent Licensor's or any other Licensee's corrosion mitigation measures (e.g., short-circuit insulating joints).

### **4.05 Grounding and Bonding**

Proper grounding and bonding shall be provided by Licensee in accordance with the latest edition of the NESC. Additional requirements may be required for local permitting.



## **5.0 APPLICATION PROCESS**

### **5.01 Overview**

In the interest of both Licensee and Licensor to maintain current map records and attachment counts, an "Application for Joint Use Pole Attachment Licenses", hereinafter called "Applications", and "Notice of Removal of Pole Attachment", hereinafter called "Removal", shall be filled out for each project.

### **5.02 Application Limits**

Applications and removals shall be limited to 100 poles unless a different quantity is agreed to by both Licensor and Licensee. Each application shall be clearly labeled to provide clear indication of the project it is associated with.

To ensure equitable access to OPPD's facilities and timely completion of approved work, a maximum of 1,000 total poles per Licensee shall be allowed at any given time to be under application review. As pole attachment projects are approved for construction additional applications may be submitted up to the 1,000 total pole limit. No poles will be held for attachment until a completed application is submitted.

When multiple applications are made on a pole, a queue will be established to prioritize applications on a first come, first served basis.

### **5.03 Inactivity**

Any approved applications which have not commenced within 30 days of work plan approval, with continuous construction activity, shall be considered terminated, unless Licensor has agreed in writing to a longer period for such attachment. Poles with terminated applications shall again be made available on a first come, first served basis. Terminated applications will not be automatically reconsidered and must go through the standard submittal and review process.

### **5.04 Costs**

All make-ready costs associated with an application are the sole responsibility of Licensee. Licensor will not facilitate or administer any cost sharing arrangements between Licensees.

### **5.05 Coordination**

Licensees are encouraged to coordinate with OPPD prior to data collection or submittals to understand potential project overlap. OPPD will not share any company-specific data, but will share areas of known work, to assist in coordination. Due to the dynamic nature of the work, OPPD cannot guarantee the completeness of the information shared. Data collection and analysis is strongly discouraged in areas of known overlap, as existing conditions will change, resulting in re-work.

### **5.06 Joint Submittals**

Where all parties agree in advance, OPPD will allow joint submittals. All cost sharing agreements associated with joint submittals, including but not limited to: data collection, reviews, make-ready work, inspections, and any other costs associated with the project shall be the sole responsibility of Licensees. OPPD will not facilitate or administer any cost sharing agreements between Licensees. When Licensee



proposes overlap or new attachment at pole with only communication facilities, Licensee will need to contact owner of the pole to confirm approval to attach. If a communication pole falls under OPPD facilities, the pole must either be removed or changed out to an OPPD-owned pole that will encompass all OPPD facilities.

### **5.07 Application Submittals**

Licensee shall complete the application(s) or removal(s) and submit via Licensor's Pole Attachment Portal. Applications shall include summary data, pole loading calculations, and drawings needed to complete the review. Anticipated splice case locations should be included on the drawings.

### **5.08 Drawing Submittals**

Drawings shall be submitted in pdf format via Licensor's Pole Attachment Portal in one of the following standard drawing formats:

- A size drawing: 8½" 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"

Additionally, strand maps shall be provided outlining proposed routes and pole locations. Pole locations on drawings accompanying application(s) or removal(s) shall be to scale and identifiable by relative position to streets and/or addresses. Span lengths, riser locations, down guy locations, splice locations, and slack spans shall be shown. Identification of poles where attachment is prohibited due to equipment or configuration shall also be identified per the "Design Requirements" section of this document.

### **5.09 Application Review**

Licensor shall assign the Application a number and if license is granted, return a copy with letter to Licensee.

### **5.10 Make-Ready Costs**

All make-ready costs shall be governed by the "License Agreement".

If costs associated with "Make-Ready Plans" are required, Licensor will inform Licensee in writing explaining the reasons. If Licensee chooses to proceed, a request in writing will be made to Licensor.

After receipt of the written request, Licensor will prepare a "Make-Ready Cost Estimate" and return to Licensee. After Licensee reviews and approves the approximate cost, the estimate is signed and the original is returned to Licensor.

OPPD encourages Licensee to hire an OPPD pre-approved contractor to complete work associated with the make-ready plan. Licensor or OPPD pre-approved contractor will then proceed with the work per the make-ready plan which shall be promptly performed.



After Licensor or OPPD pre-approved contractor has completed all work in conjunction with the make-ready plan, and actual and reasonable costs are determined, Licensor will submit a bill to Licensee.

#### **5.11 Make-Ready Plan Modifications**

If any updates or modifications to the approved make-ready plan are required during construction, Licensee shall submit an updated make-ready plan, pole loading report, and strand map reflecting the proposed changes prior to construction for OPPD review and approval.

#### **5.12 Post-Construction Inspection**

Upon completion of each project, Licensor shall perform post-construction inspections at Licensee's expense, as required, to validate compliance with approved make-ready plans and identify any punch list items to be addressed. Licensee shall submit a revised pole loading report for any poles with punch list items to ensure adequacy of the pole in its final configuration.

#### **5.13 Punch List Items**

All punch list items identified during post-construction inspection shall be addressed and closed out within 30 days of notification. After 30 days, delinquent punch list items will be considered in violation and subject to terms of the "License Agreement".

#### **5.14 Attachment Maintenance**

Existing communication attachments requiring in-kind replacement of communication facilities for maintenance purposes are exempt from requiring submittal of a joint use pole attachment application by Licensee. Licensee shall still be required to notify Licensor of any maintenance activity exempt from submittal.

Overlapping of existing communication attachments does not constitute maintenance and shall require submittal of a joint use pole attachment application.

Any communication maintenance activity shall address all outstanding violations present within the work location prior to maintenance being performed.

Any instances of new attachment work having been performed by Licensee under the guise of maintenance, in the sole judgement of Licensor or its designee, shall result in suspension of all Licensee application reviews until such attachments have been removed.



## **6.0 DESIGN REQUIREMENTS**

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### **6.01 Overview**

The following minimum requirements shall be considered before a joint use pole attachment application is submitted to OPPD. Applications that fail to meet any of the criteria prescribed herein may be rejected and returned for revision.

### **6.02 Attachment Restrictions**

OPPD prohibits or restricts communication attachments on certain types of poles and structures as defined in this section. Exceptions may be approved on a case-by-case basis subject to additional requirements.

#### **6.02a Transmission Structures**

OPPD will not allow new attachments on transmission structures. Any modifications to existing attachments on transmission structures will be reviewed by OPPD's Transmission Engineering team on a case-by-case basis and may be subject to additional requirements beyond those included in this manual.

#### **6.02b Specialty Poles**

OPPD will not allow pole-to-pole attachments on steel or decorative street light poles. Small cell sites and other single-pole attachments may be approved on a case-by-case basis and shall be subject to additional requirements.

#### **6.02c Intermediate (Intersect) Poles**

OPPD will not allow setting intermediate poles (intersetting) solely for the benefit of communication attachments. In select instances, Licensor may elect to interest a pole where the new pole provides benefit to both OPPD and the communication provider.

#### **6.02d Overlashing**

Overlashing of any existing communication attachment shall require Licensee to submit a joint use pole attachment application. Overlashing work subject to joint use pole attachment application review includes attachment, expansion, or replacement of any new communication cable or fiber supported by an existing communications attachment. All inactive communication attachments shall be removed from OPPD poles by Licensee prior to approval of the make-ready plan.

### **6.03 Clearances**

All horizontal and vertical clearances, both at midspan and pole attachment, shall satisfy OPPD and NESC clearance minimums. Where minimum clearances differ, the more restrictive shall apply.

All of the following clearances shall be considered: ground clearances, clearances to structures, clearances to electrical primary and secondary conductors, and clearances to all other joint use utilities.



Application submittals shall document and evaluate:

- ALL existing and proposed attachment heights at pole locations
- ALL clearances between existing power/joint use utilities at midspan or largest vertical sag
- ALL ground clearances for power/joint use utilities at midspan or largest vertical sag

Refer to **Appendix A** for additional information regarding NESC clearance minimums.

**6.03a Minimum Clearances at Pole**

The following minimum clearances at the pole shall be met (**NESC Table 235-5**):

- Primary electric conductors: 72" \* (OPPD Standard) (**48" NESC Table 235-5**)
- Secondary electric conductors: 40"
- Neutral: 40" \*\* (OPPD Standard)
- Street light drip loop: 12" \*\*\*
- Ungrounded street light arms: 40" \*\*\* (OPPD Standard is to utilize UG arms)
- Other non-electric joint use utilities: 12" \*\*\*\*
- Top of power risers (u-guard): 40" (**NESC Rule 239G1**)
- Down guys to comm. attachments: 6" (**NESC Table 235-6**)
- OPPD span guys: 12" (OPPD Standard) (**6" NESC Table 235-6**)

\* At OPPD's discretion, existing 60" spacing may be grandfathered, but existing clearances less than 72" will not be allowed to be further compressed (e.g.: an existing 65" clearance cannot be moved up to 60" to gain additional space on the pole). If a make-ready requires a pole change out, 72" will be required.

\*\* OPPD will not allow reduction to 30" at the pole even if the communication messenger is bonded to the neutral throughout the service area (**NESC Table 235-5**).

\*\*\* Upon request, OPPD will complete make-ready work to ground the street light arm and cover the street light drip loop to reduce clearances to 4" and 3", respectively. This option may not be available for some applications where crews do not have drive-up access to poles, or on OPPD Load break switch (LB) or fused cut-out switch poles (**NESC Table 238-2 for arm clearances, NESC Rule 238D for drip loop exception**).

\*\*\*\* OPPD will allow reduction to 6" upon mutual written agreement between all attachers and provided the reduced clearance does not impede any utility's access to maintain their equipment.

**6.03b Minimum Clearances at Mid-Span or Largest Vertical Sag**

The following minimum clearances at mid-span or largest vertical sag shall be met (**NESC Rule 235C2b**):

- Primary electric conductors: 60" (OPPD Standard)
- Secondary electric conductors: 30"
- Neutral: 40" \*
- Other non-electric joint use utilities: 12" \*\* (Typically)

\* OPPD will not allow reduction to 30" at the mid-span even if the communication messenger is bonded to the neutral throughout the service area (**NESC Table 235-5**).

\*\* Where communication attachments must cross mid-span to maintain design tension, abrasion guards or other protection should be applied to protect both facilities.



**6.03c Minimum Ground Clearance at Mid-Span or Largest Vertical Sag**

The following minimum ground clearance at mid-span or largest vertical sag shall be met (**NESC Table 232-1**):

	Primary	Neutral/Comm.
• Non-accessible to vehicle traffic:	14.5'	9.5'
• Roads, alleys, and general ROW:	18.5'	15.5'
• Farm entrances:	21.5' *	18' *
• BN/UP railroad crossings:	26.5'/29.5'	23.5'
• Water, lake, or pond crossing:	20.5'-40.5'	17.5'-37.5'
• NDOT highways:	20'	18'
• City of Omaha roadways:	Follows NESC	Follows NESC

\* Minimum clearance values. Clearance shall be adjusted to maintain 1.5' above the tallest known vehicle utilizing the entrance (combines, sprayers, etc.).

Licensee shall confirm minimum clearances with local jurisdictions, the more restrictive shall apply.

**6.03d Grandfathered Clearances**

OPPD recognizes that NESC requirements for clearances over residential drives have evolved over time. For installations prior to 1984, lower clearances were allowed. Taking into account the NESC grandfathering requirements, and considering the potential safety risks associated with modern vehicle traffic, OPPD has adopted the following policy regarding grandfathering clearances over residential drives:

New attachments:

- All new attachments shall meet current NESC requirements, including the 15.5' requirement over residential drives

Overlapping communication lines originally installed after 1984:

- All overlapping shall be required to meet current NESC requirements, including the 15.5' requirement over residential drives

Overlapping communication lines originally installed prior to 1984:

- A minimum 12.5' clearance shall be required over residential drives
- All clearances over roadways, commercial drives and alley crossings shall be required to maintain a minimum 15.5' clearance
- It shall be the responsibility of the attachment owner to certify that the original installation was completed prior to 1984, and to maintain all records required to prove the existing circuit meets the requirements of the NESC grandfathering clause. Licensee shall provide verification of grandfathering qualifications to OPPD upon request



## **6.04 Risers**

Any transition between overhead and underground at a pole location is considered to be a riser, regardless of size.

### **6.04a Pole Designations**

Poles are considered to be “Clean Poles” if no existing risers, junctions, taps, transformers, or other equipment is presently installed on a pole. Poles are considered to be “Truck Accessible” if a large bucket truck has 24/7 drive up access in all weather conditions. Poles that do not have 24/7 drive up access are considered to be “Cash-and-Carry”.

### **6.04b Installation**

Clean poles are preferred for communication riser installation whenever possible. When a clean pole is not available within one span of the preferred riser location, riser installation may be permitted depending on the pole designation and configuration.

### **6.04c Multiple Risers**

A maximum of two total secondary or communication risers shall be allowed on a pole. All risers should be located in the same quadrant of the pole to minimize conflicts if climbing is required. Where multiple risers from one provider are installed on a pole they shall be installed under a single u-guard. Multiple risers located under a single u-guard shall be considered one riser.

### **6.04d Truck Accessible Poles**

Communications risers may be installed on the following truck accessible poles (in order from most preferable to least):

- Clean poles
- Poles with single phase fused or unfused taps
- Poles with one existing secondary or communication riser
- Single phase transformer poles
- Three phase transformer poles without a riser

Communication risers are not permitted on the following truck accessible poles:

- Load break switch (LB) poles
- Fused cut-out switch poles
- Primary cable terminal (CTP) medium voltage riser poles
- Poles with two existing secondary or communication risers
- Equipment poles, including capacitor banks, recloser banks, and regulators
- Three phase transformer poles with a riser
- Three phase junction poles
- Transmission poles
- Dead-end poles
- Steel or decorative street light poles



#### **6.04e Cash-and-Carry Poles**

Communications risers may be installed on the following cash-and-carry poles:

- Clean poles

Communication risers are prohibited on all other cash-and-carry poles.

#### **6.04f References**

Refer to **Appendix B** for additional information regarding common pole configurations and riser restrictions.

#### **6.05 Guying**

Guying of OPPD poles is required to counterbalance load forces from electrical conductors, equipment, and joint use pole attachments.

Guying of electrical conductors and communication attachments is required for any pole with a total unbalanced load exceeding 400 lbs. of heavy-loaded tension.

At locations where tension loads step down but the total unbalanced pole load is less than 400 lbs., Licensor may, in its sole discretion, require guying at one or more poles to back up loading.

#### **6.05a Restrictions**

Guying shall not be permitted at load break switch pole locations.

Licensor may prohibit guying at other locations where, in the sole judgement of Licensor or its designee, guying creates a real or perceived operational concern.

#### **6.05b Make-Ready Work**

When make-ready work, including pole change outs, re-framing of power, or reconfiguration of OPPD guying is required at existing guyed structures, all work shall be completed in accordance with current OPPD guying standards, including installation of separate guys at the primary, secondary, and neutral/shield wire positions.

#### **6.05c Line Angles**

Guying is required at all line angle locations greater than 5 degrees.

#### **6.05d Bisecting Angles**

Guying of bisecting angles is permitted for running corners of 20 degrees or less. For any angle greater than 20 degrees, communications attachments shall be dead-ended and guying must back up loading in each direction independently.



**6.05e Slack Spans**

A maximum of one slack span not longer than 100’ will be permitted, provided all OPPD and NESC clearance minimums are maintained.

A maximum of three slack spans are permitted for service drops.

Bi-directional slack spans are prohibited.

**6.05f Span Guys**

Span guys shall be allowed to extend a maximum of three spans to allow for proper anchoring.

**6.05g Sidewalk Guys**

The City of Omaha strives to avoid sidewalk guys, especially in neighborhoods. As such, written approval must be obtained from the City or entity having jurisdiction prior to any sidewalk guy installation. It shall be the responsibility of Licensee to obtain sidewalk guy approvals.

**6.06 Anchoring**

Guy anchors shall be installed in right-of-way or within existing easements whenever possible. No anchor shall be set on private property without proper easements.

All easements and permitting associated with anchoring shall be the sole responsibility of Licensee.

Anchors shall be installed in line with guying load.

Anchors shall be installed per manufacturer’s recommendations.

**6.06a Identification and Rating**

OPPD anchor assemblies have varied over time. Unless OPPD records indicate otherwise, typical anchor ratings are as follows:

- Single eye: 6,000 lbs (6M) **(NFNC)**
- Double eye: 10,000 lbs (10M) **(NFNC)**
- Triple eye (rounded shaft): 16,000 lbs (16M)
- Triple eye (squared shaft): 20,800 lbs (20.8M)
- Screw-on head: 10,000 lbs, unless verified otherwise from OPPD records
- Anchor with auxiliary eye: 12,000 lbs auxiliary eye, 20,800 lbs main eye **(NFNC)**

Anchor rating shall be assumed to be 6,000 lbs (6M) unless verified otherwise.

**6.06b Attachment Limits**

Communications guys should be anchored separately from OPPD anchors. Where space limitations do not permit separate anchors, shared anchors may be approved by exception at Licensor’s sole discretion.



Attaching more than one guy wire to the same anchor groove is prohibited.

Communications anchors and guys must be installed prior to installing or transferring attachments.

The maximum number of guy wires permitted to be attached to an existing anchor varies by anchor type. All existing anchors shall be evaluated for capacity, regardless of type.

Where an existing communications attachment shares an anchor with OPPD, the shared anchor will be allowed to remain as long as it is not overloaded. If a pole change out is required, all communications guys should be transferred to a dedicated communications anchor.

### **6.06c Utilization Limits**

Anchor utilization shall not exceed 75% of rating, regardless of type. Anchors exceeding 75% utilization shall be upgraded, including any existing OPPD anchors exceeding 75% utilization after transfer of communication guys to a dedicated anchor.

### **6.06d Clearances**

All guy anchors should maintain a minimum 5'-0" separation from all other anchors. Where space does not permit 5'-0" separation, a reduced separation may be approved subject to the following guidelines:

- Minimum lead shall not be less than 1/3 of the attachment height (attachment height / 3) or 5'-0", whichever is greater.
- If loading of all anchors is less than 75% of anchor capacity, 3' separation is acceptable.
- If either the minimum lead length or minimum separation cannot be maintained, OPPD's anchor should be upgraded to a shared anchor.

In metropolitan areas, all new OPPD and communication guys shall maintain a minimum 5'-0" distance from the edge of drives, with 10'-0" preferred. In rural areas subject to farm equipment or other large vehicles, a minimum 10'-0" distance from the edge of drives shall be maintained, with 20'-0" preferred.

Guying and anchoring shall be arranged such that guy wires do not cross.

### **6.06e References**

Refer to **Appendix C** for additional information regarding anchor identification.

## **6.07 Poles**

While various pole types exist on OPPD's system, make-ready plans and strength evaluations should be based on current OPPD standard pole lengths and sizes.

### **6.07a Length and Class**

Pole lengths range from 35'-55' in 5' increments, and are available in Class 2, 4, and 6 (up to 40'). Class 3 poles should be modeled as Class 4. Class 5 or 6 poles should be modeled as Class 6.



### **6.07b Loading Analysis**

For each pole with a proposed attachment, Licensee shall complete and submit a detailed pole loading analysis verifying available pole capacity and utilization.

Pole loading analysis shall be submitted in O-CALC format. OPPD has designated O-CALC as its preferred analysis format for all submittals due to its accuracy, industry prevalence, familiarity, and fulfillment of all NESC and OPPD evaluation requirements. Alternate formats may be utilized by Licensee while developing evaluations, however, applications with pole loading analysis submittals in formats other than O-CALC will be rejected and returned for revision.

Each detailed pole loading analysis shall contain the following:

- Digital photos of each pole
- Pole brand information, including pole length and class
- Span lengths and associated line angles for all attachments
- Complete electrical and communication equipment data, including type, size, and orientation
- Complete pole attachment attributes, including type, owner, height, clearance, and size
- Pole strength evaluation of worst-case loading verifying utilization limits are not exceeded

Licensee may request exemption from the required pole loading analysis provided ALL of the following conditions are met:

- Pole supports only single phase primary
- Pole is located within a line segment where Grade “C” construction is permitted (not over a railroad, limited access highway, etc.)
- Pole is unguyed with balanced loading
- Pole does not support any equipment (no transformers, capacitor banks, reclosers, etc.)
- Pole will support a total of 3 or fewer communication attachments (2 or fewer for Class 6 poles) after installation of proposed attachment

OPPD reserves the right to require a detailed pole loading analysis be completed for any pole where, in the sole judgement of Licensor or its designee, there is a real or perceived loading concern.

For all poles, regardless of whether a detailed pole analysis is required, Licensee shall complete a detailed visual condition inspection and thorough clearance review per the “Clearances” section of this document.

### **6.07c Visual Inspection and Red Tagging**

Each pole with an attachment shall be visually inspected by Licensee for any abnormality that may compromise the structural integrity of the pole. Structurally compromised poles shall be referred to Licensor for evaluation and/or make-ready replacement before attaching.

“Red tagged” poles are poles deemed to be structurally deficient through OPPD’s regular pole inspection program and should be referred to Licensor for replacement prior to attaching.

Refer to **Appendix D** for additional information regarding red tagged pole identification.



### **6.07d Record Data**

Upon request, OPPD will provide pole record data, including locations, height, class, and wire sizing. While OPPD strives to maintain accurate records, this data should be used for reference only and is not guaranteed accurate. Where OPPD pole record data varies from field measurements, field data shall be used.

### **6.07e Wire Tension**

All conductors shall be modeled at full tension. OPPD sag, tension, and ruling span data shall be used for modeling OPPD facilities. This information is available through OPPD's online "Pole Attachment Portal" available at OPPD.com.

### **6.07f Loading Criteria**

Poles shall be analyzed per the following loading criteria:

- Each pole shall be evaluated using minimum Grade "C" construction, or Grade "B" where prescribed by NESC (**NESC Table 253-1**)
- Ice and wind shall be considered based upon the heavy-loading district (**NESC Table 250-1**)
- All applicable overload capacity factors shall be used (**NESC Table 253-1**)
- Where applicable, NESC extreme wind loading shall be applied (**NESC Rule 250C**)
- All strength factors shall be used (**NESC Table 261-1A**)
- If conductor height exceeds 60' (typically at creek or highway crossings), extreme wind and extreme ice with concurrent wind loading criteria shall be used (**NESC Rule 250C and NESC Rule 250D**)

### **6.07g Utilization Limits**

Pole utilization with proposed attachments shall be determined through detailed pole loading analysis.

For Grade "C" construction, the total factored ground line moment shall not exceed 80% of the factored ultimate resisting moment of the pole.

For Grade "B" construction, the total factored ground line moment shall not exceed 90% of the factored ultimate resisting moment of the pole.

Attachment to poles exceeding maximum allowable utilization shall not be permitted without make-ready work.

### **6.08 Stub Poles**

Stub poles are OPPD poles that no longer support electrical conductors or equipment as a result of vacating due to operational or maintenance requirements, replacement with an adjacent pole due to age or condition, or other make-ready work. Stub poles are typically shortened to a height just above any communication attachments.



### **6.08a Transfer and Removal**

For stub poles resulting from OPPD vacating or replacement, Licensor will provide notification to all existing communication Licensees with attachments still present on the pole at the time of vacating or replacement. All Licensees shall then be required to permanently transfer their exiting attachments from the stub pole in accordance with OPPD requirements and the latest edition of the NESC. Licensees shall be granted 30 days to complete their transfer, after which all remaining Licensees with attachments still present on the stub pole shall assume ownership of the stub pole, and shall be required to remove the stub pole by a cut below grade and dispose of waste off premises.

For stub poles resulting from make-ready work, the make-ready Licensee shall be responsible for ensuring all attachment transfers and stub pole removal work is completed. Make-ready applications will not be approved prior to stub pole removal.

### **6.08b Legacy Stub Poles**

Legacy stub poles are existing stub poles supporting only existing communication attachments located adjacent to make-ready work. Legacy stub poles are typically shorter in height having been cut off just above any communication attachments.

When violations are present at legacy stub poles as part of make-ready work, the make-ready Licensee shall be responsible for ensuring all violations are resolved in accordance with OPPD requirements and the latest edition of the NESC. Make-ready applications will not be approved prior to resolution of all legacy stub pole violations.

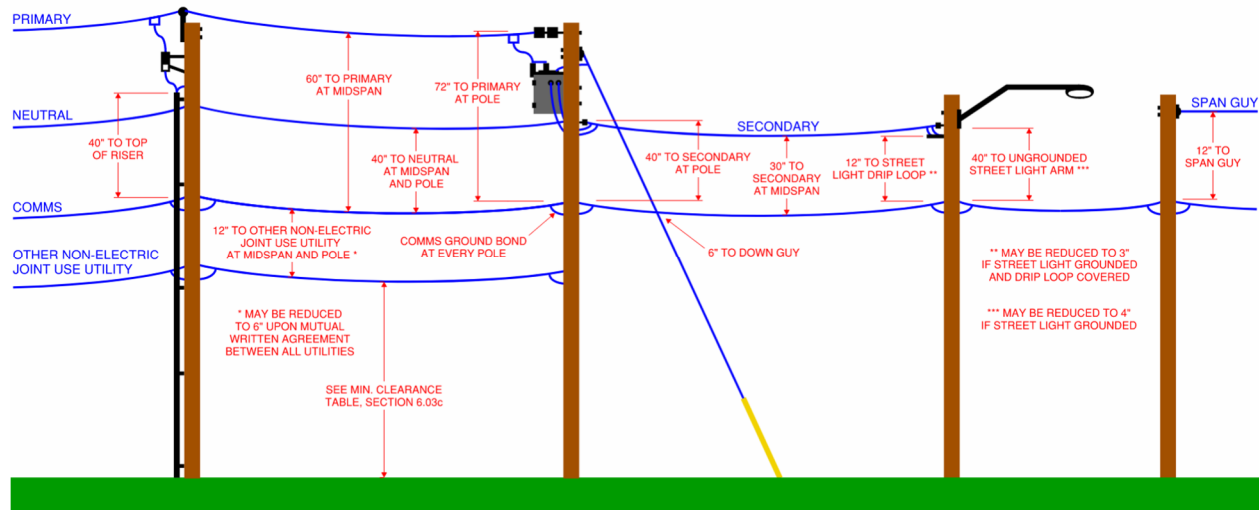


## 7.0 APPENDIX

### APPENDIX A NESC Clearance Minimums

The following illustrates clearance minimums per NESC. All horizontal and vertical clearances, both at midspan and pole attachment, shall satisfy OPPD and NESC clearance minimums. Where minimum clearances differ, the more restrictive shall apply.

#### A.01 NESC Clearances to Communication Cables





## **APPENDIX B Pole Configurations and Riser Restrictions**

The following examples illustrate several common pole configurations where communications risers are prohibited or restricted.

### **B.01 Load Break Switch (LB) Pole**

Communications risers are NOT allowed. Easily identified by their upward facing crossarm braces.





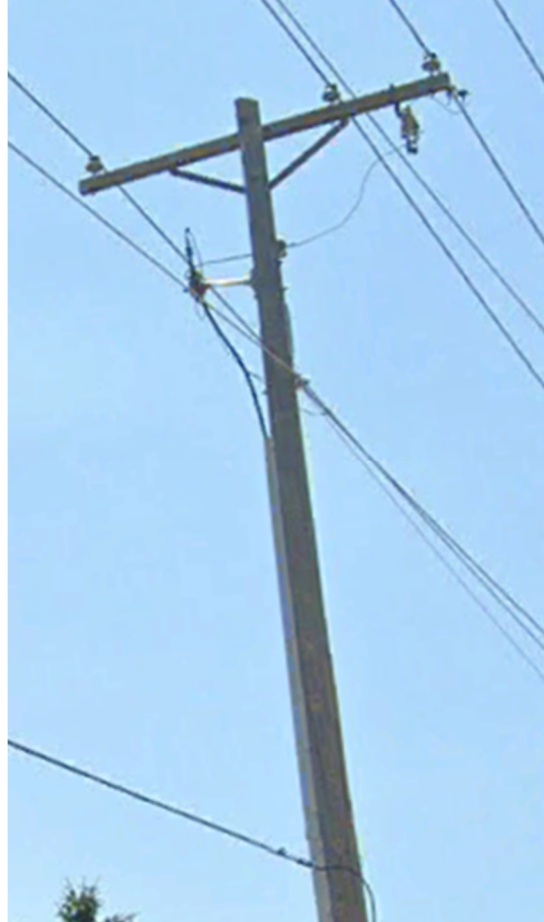
**B.02 Primary Cable Terminal Pole (CTP)**

Communications risers are NOT allowed. Locations where medium voltage distribution lines transition from overhead to underground.

**Three Phase Cable Terminal Pole**



**Single Phase Cable Terminal Pole**





### **B.03 Capacitor (Cap) Bank**

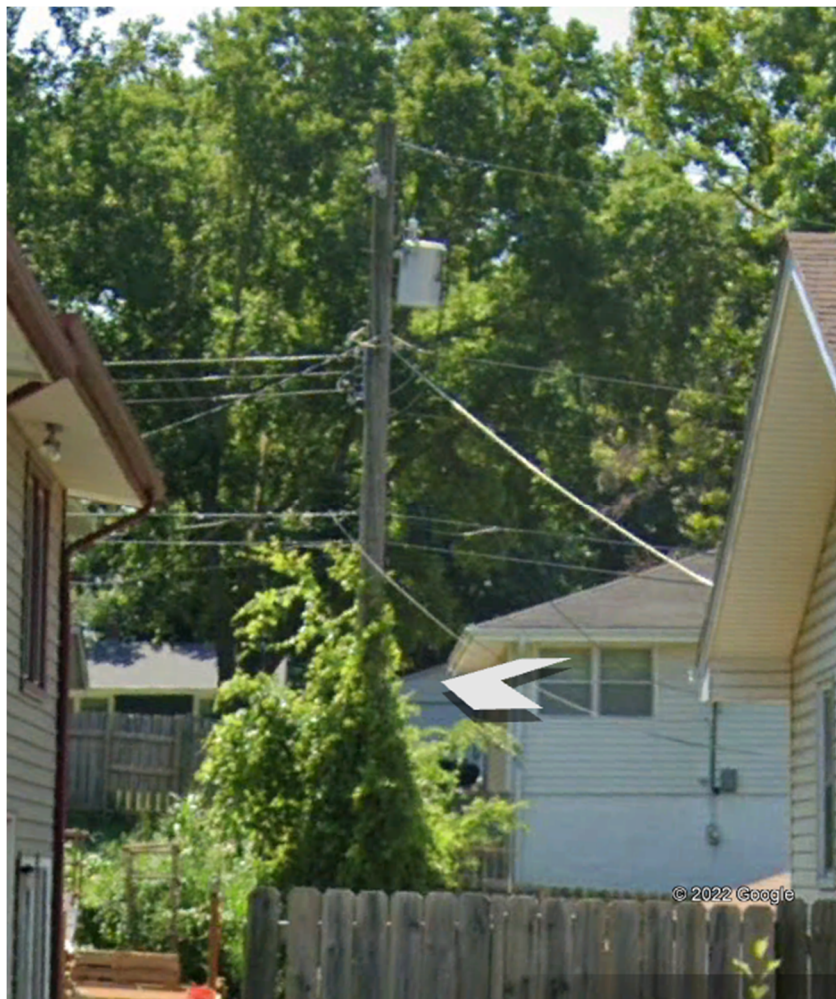
Communications risers are NOT allowed. Easily identified by equipment rack.





**B.04 Cash-and-Carry Transformer Pole**

Communications risers are NOT allowed. Transformer poles located in back yards or are otherwise not truck accessible.





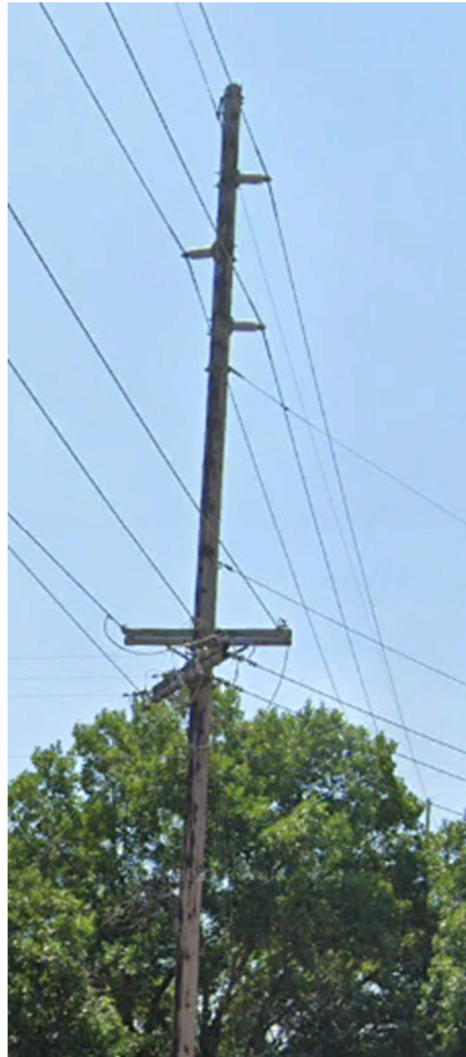
**B.05 Transmission Pole**

Communication risers are NOT allowed. Prohibited on both steel and wood poles.

**Steel Transmission Pole**



**Wood Transmission Pole**





**B.06 Truck Accessible Transformer Pole**

Communication risers are RESTRICTED. Communications risers should be avoided on truck accessible transformer poles whenever possible, but may be permitted where space constraints limit other available options.

**Three Phase Truck Accessible Transformer Pole**



**Single Phase Truck Accessible Transformer Pole**





**B.07 Drive-Up Accessible Tap Poles**

Communication risers are PERMITTED (WITH EXCEPTION). Communications risers are permitted on single phase tap poles that are drive-up accessible. Communications risers are generally not permitted on three-phase tap poles, but may be approved by written exception on a case-by-case basis if other viable options are not available.

**Single-phase tap pole (acceptable)**



**Three-phase tap pole (written exception only)**





**B.08 Dead-End Pole**

Communication risers are NOT allowed. Both the three phase line and the single phase line are dead-ended on the pole shown. Dead-end poles often have conductor traveling only one direction with guying on the opposite side.





**B.09 Stub Poles**

Contact stub pole owner (communications company) regarding riser restrictions. Short, cut off poles with no power conductors carrying only communications attachments.





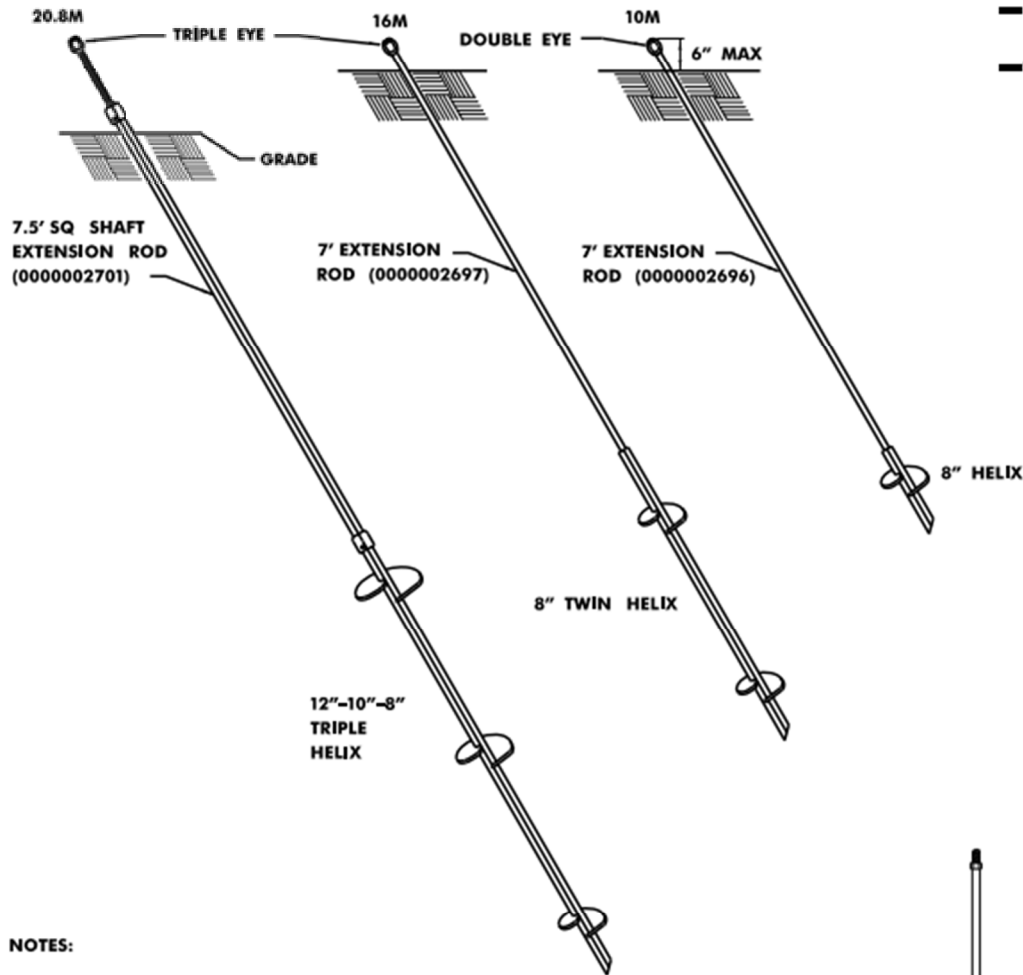
**APPENDIX C Anchor Identification and Ratings**

The following information is provided to help identify the types and ratings of standard OPPD anchors.

**C.01 OPPD Standard Anchor Assemblies**

**ANCHOR ASSEMBLIES  
FOR 10M(NFNC), 16M, & 20.8M GUYS**

**STD 0435-A**    **10M(NFNC)**  
**-B**    **16M**  
**-C**    **20.8M**



**NOTES:**

- 1 **HOLDING STRENGTH IS BASED ON INSTALLED TORQUE.**
- 2 **EXTENSION MAY BE ADDED TO 20.8M ASSY TO REACH INSTALLED TORQUE.**
- 3 **TOP HELIX MUST BE A MIN OF 5 TIMES THE HELIX DIAMETER INTO THE SOIL.**
- 4 **CALL ENGINEER IF HOLDING PROBLEMS ARE ENCOUNTERED.**
- 5 **OVERLOAD CAPACITY FACTORS ARE IN NESC TABLE 261-1A-1997 OR LATEST EDITION THAT PREVAILS**

**42" EXTENSIONS FOR 16M ANCHORS -  
3/4" X 42" EXTENSION (12224)**

**C.02 6M Anchor**

Single eye, 6,000 lbs rating. (NFNC)





**C.03 10M Anchor**

Double eye, 10,000 lbs rating. **(NFNC)**





**C.04 16M Anchor**

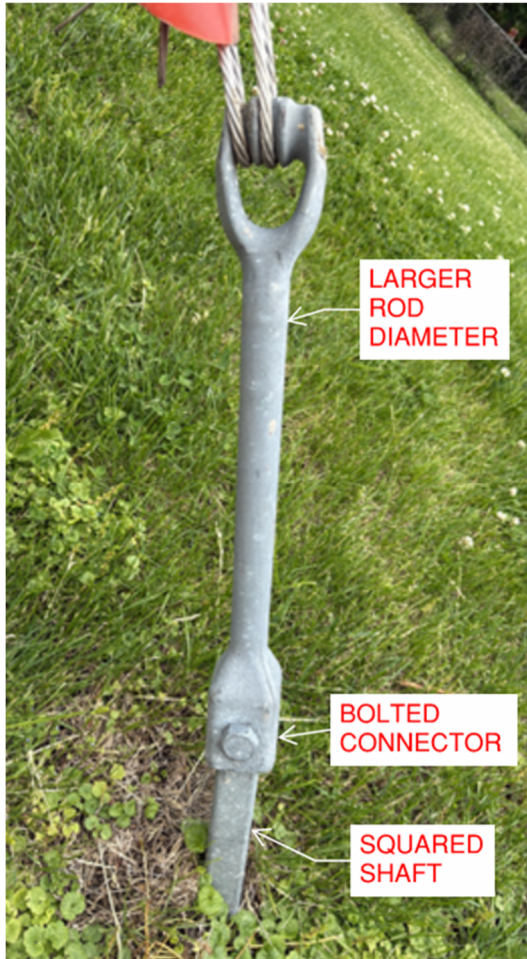
Triple eye (rounded shaft, smaller rod diameter vs. 20.8M), 16,000 lbs rating.





**C.05 20.8M Anchor**

Triple eye (squared shaft with bolted connector, larger rod diameter vs. 16M), 20,800 lbs rating.





**C.06 Screw-on Head Anchor**

10,000 lbs, unless verified otherwise from OPPD records





**C.07 Anchor with Auxiliary Eye**

12,000 lbs auxiliary eye, 20,800 lbs main eye. (NFNC)





**APPENDIX D Red Tagged Pole Identification**

As part of OPPD’s Ground Line Inspection and Treatment (GLIT) program, poles are routinely inspected and treated to help identify and prevent ground line decay. When poles fail inspection, a “red tag” is applied to the pole indicating the need for replacement. While this program is helpful in identifying and remediating structural decay issues, it is not a substitute for pre-climbing inspections or other safety procedures.

**D.01 Red Tagged Pole Identification Guide**

*All poles should be hammer sounded before climbing*



Below Groundline Inspected & Treated



Below Groundline Inspected, Internal & External Treated



Below Groundline Inspected, MITC-Fume Treated



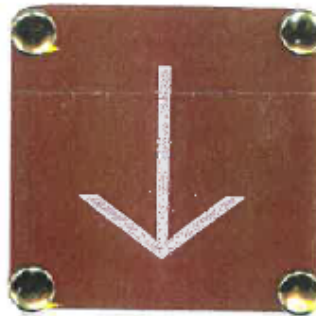
Sound & Bore Inspected



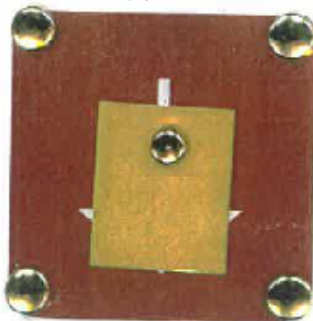
Sound & Bore Inspected, MITC-Fume Treated



REJECT - Replace  
DO NOT CLIMB



IMMEADIATE RESPONSE  
DO NOT CLIMB



REJECT - Reinforceable  
DO NOT CLIMB

