Decision 20-01-010 January 16, 2020

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking Proceeding to Consider Amendments to General Order 95.	Rulemaking 17-10-010

DECISION ADOPTING JOINT PARTIES' CONSENSUS PROPOSED REGULATIONS FROM WORKSHOP REPORT REGARDING AMENDMENTS TO GENERAL ORDER 95

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DECISION ADOPTING JOINT PARTIES' CONSENSUS PROPOSED REGULATIONS FROM WORKSHOP REPORT REGARDING AMENDMENTS TO GENERAL ORDER 95

Summary

With today's decision, the Commission continues its long-term mission of ensuring the safety and reliability of overhead electric lines of all types for the benefit of California's ratepayers and residents. In furtherance of that mission, this decision adopts the Joint Parties' eighteen consensus proposed regulations from their Workshop Report to amend General Order 95, entitled Rules for Overhead Electric Line Construction. The regulations adopted today will go into effect no later than 180 days after the issuance of today's decision.

This proceeding is closed.

1. Background

1.1. Factual Background – The Joint Parties

The Joint Parties who have authored the Proposed Regulations (PR) contained in their Workshop Report are identified as follows:

AT&T;[1] Bear Valley Electric Service Company (BVES), a division of Golden State Water Company; California Cable and Telecommunications Association (CCTA); the Public Advocates Office (now known as Cal Advocates); Charter;[2] California Municipal Utilities Association (CMUA); Comcast Phone of California (Comcast), LLC; Cox Communications California, LLC (Cox); the Commission's

[1] AT&T California and New Cingular Wireless PCS, LLC are collectively referred to herein as AT&T.

[2] Charter Fiberlink CA-CCO, LLC and Time Warner Cable Information Services (California) LLC are collectively referred to herein as Charter.

Safety and Enforcement Division (SED); Crown Castle;[3] CTIA-The Wireless Association®; International Brotherhood of Electrical Workers Local Union 1245 (IBEW 1245); Frontier;[4] Los Angeles Department of Water and Power (LADWP); Modesto Irrigation District; PacifiCorp; Pacific Gas and Electric Company (PG&E); San Diego Gas & Electric Company (SDG&E); Southern California Edison Company (SCE); Sacramento Municipal Utility District (SMUD); T-Mobile West LLC dba T-Mobile; and Verizon.[5]

No parties have opposed the recommendations in the Workshop Report.

1.2. Procedural Background

1.2.1. Decision 16-01-046

In Decision (D.) 16-01-046,[6] the California Public Utilities Commission (Commission) adopted several amendments to General Order 95 (GO 95)[7] regarding antenna installations on utility poles. The purpose of the GO 95 amendments adopted by D.16-01-046 is to protect safety and reliability. The following amendments adopted by D.16-01-046 are relevant to today's decision:

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[3] Crown Castle NG West LLC and Sunesys, LLC are collectively referred to herein as "Crown Castle."

[4] Citizens Telecommunications Company of California d/b/a/ Frontier Communications of California, Frontier Communications of the Southwest Inc., and Frontier California Inc. are collectively referred to herein as "Frontier."

[5] Cellco Partnership d/b/a Verizon Wireless and MCI Communications Services, Inc. are collectively referred to herein as "Verizon."

[6] D.16-01-046 was issued in Rulemaking (R.) 14-05-001 (*Rulemaking Regarding the Applicability of the Commission's Right of Way Rules to Commercial Mobile Radio Service Carriers*).

[7] The purpose of GO 95 is "to formulate, for the State of California, requirements for overhead line design, construction, and maintenance, the application of which will ensure adequate service and secure safety to persons engaged in the construction, maintenance, operation or use of overhead lines and to the public in general." (GO 95, Rule 11.)

- D.16-01-046 added Rule 94.6C to GO 95. Among other things, the new Rule 94.6C[8] prohibits antenna installations from interfering with workers' fall restraint and fall-protection equipment (together, "fall-protection gear"). The new Rule 94.6C includes a "Note" that lists three examples of antenna-related pole attachments "that might not interfere" with fall-protection gear.
- D.16-01-046 added Rule 94.11 to GO 95. The new Rule 94.11 requires a pole-overturning calculation before a pole-top antenna is attached to a pole. The new Rule 94.11 also specifies the minimum safety factors for this calculation.

The scope of the safety issues and GO 95 amendments adopted by D.16-01-046 was limited to antenna installations on utility poles. Nevertheless, the Commission in D.16-01-046 identified two overarching safety issues associated with all types of pole attachments (not just antennas). First, the Commission noted a defect in the definition of "material increase in load" in Rule 44.2 that could negatively affect the safety of all types of pole attachments.[9] Second, the Commission determined that safety would be enhanced if two of the GO 95 amendments adopted by D.16-01-046 (i.e., new Rules 94.6C and 94.11 summarized above) were applied to all types of pole attachments, not just antenna installations.[10]

In order to consider these safety related matters more thoroughly, Ordering Paragraph (OP) 5 of D.16-01-046 directed SED to file a petition to institute a rulemaking proceeding. OP 5 of D.16-01-046 states:

[8] The term "Rule" in today's decision refers to rules in GO 95 unless otherwise indicated.

[9] D.16-01-046 at 60, 61 and 134.

[10] D.16-01-046 at 81, 110, 112, 127, 135, and 136.

5. The Commission's Safety and Enforcement Division (SED) shall:
   i. Evaluate whether the definition of "material increase" in Rule 44.2 of General Order (GO) 95 should be revised.
   ii. Develop a proposed rule for inclusion in GO 95 that is similar to new Rule 94.6C adopted by [D.16-01-046] with respect to interference with fall-protection gear, but which applies to all pole attachments. SED's proposed rule may modify or replace Rule 94.6C adopted by [D.16-01-046].
   iii. Develop a proposed rule for inclusion in GO 95 that is similar to new Rule 94.11 adopted by [D.16-01-046], but which applies to all pole-top installations. SED's proposed rule may modify or replace Rule 94.11 adopted by [D.16-01-046], and may apply to facilities other than pole-top installations.
   iv. Confer with the GO 95 Rules Committee with respect to Items i., ii., and iii. above.
   v. Within 12 months from the effective date of [D.16-01-046]… file a petition for rulemaking pursuant to Rule 6.3 of the Commission's Rules of Practice and Procedure. The petition shall seek to (A) revise the definition of "material increase" in Rule 44.2, and (B) add new rules to GO 95 as described in Item ii. and Item iii., above. SED may file the petition alone or with other parties. In lieu of including Item v.A in the petition, SED may file and serve notice in Rulemaking 14-05-001 that SED concludes, as a result of its evaluation performed pursuant to Item i., above, that no changes to Rule 44.2 are necessary.
   vi. Serve the petition identified in Item v., above, on all entities listed in Order Instituting Rulemaking 15-05-006, Appendices B through E, and the service lists for Rulemaking (R.) 15-0-5006, R.14-05-001, R.08-11-005, R.07-12-001, and R.05-02-023.

OP 5.iv of D.16-01-046 directed SED to confer with the GO 95 Rules Committee[11] regarding SED's proposed amendments to GO 95. In Petition 17-03-004, SED reports that it met with the GO 95 Rules Committee, but little agreement was reached.

OP 5.v of D.16-01-046 ordered SED to file a petition for rulemaking within 12 months of the decision. SED requested, and the Commission's Executive Director granted, an extension of time to file the petition pursuant to Rule 16.6 of the Commission's Rules of Practice and Procedure.

1.2.2. SED's Petition 17-03-004

In accordance with OP 5 of D.16-01-1046, SED filed Petition 17-03-004 on March 7, 2017, pursuant to Rule 6.3 of the Commission's Rules of Practice and Procedure and California Public Utilities Code Section (Pub. Util. Code §) 1708.5.[12] In Petition 17-03-004, SED asks the Commission to institute a rulemaking proceeding to adopt several amendments to GO 95 that are contemplated by OP 5 of D.16-01-046.

1.2.3. The Instant Rulemaking

In response to Petition 17-03-004, the Commission opened the instant rulemaking proceeding to consider and possibly adopt the following amendments to GO 95:

[11] The GO 95 Rules Committee consists of electric utilities, communication utilities, cable television corporations, trade associations, and labor unions. The GO 95 Rules Committee provides a forum to share information on GOs 95 and 128 and to develop consensus proposals to revise GOs 95 and 128. (D.15-01-005 at 2 – 3.)

[12] Rule 6.3 of the Commission's Rules of Practice and Procedure and Pub. Util. Code § 1708.5 allow interested persons to petition the Commission to adopt, amend, or repeal a regulation.

1. Amend Rule 44.2 of GO 95 to require an entity planning to attach facilities to a utility pole to ensure that the planned facilities do not reduce pole-loading safety factors below minimum required values.
2. Amend Rule 44.2 to define the "conservative values" that may be used in poleloading calculations.
3. Amend Rules 54.7A and 84.7A to prohibit pole attachments from interfering with workers' fall-protection gear. Replace the existing Rule 94.6 with the amended Rules 54.7A and 84.7A or, alternatively, revise Rule 94.6 to refer to the amended Rules 54.7A and 84.7A.
4. Adopt a new Rule 49.1C(2) that requires an entity planning to attach facilities to the top of an existing utility pole to perform a pole-overturning calculation to ensure that the planned pole-top facilities do not overturn the pole. Amend Rule 94.11 to refer to the new Rule 49.1C(2).
5. Amend GO 95 to require pole owners and pole attachers to share information needed to perform valid pole-overturning calculations for planned pole-top attachments.
6. Amend GO 95 to require an entity that performed a pole-overturning calculation for attached pole-top facilities to retain the calculation for the service life of the pole.
7. Adopt a new Rule 49.1C(3) that requires the length of a pole-top installation on a new pole to be added to the length of the pole when determining the minimum pole-setting depth required by Table 6 of GO 95.

These seven proposed amendments were identified, in the Assigned Commissioner's Scoping Memo and Ruling (Scoping Memo), as being within the scope of this proceeding. In addition, the Scoping Memo identified an eighth issue:

8. Should the Commission either delete Rule 94.6-C or amend Rule 94.6-C as proposed by SED and discussed in the Order at footnote 25?

1.2.4. The Workshop and Resulting Workshop Report

The Scoping Memo directed the parties "to hold [a] workshop to discuss scoped issues" no later than October 1, 2018 and directed SED to file this Workshop Report within 30 days after completion of the workshop process.[13] On October 1, 2018, the Program Manager of SED's Electric Safety and Reliability Branch provided notice to Administrative Law Judge Mason via e-mail that the workshop effort was completed.

The workshop effort included six days of in-person meetings between August 28 and September 27, 2018; conference calls; and numerous e-mail exchanges among workshop participants. The workshop sessions were publicly noticed and open to the public. On the first day of workshop sessions the parties agreed to a set of protocols that were designed to guide the manner in which proposed changes to GO 95 would be discussed and voted upon. These protocols are included in the Workshop Report as Appendix B.

Twenty-two entities actively participated in the workshop process, including SED, electric investor-owned utilities (IOUs) and publicly-owned utilities (POUs), a labor union, communications companies, cable providers, and industry associations. The participants represented in the workshops are identified as the Joint Parties, which are listed in Section I.

During the course of the workshops, the participants considered all of the proposed regulations (PRs) to GO 95 offered by SED, the GO 95/128 Rules Committee, and IBEW 1245. Opportunities were provided to discuss and modify

[13] Assigned Commissioner Ruling at 5.

the PRs. As a result of this process, certain PRs were withdrawn and alternatives to other PRs were offered. The consensus PRs are discussed in Section 4 below.

The workshops included the following technical presentations, which are provided as appendices to this Workshop Report:

- Appendix C – GO 95/128 Rules Committee Presentation on Fall-Protection (Aug. 27, 2018);
- Appendix D – Nelson G. Bingel III Presentation on Utility Pole-Overturn Capacity (presented by Otto J. Lynch) (Sept. 11, 2018);
- Appendix E – Otto J. Lynch Presentation on Utility Pole-Overturn Capacity (Sept. 11, 2018);
- Appendix F – Mike Rigney Presentation on Pole-Overturn (Sept. 11, 2018); and
- Appendix G – Derek Fong Presentation on Pole-Overturning Calculation (Sept. 11, 2018).

A draft of this Workshop Report was circulated to all workshop participants who are parties to the proceeding for review and comment prior to its submission. The final Workshop Report was served and filed on October 31, 2018.

The Joint Parties conducted themselves productively. As the workshop participants conducted a detailed assessment of the PRs, some were modified, which led to the withdrawal of other PRs. This process resulted in a distilled list of PRs that were most efficient in accomplishing the improvements to GO 95, as ordered in D.16-01-046. Accordingly, some of the original PRs submitted at the beginning of the proceeding were modified substantially in the final PRs that are proposed as consensus rule changes. Each consensus PR is described in detail in Appendix A. The rationale in support of the PR is also included. For those PRs modified from the original submission, the rationale includes a description of

how the final PR was developed. In some cases, the workshop participants developed a new PR during the workshop process and proponents withdrew their original PR. These instances are also described in the rationale for the PR.

The workshop sessions were ultimately successful. The Joint Parties were able to reach consensus with respect to eighteen of the twenty-four PRs, with six PRs being withdrawn by the original proponent following technical presentations and discussions. After consensus was achieved on a PR in a "straw vote," the item was placed on the calendar for a confirmation vote. This mechanism provided parties the time to consider their vote and explore the potential impacts of the vote. Any party could decide to change its vote at any time up to the call of the confirmation vote and cast a different vote during the confirmation voting workshop session. After call of the confirmation vote, no vote changes were allowed.

1.2.5. Party Comments

On November 20, 2018 the following parties filed and served comments:

Joint comments from SCE, CMUA, LADWP, and SMUD;

Cal Advocates and PG&E.

On December 10, 2018, the following parties filed and served reply comments:

Cal Advocates; and Joint reply comments from SCE, Pacificorp, Liberty Utilities, BVES, CMUA, LADWP, SMUD, SDG&E, the CCTA, Comcast, Cox California Telecom, LLC, Crown Castle, Sunesys LLC, Cox, Pacific Bell Telephone Company DBA AT&T California, and New Cingular Wireless PCS, LLC.

No party opposed the proposed amendments, additions, and deletions to GO 95 that are memorialized in the Workshop Report. The only differences of opinion were twofold: first, how soon after the Commission adopts the changes

to GO 95 in the Workshop Report should the changes be implemented (PG&E asked that the changes take effect no earlier than 12 months from the date the Commission issues its final decision for this proceeding. Cal Advocates, SCE and Joint POUs recommend that the changes to GO 95 become effective 180 days from the Commission's final decision for this proceeding.); second, Cal Advocates requested that there be workshops to confirm that the economic impacts are de minimis to ratepayers.

2. Jurisdiction

California has been involved in the regulation of overhead electric lines since 1911, when the California Legislature passed an act (Chapter 499, Statutes of 1911) to regulate the erection and maintenance of poles, wires, etc., employed in overhead electric line construction. The Statutes of 1915 tasked the Commission (then known as the Railroad Commission) with the responsibility to inspect all work affected by the 1911 enactment, "and to make such further additions and changes as it might deem necessary for the protection of employees and the general public."[14] Since 1915, the Commission has carried out this regulatory function with the adoption of GO 64-A in 1928, and by adoption of GO 95, the successor to GO 64-A, on December 23, 1941.

3. Issues Before the Commission

The issues before the Commission are set forth in Section 1.2.3. of this decision and are incorporated herein by reference.

[14] GO 95, Preface.

4. Discussion of Proposed Regulations

The proposed amendments to GO 95 are identified in this section of the decision by the GO 95 original rule, the proposed change, the proposed final rule, and the Commission's rationale for agreeing with the proposed rule change.

4.1. PR 1: GO 95, Rule 22.6A – Pole Top Extension

Original Rule

> A. Pole-Top Extension means a bracket or structure (exclusive of a pole-top pin) attached to a pole and extending above its top to support conductors.

Proposed revised rule with strikeout/underline

> A. Pole-Top Extension means a bracket or structure (exclusive of a pole-top pin) attached to a pole and extending above its top to support conductors or equipment.

Proposed final rule

> A. Pole-Top Extension means a bracket or structure (exclusive of a pole-top pin) attached to a pole and extending above its top to support conductors or equipment.

Rationale

The Commission agrees with this proposed change. This rule revision, expanding the definition of "pole-top extension," clarifies that extensions are utilized to support other facilities such as antennas as well as conductors.

4.2. PR 2: GO 95, Rule 44.2 – Additional Construction

Original Rule

44.2 Additional Construction

> Any entity planning the addition of facilities that materially increases loads on a structure shall perform a loading calculation to ensure that the addition of the facilities will not reduce the safety factors below the values specified by Rule 44.3. Such loading calculations shall be based on existing condition and

proposed configuration, information provided under Rule 44.4, conservative values of relevant parameters, industry recognized values of relevant parameters, or any combination thereof. For wood structures more than 15 years old, the loading calculation shall incorporate the results of intrusive inspections performed within the previous five years. Such entity shall maintain these loading calculations for the service life of the pole or other structure for which a loading calculation was made and shall provide such information to authorized joint use occupants and the Commission upon request.

Note: For the purpose of Rule 44.2, a material increase in load is an addition which increases the load on a structure by more than five percent per installation, or ten percent over a 12-month span, of the electric utility's or Communication Infrastructure Provider's current load.

Pre-workshop - Proposed revised rule with strikeout/underline

44.2 Additional Construction

Any entity planning the addition of facilities ~~that materially increases loads on a structure~~ shall ~~perform a loading calculation to~~ ensure that the addition of the facilities will not reduce the safety factors below the values specified by Rule 44.3. ~~Such~~ Any loading calculations that the entity performs to assess compliance of the addition with Rule 44.3 shall be based on existing condition and proposed configuration, information provided under Rule 44.4, conservative values of relevant parameters, industry recognized values of relevant parameters, or any combination thereof. For wood structures more than 15 years old, the loading calculation shall incorporate the results of intrusive inspections performed within the previous five years. Such entity shall maintain these loading calculations for the service life of the pole or other structure for which a loading calculation was made and shall provide such nformation to authorized joint use occupants and the Commission upon request.

Note: For the purpose of Rule 44.2~~, a material increase in load is an addition which increases the load on a structure by more than~~

~~five percent~~ ~~per installation, or ten percent over a 12-month span, of the electric~~ ~~utility's or Communication Infrastructure Provider's current load~~ conservative values are values that would result in equal or lower safety factors compared to use of actual specifications.

Workshop - Proposed revised rule with strikeout/underline

44.2 Additional Construction

Any entity planning the addition of facilities ~~that materially increases loads on a structure~~ shall ~~perform a loading calculation to~~ ensure that the addition of the facilities will not reduce the safety factors below the values specified by Rule 44.3. ~~Such loading calculations shall be based onexisting condition and proposed configuration, information provided underRule 44.4, conservative values of relevant parameters, industry recognized values of relevant parameters, or any combination thereof. For woodstructures more than 15 years old, the loading calculation shall incorporatethe results of intrusive inspections performed within the previous five years.~~ If performed, the entity responsible for performing loading calculations for additional construction ~~Such entity~~ shall maintain these loading calculations for the service life of the pole or other structure for which a loading calculation was made and shall provide such information to authorized joint use occupants and the Commission upon request. Any loading calculations performed for wood structures more than 15 years old shall incorporate the results of intrusive inspections performed within the previous five years.

~~Note: For the purpose of Rule 44.2, a material increase in load is an addition which increases the load on a structure by more than five percent per installation, or ten percent over a 12-month span, of the electric utility's or Communication Infrastructure Provider's current load.~~

Proposed final rule

44.2 Additional Construction

Any entity planning the addition of facilities shall ensure that the addition of the facilities will not reduce the safety factors below the values specified by Rule 44.3.

If performed, the entity responsible for performing loading calculations for additional construction shall maintain these loading calculations for the service life of the pole or other structure for which a loading calculation was made and shall provide such information to authorized joint use occupants and the Commission upon request.

Any loading calculations performed for wood structures more than 15 years old shall incorporate the results of intrusive inspections performed within the previous five years.

Rationale

D.16-01-046 directed that Rule 44.2's definition of "material increase in load" be evaluated because of the Commission's concern that the definition "does not address situations where (i) an increase in the attacher's current load of less than 5% would overload the pole; and (ii) an increase in an attacher's current load of less than 10% over a 12 month span would overload the pole."[15]

SED agreed with the Commission's concern and raises two additional issues. First, SED states that Rule 44.2's definition of "material increase in load" does not address the possibility that the allowable 12 month increases in load could compound over time. SED claims that such compounding would increase the "current load" baseline in future years and illogically reduce the likelihood

[15] D.16-01-046 at 61. The Commission emphasized that, "regardless of the definition of "material increase" currently in Rule 44.2, both pole owners and pole attachers must ensure that new attachments do not overload poles." (*Ibid*.)

that a future attachment would trigger a loading calculation. Second, SED states that Rule 44.2's definition does not account for the possibility that there might be multiple attachers adding load over time. While each attacher might not cause a "material increase in load" under the definition, the combined increases of multiple attachers could overload a pole.

The Commission agrees with the proposed changes as they address the Commission's concerns and SED's issues. Entities adding facilities to an existing structure are expected to meet the safety factors in Rule 44.3 regardless of the amount of increase in load on the structure that the additional facilities cause. In deciding whether to perform a loading calculation, the entity should not only consider the amount of increase in load caused by the additional facilities, but also how much more load the structure can handle. This decision should be left to the entity attaching the facilities if Rule 44.3 requirements are always met. The rule change removes the "material increase" provision and rearranges the paragraphs in the rule to clarify its intent.

4.3. PR 3: GO 95, Rule 49.1 – Poles, Towers, and Other Structures

Original Rule

C. Setting of Poles

The depths of pole setting given in Table 6 are applicable to poles set in firm soil or in solid rock.

Where the resultant bearing surface is not sufficient to prevent overturning or excessive movement of the pole at the ground line, and/or the soil is not firm, deeper settings or other special methods shall be used.

Where poles were set in firm soil, but the soil has since been excavated or subjected to erosion, the minimum embedment shall be no less than 90% of the values specified in Table 6.

Pre-workshop - Proposed revised rule with strikeout/underline

C. Setting of Poles

(1) The depths of pole setting given in Table 6 are applicable to poles set in firm soil or in solid rock.

Where the resultant bearing surface is not sufficient to prevent overturning or excessive movement of the pole at the ground line, and/or the soil is not firm, deeper settings or other special methods shall be used.

Where poles were set in firm soil, but the soil has since been excavated or subjected to erosion, the minimum embedment shall be no less than 90% of the values specified in Table 6.

(2) A pole-overturning calculation shall be performed before a pole-top installation (including a pole-top extension or a pole-top installation of facilities such as antennas) is added to an existing pole. The pole-overturning calculation shall use a safety factor of 3.0 for Grade A construction, and 2.0 for Grades B and C construction, and incorporate loads for the entire pole structure, including all existing attachments and guys (if any), and all elements of the planned pole-top installation. If needed, deeper settings or other special methods shall be used to provide at a minimum these safety factors. After installation of a pole-top extension or other facilities, the pole-overturning safety factor shall not be reduced below a safety factor of 3.0 for Grade A construction, and 2.0 for Grades B and C construction.

Note: The purpose of the pole-overturning calculation is to ensure that the pole-overturning moment does not exceed the capacity of the soil, rock or other material in which the pole is embedded to resist the pole-overturning moment.

Workshop - Proposed revised rule with strikeout/underline

C. Setting of Poles

The depths of pole setting given in Table 6 are applicable to poles set in firm soil or in solid rock.

Where poles were set in firm soil, but the soil has since been excavated or subjected to erosion, the minimum embedment shall be no less than 90% of the values specified in Table 6.

Where, under the loading conditions in Rule 43 and the requirements of Rule 44, the resultant bearing surface is not sufficient to prevent overturning or excessive movement of the pole at the ground line, and/or the soil is not firm, deeper settings or other special methods shall be used. ~~Where poles were set in firm soil, but the soil has since been excavated or subjected to erosion, the minimum embedment shall be no less than 90% of the values specified in Table 6.~~

Proposed final rule

C. Setting of Poles

The depths of pole setting given in Table 6 are applicable to poles set in firm soil or in solid rock.

Where poles were set in firm soil, but the soil has since been excavated or subjected to erosion, the minimum embedment shall be no less than 90% of the values specified in Table 6.

Where, under the loading conditions in Rule 43 and the requirements of Rule 44, the resultant bearing surface is not sufficient to prevent overturning or excessive movement of the pole at the ground line, and/or the soil is not firm, deeper settings or other special methods shall be used.

Rationale

The Commission agrees with the proposed change. Currently, the existing language of the rule requires deeper settings or other special methods to be used to prevent pole-overturning or excessive movement, but the rule is not clear with respect to the loading conditions that must be accounted for. The rule change adds a reference to Rules 43 and 44 to require that the provision for

deeper settings or other special methods must ensure that the pole must be protected against overturning or excessive movement at any load equal to or less than the load it must be protected against for bending failures. In other words, a pole must not overturn at any load less than the load that causes it to break. The rule change also moves some of the existing language for clarity.

4.4. PR 4: GO 95, (New) Rule 51.8 – Interface with Fall-Protection Equipment

Workshop - Proposed new rule with strikeout/underline

Electric supply attachments shall not interfere with the effective use of fall-protection equipment.

Note: Examples of attachments that might not interfere with fall restraint and fall-protection equipment include, but are not limited to, the following:

(1) Surface-mounted equipment that occupies no more than 24 inches of vertical space.

(2) Surface-mounted risers and vertical runs.

(3) Equipment stood off from the pole to maintain a minimum of 4 inches of clear space between the equipment and the surface of the pole, risers, or vertical runs.

Proposed final rule

51.8 Interference with Fall-Protection Equipment

Electric supply attachments shall not interfere with the effective use of fall-protection equipment.

Note: Examples of attachments that might not interfere with fall restraint and fall-protection equipment include, but are not limited to, the following:

(1) Surface-mounted equipment that occupies no more than 24 inches of vertical space.

(2) Surface-mounted risers and vertical runs.

(3) Equipment stood off from the pole to maintain a minimum of 4 inches of clear space between the equipment and the surface of the pole, risers, or vertical runs.

Rationale

The Commission agrees with the proposed new rule. This proposed new Section V rule is one of three specific rule revisions developed for inclusion in GO 95 that are similar to Rule 94.6-C (adopted by D.16-01-046) addressing interference with fall-protection gear. Collectively, this new rule and new rules for Section VIII and Section IX of GO 95 will apply to all pole attachments and allow Rule 94.6-C to be deleted.

4.5. PR 5: GO 95, Rule 54.7 – Climbing and Working Space

Original Rule

54.7 Climbing and Working Space

This rule is not applicable to non–climbable poles. See Rule 22.6-D for definition.

Climbing space shall be maintained from the ground level. Climbing space, measured from center line of pole, shall be provided on one side or in one quadrant of all poles or structures with dimensions as specified in the following:

Topic	Rules
Wood Crossarm Construction	54.7-A 1 & 2
Without Wood Crossarms More than 750 Volts (Vertical and Triangular Construction)	54.11-F
Low Voltage Rack Construction	54.9-F
Low Voltage Extended Rack Construction	54.12-F
Low Voltage Multiconductor Cable with Bare Neutral Construction	54.10-F
Poles Jointly Used	84.7 & 93
Allowable Obstructions of These Climbing Spaces	54.7-A 3 54.9-F 54.10-F3 54.11-G 54.12-F 3 84.7-E
Working Space (All Types of Construction)	54.7-B

The dimensions specified in the above rules may be reduced not more than 2%because of line angles and minor field variations.

The climbing space required by Rules 54.7–A and 54.11–F may be shifted laterally not more than 5 inches. However, the midpoint of the side of the climbing space coinciding with the center line of the pole shall not be more than 5 inches from the center line of the pole, and the minimum distance of any unprotected conductor (or other energized unprotected part) from centerline of pole shall be maintained. (See Table 1, Case 8.)

Proposed revised rule with strikeout/underline

This rule is not applicable to non–climbable poles. See Rule 22.6–D for definition.

Climbing space shall be maintained from the ground level. Climbing space, measured from center line of pole, shall be provided on one side or in one quadrant of all poles or structures with dimensions as specified in the following:

Topic	Rules
Wood Crossarm Construction	54.7-A 1 & 2
Without Wood Crossarms More than 750 Volts (Vertical and Triangular Construction)	54.11-F
Low Voltage Rack Construction	54.9-F
Low Voltage Extended Rack Construction	54.12-F
Low Voltage Multiconductor Cable with Bare Neutral Construction	54.10-F
Poles Jointly Used	84.7 & 93
Allowable Obstructions of These Climbing Spaces	54.7-A 3 54.9-F 54.10-F3 54.11-G 54.12-F 3 84.7-~~E~~A 5
Working Space (All Types of Construction)	54.7-B

The dimensions specified in the above rules may be reduced not more than 2%because of line angles and minor field variations.

The climbing space required by Rules 54.7–A and 54.11–F may be shifted laterally not more than 5 inches. However, the midpoint of the side of the climbing space coinciding with the center line of the pole shall not be more than 5 inches from the center line of the pole, and the minimum distance of any unprotected conductor (or other energized unprotected part) from centerline of pole shall be maintained. (See Table 1, Case 8.)

Proposed final rule

This rule is not applicable to non–climbable poles. See Rule 22.6–D for definition.

Climbing space shall be maintained from the ground level. Climbing space, measured from center line of pole, shall be provided on one side or in one quadrant of all poles or structures with dimensions as specified in the following:

Topic	Rules
Wood Crossarm Construction	54.7-A 1 & 2
Without Wood Crossarms More than 750 Volts (Vertical and Triangular Construction)	54.11-F
Low Voltage Rack Construction	54.9-F
Low Voltage Extended Rack Construction	54.12-F
Low Voltage Multiconductor Cable with Bare Neutral Construction	54.10-F
Poles Jointly Used	84.7 & 93
Allowable Obstructions of These Climbing Spaces	54.7-A 3 54.9-F 54.10-F3 54.11-G 54.12-F 3 84.7-A 5
Working Space (All Types of Construction)	54.7-B

The dimensions specified in the above rules may be reduced not more than 2%because of line angles and minor field variations.

The climbing space required by Rules 54.7–A and 54.11–F may be shifted laterally not more than 5 inches. However, the midpoint of the side of the climbing space coinciding with the center line of the pole shall not be more than 5 inches from the center line of the pole, and the minimum distance of any unprotected conductor (or other energized unprotected part) from centerline of pole shall be maintained. (See Table 1, Case 8.)

Rationale

The Commission agrees with the proposed change. This rule revision corrects an incorrect cross-reference to Rule 84.7-E that was inadvertently included in D.15-01-005. In R.14-08-012 and resulting D.15-01-005, GO 95 Rule 84.7 was reorganized to create a new 84.7-Afor existing Allowable Climbing Space Obstruction rules and added a new 84.7-B for (then) new Working Space

rules. Due to the reorganization, original 84.7-E was replaced by 84.7-A5, however, some of the references to 84.7-E were not refreshed.

4.6. PR 6: GO 95, Rule 54.7A – Climbing Space (Wood Crossarm Construction)

Original Rule

(3) Allowable Climbing Space Obstructions: Allowable climbing space obstructions are:

(a) Crossarms and their supporting members.

(b) Insulators and their attaching brackets which support line conductors may extend one–half of their diameter into the climbing space.

(c) Conductors may extend one–half of their diameter into the climbing space.

(d) Suitably protected (covered only by wood, see Rule 22.8):

1) Vertical risers; or

2) Vertical runs; or

3) Ground wires.

Such risers, runs, and grounds are allowable provided that not more than one is installed in any 4–foot section of climbing space.

(e) Guys (except those guys metallically contacting metal pins or deadend hardware as specified in Rule 52.7–D). However, not more than two guys having a vertical separation of 18 inches or less can be installed in any 4–foot section of climbing space.

(f) Street light brackets may extend one–half their diameter into climbing space. Associated street light bracket struts are allowed in climbing space.

(g) Operating rods (e.g. switch rods) may extend one–half their diameter into climbing space.

(h) Band(s), limited to 6 inches in total width are allowed in any 24-inch section of climbing space. These limitations are excluded for pole stubbing and pole splicing bands when pole step provisions are installed.

(i) Pole restoration materials are allowed in climbing space provided pole steps are placed in the restoration area as part of the process. Pole stepping shall be in accordance with Rule 91.3-B.

(j) Bolts and their washers. However, bolts bonded to or used for the attachment of deadend hardware of circuits above 750 volts in wood crossarm configuration that project into the climbing space shall be covered with a non-conductive material as specified in Rule 22.8-C. If such bolts are bonded, a positive electrical contact shall be made.

EXCEPTIONS: The covering of bolts required by this rule shall not apply to:

1) Bolts associated with circuits of more than 7500 volts when located at the top level of a pole.

2) Bolts associated with brackets and non–wood crossarms.

Pre-workshop - proposed revised rule with strikeout/underline

(3) Allowable Climbing Space Obstructions: Allowable climbing space obstructions are:

(a) Crossarms and their supporting members.

(b) Insulators and their attaching brackets which support line conductors may extend one–
half of their diameter into the climbing space.

(c) Conductors may extend one–half of their diameter into the climbing space.

(d) Suitably protected ~~(covered only by wood, see Rule 22.8)~~:

1) ~~Vertical risers; or~~ Ground wires covered by wood per Rule 22.8-A1.

~~2) Vertical runs; or~~

2~~3~~) Ground wires covered by plastic, or other non-conductive material no greater than one-half inch in diameter (see Rule 22.8-A3).

Such ~~risers, runs, and~~ grounds are allowable provided that not more than one is installed in any 4–foot section of climbing space.

(e) Guys (except those guys metallically contacting metal pins or deadend hardware as specified in Rule 52.7–D). However, not more than two guys having a vertical separation of 18 inches or less can be installed in any 4–foot section of climbing space.

(f) Street light brackets may extend one–half their diameter into climbing space. Associated street light bracket struts are allowed in climbing space.

(g) Operating rods (e.g. switch rods) may extend one–half their diameter into climbing space.

(h) Band(s), limited to 6 inches in total width are allowed in any 24-inch section of climbing space. These limitations are excluded for pole stubbing and pole splicing bands when pole step provisions are installed.

(i) Pole restoration materials are allowed in climbing space provided pole steps are placed in the restoration area as part of the process. Pole stepping shall be in accordance with Rule 91.3-B.

(j) Bolts and their washers. However, bolts bonded to or used for the attachment of deadend hardware of circuits above 750 volts in wood crossarm configuration that project into the climbing

space shall be covered with a non-conductive material as specified in Rule 22.8-C. If such bolts are bonded, a positive electrical contact shall be made.

EXCEPTIONS: The covering of bolts required by this rule shall not apply to:

1) Bolts associated with circuits of more than 7500 volts when located at the top level of a pole.

2) Bolts associated with brackets and non–wood crossarms.

(k) Unnecessary impairment of the climbing space is not permitted by the application of this Rule 54.7A3.

Workshop - Proposed strikeout/underline

(3) Allowable Climbing Space Obstructions: Allowable climbing space obstructions are:

(a) Crossarms and their supporting members.

(b) Insulators and their attaching brackets which support line conductors may extend one–half of their diameter into the climbing space.

(c) Conductors may extend one–half of their diameter into the climbing space.

(d) Suitably protected ~~(covered only by wood, see Rule 22.8)~~:

1) Vertical risers~~;~~ ~~or~~ runs covered only by wood (see Rule 22.8-B);

2) ~~Vertical runs; or~~ Ground wires covered by wood per Rule 22.8-A1;

3) Ground wires covered by plastic, or other non-conductive material no greater than one-half inch in diameter (see Rule 22.8-A3).

Such risers, runs, and grounds are allowable provided that not more than one is installed in any 4–foot section of climbing space.

(e) Guys (except those guys metallically contacting metal pins or deadend hardware as specified in Rule 52.7–D). However, not more than two guys having a vertical separation of 18 inches or less can be installed in any 4–foot section of climbing space.

(f) Street light brackets may extend one–half their diameter into climbing space. Associated street light bracket struts are allowed in climbing space.

(g) Operating rods (e.g. switch rods) may extend one–half their diameter into climbing space.

(h) Band(s), limited to 6 inches in total width are allowed in any 24-inch section of climbing space. These limitations are excluded for pole stubbing and pole splicing bands when pole step provisions are installed.

(i) Pole restoration materials are allowed in climbing space provided pole steps are placed in the restoration area as part of the process. Pole stepping shall be in accordance with Rule 91.3-B.

(j) Bolts and their washers. However, bolts bonded to or used for the attachment of deadend hardware of circuits above 750 volts in wood crossarm configuration that project into the climbing space shall be covered with a non-conductive material as specified in Rule 22.8-C. If such bolts are bonded, a positive electrical contact shall be made.

EXCEPTIONS: The covering of bolts required by this rule shall not apply to:

1) Bolts associated with circuits of more than 7500 volts when located at the top level of a pole.

2) Bolts associated with brackets and non–wood crossarms.

Reasonable efforts shall be made to avoid installing the above listed allowable obstructions within the climbing space.

Proposed final rule

(3) Allowable Climbing Space Obstructions: Allowable climbing space obstructions are:

(a) Crossarms and their supporting members.

(b) Insulators and their attaching brackets which support line conductors may extend one–half of their diameter into the climbing space.

(c) Conductors may extend one–half of their diameter into the climbing space.

(d) Suitably protected:

1) Vertical risers or runs covered only by wood (see Rule 22.8-B);

2) Ground wires covered by wood per Rule 22.8-A1;

3) Ground wires covered by plastic, or other non-conductive material no greater than one-half inch in diameter (see Rule 22.8-A3).

Such risers, runs, and grounds are allowable provided that not more than one is installed in any 4–foot section of climbing space.

(e) Guys (except those guys metallically contacting metal pins or deadend hardware as specified in Rule 52.7–D). However, not more than two guys having a vertical separation of 18 inches or less can be installed in any 4–foot section of climbing space.

(f) Street light brackets may extend one–half their diameter into climbing space. Associated street light bracket struts are allowed in climbing space.

(g) Operating rods (e.g. switch rods) may extend one–half their diameter into climbing space.

(h) Band(s), limited to 6 inches in total width are allowed in any 24-inch section of climbing space. These limitations are excluded for pole stubbing and pole splicing bands when pole step provisions are installed.

(i) Pole restoration materials are allowed in climbing space provided pole steps are placed in the restoration area as part of the process. Pole stepping shall be in accordance with Rule 91.3-B.

(j) Bolts and their washers. However, bolts bonded to or used for the attachment of deadend hardware of circuits above 750 volts in wood crossarm configuration that project into the climbing space shall be covered with a non-conductive material as specified in Rule 22.8-C. If such bolts are bonded, a positive electrical contact shall be made.

EXCEPTIONS: The covering of bolts required by this rule shall not apply to:

1) Bolts associated with circuits of more than 7500 volts when located at the top level of a pole.

2) Bolts associated with brackets and non–wood crossarms.

Reasonable efforts shall be made to avoid installing the above listed allowable obstructions within the climbing space.

Rationale

The Commission agrees with the proposed change. This PR addresses conditions related to interference with fall-protection equipment. The revision to

subpart A3d reorganizes the existing requirement for risers, runs, and bare ground wire located in climbing space to be covered with wood, and modifies an existing requirement to allow protected ground wires (sheathed in polyvinyl material) to be installed in climbing space without being covered by wood moulding. Protected ground wire was first recognized for use in the 2005 edition of GO 95 and the revision to the definition of "Protective Covering, Suitable." Since 2005 utilities have covered protected ground wires with wood when installed in climbing space.

The new "reasonable efforts" statement at the end of the rule was developed during workshop discussions of PRs that sought to add a slightly modified version of existing Rule 84.7-A5f to all of the climbing space rules. Parties agreed that the revised "reasonable" statement served the intended need and should be included as a standalone (unnumbered) sentence in the climbing space rules.

4.7. PR 7: GO 95, Rule 54.10F – Climbing Space

Original Rule

> **(3) Allowable Climbing Space Obstructions:** Allowable climbing space obstructions are:
>
> **(a)** Guys. However, not more than two guys having a vertical separation of 18 inches or less can be installed in any 4–foot section of climbing space.
>
> **(b)** Suitably protected (covered only by wood, see Rule 22.8):
>
> 1) Vertical risers; or
>
> 2) Vertical runs; or
>
> 3) Ground wires.

Such risers, runs, and grounds are allowable provided that not more than one is installed in any 4–foot section of climbing space.

(c) Insulators and their attaching brackets may extend one–half their diameter into the climbing space.

(d) Conductors may extend one–half their diameter into the climbing space.

(e) Street light brackets may extend one–half their diameter into climbing space. Associated street light bracket struts are allowed in climbing space.

(f) Operating rods (e.g., switch rods) and their associated hardware may extend one–half their diameter into climbing space.

(g) Bands, limited to 6 inches in width with no more than one band allowed in any 24–inch section of climbing space (these limitations are excluded for pole stubbing and pole splicing bands when pole step provisions are installed.)

(h) Bolts and their washers.

The terminals or terminal fittings of risers or runs shall not be installed within climbing space.

Pre-workshop - Proposed revised rule with strikeout/underline

(3) Allowable Climbing Space Obstructions: Allowable climbing space obstructions are:

(a) Guys. However, not more than two guys having a vertical separation of 18 inches or less can be installed in any 4–foot section of climbing space.

(b) Suitably protected ~~(covered only by wood, see Rule 22.8)~~:

1) ~~Vertical risers; or~~ Ground wires covered by wood per Rule 22.8-A1.

~~2) Vertical runs; or~~

2~~3~~) Ground wires covered by plastic, or other non-conductive material no greater than one-half inch in diameter (see Rule 22.8-A3).

Such risers, runs, and grounds are allowable provided that not more than one is installed in any 4–foot section of climbing space.

(c) Insulators and their attaching brackets may extend one-half their diameter into the climbing space.

(d) Conductors may extend one–half their diameter into the climbing space.

(e) Street light brackets may extend one–half their diameter into climbing space. Associated street light bracket struts are allowed in climbing space.

(f) Operating rods (e.g., switch rods) and their associated hardware may extend one–half their diameter into climbing space.

(g) Bands, limited to 6 inches in width with no more than one band allowed in any 24–inch section of climbing space (these limitations are excluded for pole stubbing and pole splicing bands when pole step provisions are installed.)

(h) Bolts and their washers.

~~The terminals or terminal fittings of risers or runs shall not be installed within climbing space.~~

(i) Unnecessary impairment of the climbing space is not permitted by the application of this Rule 54.10F3.

Workshop - Proposed strikeout/underline

(3) Allowable Climbing Space Obstructions: Allowable climbing space obstructions are:

(a) Guys. However, not more than two guys having a vertical separation of 18 inches or less can be installed in any 4–foot section of climbing space.

(b) Suitably protected ~~(covered only by wood, see Rule 22.8)~~:

1) Vertical risers~~;~~ or runs covered only by wood (see Rule 22.8-B);

2) ~~Vertical runs; or~~ Ground wires covered by wood per Rule 22.8-A1;

3) Ground wires covered by plastic, or other non-conductive material no greater than one-half inch in diameter (see Rule 22.8-A3).

Such risers, runs, and grounds are allowable provided that not more than one is installed in any 4–foot section of climbing space.

(c) Insulators and their attaching brackets may extend one-half their diameter into the climbing space.

(d) Conductors may extend one–half their diameter into the climbing space.

(e) Street light brackets may extend one–half their diameter into climbing space. Associated street light bracket struts are allowed in climbing space.

(f) Operating rods (e.g., switch rods) and their associated hardware may extend one–half their diameter into climbing space.

(g) Bands, limited to 6 inches in width with no more than one band allowed in any 24–inch section of climbing space (these

limitations are excluded for pole stubbing and pole splicing bands when pole step provisions are installed.)

(h) Bolts and their washers.

~~The terminals or terminal fittings of risers or runs shall not be installed within climbing space.~~

Reasonable efforts shall be made to avoid installing the above listed allowable obstructions within the climbing space.

Proposed final rule

(3) Allowable Climbing Space Obstructions: Allowable climbing space obstructions are:

(a) Guys. However, not more than two guys having a vertical separation of 18 inches or less can be installed in any 4–foot section of climbing space.

(b) Suitably protected:

1) Vertical riser or runs covered only by wood (see Rule 22.8-B);

2) Ground wires covered by wood per Rule 22.8-A1;
3) Ground wires covered by plastic, or other non-conductive material no greater than one-half inch in diameter (see Rule 22.8-A3).

Such risers, runs, and grounds are allowable provided that not more than one is installed in any 4–foot section of climbing space.

(c) Insulators and their attaching brackets may extend one–half their diameter into the climbing space.

(d) Conductors may extend one–half their diameter into the climbing space.

> **(e)** Street light brackets may extend one–half their diameter into climbing space. Associated street light bracket struts are allowed in climbing space.
>
> **(f)** Operating rods (e.g., switch rods) and their associated hardware may extend one–half their diameter into climbing space.
>
> **(g)** Bands, limited to 6 inches in width with no more than one band allowed in any 24–inch section of climbing space (these limitations are excluded for pole stubbing and pole splicing bands when pole step provisions are installed.)
>
> **(h)** Bolts and their washers.
>
> Reasonable efforts shall be made to avoid installing the above listed allowable obstructions within the climbing space.

Rationale

The Commission agrees with the proposed change. This PR addresses conditions related to interference with fall-protection equipment. The revision to subpart F3b reorganizes the existing requirement for risers, runs, and bare ground wire located in climbing space to be covered with wood, and modifies an existing requirement to allow protected ground wires (sheathed in polyvinyl material) to be installed in climbing space without being covered by wood moulding. Protected ground wire was first recognized for use in the 2005 edition of GO 95 and the revision to the definition of "Protective Covering, Suitable." Since 2005 utilities have covered protected ground wires with wood when installed in climbing space.

The new "reasonable efforts" statement at the end of the rule was developed during workshop discussions of PRs that sought to add a slightly modified version of existing Rule 84.7-A5f to all of the climbing space rules.

Parties agreed that the revised "reasonable" statement served the intended need and should be included as a standalone (unnumbered) sentence in the climbing space rules.

4.8. PR 8: GO 95, Rule 54.11 – Insulators in Vertical and Horizontal Position Without the Use of Wood Crossarms, More than 750 Volts (Vertical and Triangular Construction)

Original Rule

G. Allowable Climbing Space Obstructions

Allowable climbing space obstructions in triangular and vertical configuration without the use of wood crossarms are:

(1) Crossarms, brackets, and their supporting members.

(2) Insulators which support line conductors, jumpers, and incidental wires may extend one–half of their diameter into the climbing space.

(3) Conductors may extend one–half of their diameter into the climbing space.

(4) Suitably protected (covered only by wood, see Rule 22.8):

(a) Vertical risers; or

(b) Vertical runs; or

(c) Ground wires.

Such risers, runs, and grounds are allowable provided that not more than one is installed in any 4–foot section of climbing space.

(5) Guys (except those guys which are metallically contacting metal pins or deadend hardware as specified in Rule 52.7– D).

However, not more than two guys having a vertical separation of 18 inches or less can be installed in any 4-foot section of climbing space.

(6) Street light brackets may extend one–half their diameter into climbing space. Associated street light bracket struts are allowed in climbing space.

(7) Operating rods (e.g., switch rods) and their associated hardware may extend one–half their diameter into climbing space.

(8) Bands, limited to 6 inches in width with no more than one band allowed in any 24–inch section of climbing space (these limitations are excluded for pole stubbing and pole splicing bands when pole step provisions are installed.)

(9) Bolts and their washers. If bolts are bonded, a secure electrical contact shall be made. The covering of bolts and bond wire is not required in triangular and vertical configuration without the use of wood crossarms.

Pre-workshop - Proposed revised rule with strikeout/underline

G. Allowable Climbing Space Obstructions

Allowable climbing space obstructions in triangular and vertical configuration without the use of wood crossarms are:

(1) Crossarms, brackets, and their supporting members.

(2) Insulators which support line conductors, jumpers, and incidental wires may extend one–half of their diameter into the climbing space.

(3) Conductors may extend one–half of their diameter into the climbing space.

(4) Suitably protected ~~(covered only by wood, see Rule 22.8)~~:

(a) ~~Vertical risers; or~~ Ground wires covered by wood per Rule 22.8-A1. ~~(b) Vertical runs; or~~

(b ~~c~~) Ground wires covered by plastic, or other non-conductive material no greater than one-half inch in diameter (see Rule 22.8-A3).

Such ~~risers, runs, and~~ grounds are allowable provided that not more than one is installed in any 4–foot section of climbing space.

(5) Guys (except those guys which are metallically contacting metal pins or deadend hardware as specified in Rule 52.7–D). However, not more than two guys having a vertical separation of 18 inches or less can be installed in any 4–foot section of climbing space.

(6) Street light brackets may extend one–half their diameter into climbing space. Associated street light bracket struts are allowed in climbing space.

(7) Operating rods (e.g., switch rods) and their associated hardware may extend one–half their diameter into climbing space.

(8) Bands, limited to 6 inches in width with no more than one band allowed in any 24–inch section of climbing space (these limitations are excluded for pole stubbing and pole splicing bands when pole step provisions are installed.)

(9) Bolts and their washers. If bolts are bonded, a secure electrical contact shall be made. The covering of bolts and bond wire is not required in triangular and vertical configuration without the use of wood crossarms.

(10) Unnecessary impairment of the climbing space is not permitted by the application of this Rule 54.11G.

Workshop - Proposed strikeout/underline

G. Allowable Climbing Space Obstructions

Allowable climbing space obstructions in triangular and vertical configuration without the use of wood crossarms are:

(1) Crossarms, brackets, and their supporting members.

(2) Insulators which support line conductors, jumpers, and incidental wires may extend one–half of their diameter into the climbing space.

(3) Conductors may extend one–half of their diameter into the climbing space.

(4) Suitably protected ~~(covered only by wood, see Rule 22.8)~~:

1) Vertical risers~~;~~ ~~–~~or runs covered only by wood (see Rule 22.8-B);

2) ~~Vertical runs; or~~ Ground wires covered by wood per Rule 22.8-A1;

3) Ground wires covered by plastic, or other non-conductive material no greater than one-half inch in diameter (see Rule 22.8-A3).

Such risers, runs, and grounds are allowable provided that not more than one is installed in any 4–foot section of climbing space.

(5) Guys (except those guys which are metallically contacting metal pins or deadend hardware as specified in Rule 52.7– D). However, not more than two guys having a vertical separation of 18 inches or less can be installed in any 4– foot section of climbing space.

(6) Street light brackets may extend one–half their diameter into climbing space. Associated street light bracket struts are allowed in climbing space.

(7) Operating rods (e.g., switch rods) and their associated hardware may extend one–half their diameter into climbing space.

(8) Bands, limited to 6 inches in width with no more than one band allowed in any 24–inch section of climbing space (these limitations are excluded for pole stubbing and pole splicing bands when pole step provisions are installed.)

(9) Bolts and their washers. If bolts are bonded, a secure electrical contact shall be made. The covering of bolts and bond wire is not required in triangular and vertical configuration without the use of wood crossarms.

Reasonable efforts shall be made to avoid installing the above listed allowable obstructions within the climbing space.

Proposed final rule

G. Allowable Climbing Space Obstructions

Allowable climbing space obstructions in triangular and vertical configuration without the use of wood crossarms are:

(1) Crossarms, brackets, and their supporting members.

(2) Insulators which support line conductors, jumpers, and incidental wires may extend one–half of their diameter into the climbing space.

(3) Conductors may extend one–half of their diameter into the climbing space.

(4) Suitably protected:

1) Vertical riser or runs covered only by wood (see Rule 22.8-B);

2) Ground wires covered by wood per Rule 22.8-A1;

3) Ground wires covered by plastic, or other non-conductive material no greater than one-half inch in diameter (see Rule 22.8-A3).

Such risers, runs, and grounds are allowable provided that not more than one is installed in any 4–foot section of climbing space.

(5) Guys (except those guys which are metallically contacting metal pins or deadend hardware as specified in Rule 52.7– D). However, not more than two guys having a vertical separation of 18 inches or less can be installed in any 4-foot section of climbing space.

(6) Street light brackets may extend one–half their diameter into climbing space. Associated street light bracket struts are allowed in climbing space.

(7) Operating rods (e.g., switch rods) and their associated hardware may extend one–half their diameter into climbing space.

(8) Bands, limited to 6 inches in width with no more than one band allowed in any 24–inch section of climbing space (these limitations are excluded for pole stubbing and pole splicing bands when pole step provisions are installed.)

(9) Bolts and their washers. If bolts are bonded, a secure electrical contact shall be made. The covering of bolts and bond wire is not required in triangular and vertical configuration without the use of wood crossarms.

Reasonable efforts shall be made to avoid installing the above listed allowable obstructions within the climbing space.

Rationale

The Commission agrees with the proposed change. This PR addresses conditions related to interference with fall-protection equipment. The revision to subpart G4 reorganizes the existing requirement for risers, runs, and bare ground wire located in climbing space to be covered with wood, and modifies an existing requirement to allow protected ground wires (sheathed in polyvinyl material) to be installed in climbing space without being covered by wood moulding. Protected ground wire was first recognized for use in the 2005 edition of GO 95 and the revision to the definition of "Protective Covering, Suitable." Since 2005 utilities have covered protected ground wires with wood when installed in climbing space.

The new "reasonable efforts" statement at the end of the rule was developed during workshop discussions of PRs that sought to add a slightly modified version of existing Rule 84.7-A5f to all of the climbing space rules. Parties agreed that the revised "reasonable" statement served the intended need and should be included as a standalone (unnumbered) sentence in the climbing space rules.

4.9. PR 9: GO 95, Rule 54.12F – Allowable Climbing Space Obstructions

Original Rule

> **(3) Allowable Climbing Space Obstructions:** Allowable climbing space obstructions are:
>
> > **(a)** Guys. However, not more than two guys having a vertical separation of 18 inches or less can be installed in any 4–foot section of climbing space.
> >
> > **(b)** Suitably protected (covered only by wood, see Rule 22.8):

1) Vertical risers; or

2) Vertical runs; or

3) Ground wires.

Such risers, runs and grounds are allowable provided that not more than one is installed in any 4–foot section of climbing space.

(c) Insulators and their attaching brackets may extend one–half their diameter into the climbing space.

(d) Conductors may extend one–half their diameter into the climbing space.

(e) Street light brackets may extend one–half their diameter into climbing space. Associated street light bracket struts are allowed in climbing space.

(f) Operating rods (e.g., switch rods) and their associated hardware may extend one–half their diameter into climbing space.

(g) Bands, limited to 6 inches in width with no more than one band allowed in any 24–inch section of climbing space (these limitations are excluded for pole stubbing and pole splicing bands when pole step provisions are installed.)

(h) Bolts and their washers.

The terminals or terminal fittings of risers or runs shall not be installed within climbing space.

Pre-workshop - Proposed revised rule with strikeout/underline

(3) Allowable Climbing Space Obstructions: Allowable climbing space obstructions are:

(a) Guys. However, not more than two guys having a vertical separation of 18 inches or less can be installed in any 4–foot section of climbing space.

(b) Suitably protected ~~(covered only by wood, see Rule 22.8)~~:

1) ~~Vertical risers; or~~ Ground wires covered by wood per Rule 22.8-A1.

~~2) Vertical runs; or~~

2~~3~~) Ground wires covered by plastic, or other non-conductive material no greater than one-half inch in diameter (see Rule 22.8-A3).

Such ~~risers, runs, and~~ grounds are allowable provided that not more than one is installed in any 4–foot section of climbing space.

(c) Insulators and their attaching brackets may extend one–half their diameter into the climbing space.

(d) Conductors may extend one–half their diameter into the climbing space.

(e) Street light brackets may extend one–half their diameter into climbing space. Associated street light bracket struts are allowed in climbing space.

(f) Operating rods (e.g., switch rods) and their associated hardware may extend one–half their diameter into climbing space.

(g) Bands, limited to 6 inches in width with no more than one band allowed in any 24–inch section of climbing space (these limitations are excluded for pole stubbing and pole splicing bands when pole step provisions are installed.)

(h) Bolts and their washers.

~~The terminals or terminal fittings of risers or runs shall not be installed within climbing space.~~

(i) Unnecessary impairment of the climbing space is not permitted by the application of this Rule 54.10F3.

Workshop - Proposed strikeout/underline

(3) Allowable Climbing Space Obstructions: Allowable climbing space obstructions are:

(a) Guys. However, not more than two guys having a vertical separation of 18 inches or less can be installed in any 4–foot section of climbing space.

(b) Suitably protected ~~(covered only by wood, see Rule 22.8)~~:

1) Vertical risers; or runs covered only by wood (see Rule 22.8-B);

2) ~~Vertical runs; or~~ Ground wires covered by wood per Rule 22.8-A1;

3) Ground wires covered by plastic, or other non-conductive material no greater than one-half inch in diameter (see Rule 22.8-A3).

Such risers, runs, and grounds are allowable provided that not more than one is installed in any 4–foot section of climbing space.

(c) Insulators and their attaching brackets may extend one–half their diameter into the climbing space.

(d) Conductors may extend one–half their diameter into the climbing space.

(e) Street light brackets may extend one–half their diameter into climbing space. Associated street light bracket struts are allowed in climbing space.

(f) Operating rods (e.g., switch rods) and their associated hardware may extend one–half their diameter into climbing space.

(g) Bands, limited to 6 inches in width with no more than one band allowed in any 24–inch section of climbing space (these limitations are excluded for pole stubbing and pole splicing bands when pole step provisions are installed.)

(h) Bolts and their washers.

~~The terminals or terminal fittings of risers or runs shall not be installed within climbing space.~~

Reasonable efforts shall be made to avoid installing the above listed allowable obstructions within the climbing space.

Proposed final rule

(3) Allowable Climbing Space Obstructions: Allowable climbing space obstructions are:

(a) Guys. However, not more than two guys having a vertical separation of 18 inches or less can be installed in any 4–foot section of climbing space.

(b) Suitably protected:

1) Vertical riser or runs covered only by wood (see Rule 22.8-B;

2) Ground wires covered by wood per Rule 22.8-A1;

3) Ground wires covered by plastic, or other non-conductive material no greater than one-half inch in diameter (see Rule 22.8-A3)

Such risers, runs, and grounds are allowable provided that not more than one is installed in any 4–foot section of climbing space.

(c) Insulators and their attaching brackets may extend one–half their diameter into the climbing space.

(d) Conductors may extend one–half their diameter into the climbing space.

(e) Street light brackets may extend one–half their diameter into climbing space. Associated street light bracket struts are allowed in climbing space.

(f) Operating rods (e.g., switch rods) and their associated hardware may extend one–half their diameter into climbing space.

(g) Bands, limited to 6 inches in width with no more than one band allowed in any 24–inch section of climbing space (these limitations are excluded for pole stubbing and pole splicing bands when pole step provisions are installed.)

(h) Bolts and their washers.

Reasonable efforts shall be made to avoid installing the above listed allowable obstructions within the climbing space.

Rationale

The Commission agrees with the proposed change. This PR addresses conditions related to interference with fall-protection equipment. The revision to subpart F3b reorganizes the existing requirement for risers, runs, and bare ground wire located in climbing space to be covered with wood, and modifies an

existing requirement to allow protected ground wires (sheathed in polyvinyl material) to be installed in climbing space without being covered by wood moulding. Protected ground wire was first recognized for use in the 2005 edition of GO 95 and the revision to the definition of "Protective Covering, Suitable". Since 2005 utilities have covered protected ground wires with wood when installed in climbing space.

The new "reasonable efforts" statement at the end of the rule was developed during workshop discussions of PRs that sought to add a slightly modified version of existing Rule 84.7-A5f to all of the climbing space rules. Parties agreed that the revised "reasonable" statement served the intended need and should be included as a standalone (unnumbered) sentence in the climbing space rules.

4.10. PR 10: GO 95, New Rule 81.7 – Interference with Fall-Protection Equipment

Workshop - Proposed new rule with strikeout/underline

81.7 Interference with Fall-Protection Equipment

Communication attachments shall not interfere with the effective use of fall-protection equipment.

Note: Examples of attachments that might not interfere with fall restraint and fall-protection equipment include, but are not limited to, the following:

(1) Surface-mounted equipment that occupies no more than 24 inches of vertical space.

(2) Surface-mounted risers and vertical runs.

(3) Equipment stood off from the pole to maintain a minimum of 4 inches of clear space between the equipment and the surface of the pole, risers, or vertical runs.

Proposed final rule

81.7 Interference with Fall-Protection Equipment

Communication attachments shall not interfere with the effective use of fall-protection equipment.

Note: Examples of attachments that might not interfere with fall restraint and fall-protection equipment include, but are not limited to, the following:

(1) Surface-mounted equipment that occupies no more than 24 inches of vertical space.

(2) Surface-mounted risers and vertical runs.

(3) Equipment stood off from the pole to maintain a minimum of 4 inches of clear space between the equipment and the surface of the pole, risers, or vertical runs.

Rationale

The Commission agrees with this proposed new rule. This proposed new rule is one of three specific rule revisions developed for inclusion in GO 95 that are similar to Rule 94.6-C (adopted by D.16-01-046) addressing interference with fall-protection gear. Collectively, this new rule and the new rules for Rules 51.7 and 91.6 will apply to all pole attachments and allow Rule 94.6-C to be deleted.

4.11. PR 11: GO 95, Rule 84.7A – Climbing Space and Working Space

Original Rule

A. Climbing Space

Climbing space shall be provided on one side or quadrant of all poles or structures supporting communications conductors excepting at the level of the one pair of conductors attached to the pole below the lowest crossarm (Rules 84.4–C1c, 84.4–D1 and87.4–C3) and the top 3 feet of poles carrying communication

conductors only which are attached directly to pole in accordance with the provisions of Rule 84.4– C1c.

The climbing space shall be maintained in the same position on the pole for minimum vertical distance of 4 feet above and below each conductor level through which it passes, excepting that where a cable is attached to a crossarm or a pole with the cable less than 9 or 15 inches from the center line of the pole supporting conductors on line arms (no buck arm construction involved) in accordance with the provisions of Rules 84.4–D1 or 87.4–C3, the 4-foot vertical distance may be reduced to not less than 3 feet.

The position of the climbing space shall not be shifted more than 90 degrees around the pole within a vertical distance of less than 8 feet. Climbing space shall be maintained from the ground level.

The climbing space shall be kept free from obstructions excepting those obstructions permitted by Rule 84.7–E.

Workshop - Proposed revised rule with strikeout/underline

A. Climbing Space

Climbing space shall be provided on one side or quadrant of all poles or structures supporting communications conductors excepting at the level of the one pair of conductors attached to the pole below the lowest crossarm (Rules 84.4–C1c, 84.4–D1 and 87.4–C3) and the top 3 feet of poles carrying communication conductors only which are attached directly to pole in accordance with the provisions of Rule 84.4– C1c.

The climbing space shall be maintained in the same position on the pole for minimum vertical distance of 4 feet above and below each conductor level through which it passes, excepting that where a cable is attached to a crossarm or a pole with the cable less than 9 or 15 inches from the center line of the pole supporting conductors on line arms (no buck arm construction involved) in accordance with the provisions of Rules 84.4–D1 or

87.4–C3, the 4 foot vertical distance may be reduced to not less than 3 feet.

The position of the climbing space shall not be shifted more than 90 degrees around the pole within a vertical distance of less than 8 feet. Climbing space shall be maintained from the ground level.

The climbing space shall be kept free from obstructions excepting those obstructions permitted by Rule 84.7–~~E~~A5.

Proposed final rule

A. Climbing Space

Climbing space shall be provided on one side or quadrant of all poles or structures supporting communications conductors excepting at the level of the one pair of conductors attached to the pole below the lowest crossarm (Rules 84.4–C1c, 84.4–D1 and 87.4–C3) and the top 3 feet of poles carrying communication conductors only which are attached directly to pole in accordance with the provisions of Rule 84.4– C1c.

The climbing space shall be maintained in the same position on the pole for minimum vertical distance of 4 feet above and below each conductor level through which it passes, excepting that where a cable is attached to a crossarm or a pole with the cable less than 9 or 15 inches from the center line of the pole supporting conductors on line arms (no buck arm construction involved) in accordance with the provisions of Rules 84.4–D1 or 87.4–C3, the 4 foot vertical distance may be reduced to not less than 3 feet.

The position of the climbing space shall not be shifted more than 90 degrees around the pole within a vertical distance of less than 8 feet. Climbing space shall be maintained from the ground level.

The climbing space shall be kept free from obstructions excepting those obstructions permitted by Rule 84.7–A5.

Rationale

The Commission agrees with the proposed change. This revision to Rule 84.7-A corrects an incorrect cross-reference to Rule 84.7-E that was inadvertently included in D.15-01-005. In R.14-08-012 and resulting D.15-01-005, GO 95 Rule 84.7 was reorganized to create a new 84.7-A for existing Allowable Climbing Space Obstruction rules and added a new 84.7-B for (then) new Working Space rules. Due to the reorganization, original 84.7-E was replaced by 84.7-A5; however, some of the references to 84.7-E were not refreshed.

The new "reasonable efforts" statement at the end of the rule was developed during workshop discussions of PRs that sought to add a slightly modified version of existing Rule 84.7-A5f to all of the climbing space rules. Parties agreed that the revised "reasonable" statement served the intended need and should be included as a standalone (unnumbered) sentence in the climbing space rules.

4.11.1. GO 95 Rule 84.7-A5—Allowable Climbing Space Obstructions

Original Rule

5. Allowable Climbing Space Obstructions

a. Vertical conductors, when in a suitable protective covering attached directly to the surface of the pole, terminal boxes or similar equipment which do not extend more than 5 inches from the surface of the pole, and guys, will not be held to obstruct the climbing space provided not more than two guys (provided they are separated at the pole by a vertical distance of not more than 18 inches) and one other of the above named obstructions are installed in any 4-foot vertical section of climbing space.

b. Crossarms and their supporting members are allowed in climbing spaces provided that, where buck arms are involved, any arms within climbing spaces are treated as double arms.

c. A guard arm, a longitudinal run of messenger, cable or insulated wire will not be held to obstruct the climbing space where they are placed in the climbing space because the presence of a building wall or similar obstacle will not permit the cable to be placed on the side of pole opposite the climbing space. Pole steps shall be suitably placed for the purpose of facilitating climbing past the level of terminal box, cable, drop wires and guard arm

d. Pole restoration materials are allowed in climbing space provided pole steps are placed in the restoration area as part of the process. Pole stepping shall be in accordance with Rule 91.3-B.

e. Bands limited to 6 inches in total width are allowed in any 24-inch section of climbing space. These limitations are excluded for pole stubbing and pole splicing bands when pole step provisions are installed.

f. Unnecessary impairment of the climbing space is not permitted by the application of this Rule 84.7-E.

Pre-workshop - Proposed revised rule with strikeout/underline

5. Allowable Climbing Space Obstructions

a. ~~Vertical conductors, when in a suitable protective covering attached directly to the surface of the pole,~~ The following are allowed when installed in any 4-foot vertical section of climbing space:

1. Terminal boxes or similar equipment which do not extend more than 5 inches from the surface of the pole. ~~and guys, will not be held to obstruct the climbing space provided not more than two guys (provided they are~~

~~separated at the pole by a vertical distance of not more than 18 inches)~~

2. ~~Not more than three~~ Guys having a vertical separation of not ~~less~~ than 24 inches between the highest and lowest guy. ~~and one other of the above named obstructions are installed in any 4-foot vertical section of climbing space~~.

b. Crossarms and their supporting members are allowed in climbing spaces provided that, where buck arms are involved, any arms within climbing spaces are treated as double arms.

c. A guard arm, a longitudinal run of messenger, cable or insulated wire will not be held to obstruct the climbing space where they are placed in the climbing space because the presence of a building wall or similar obstacle will not permit the cable to be placed on the side of pole opposite the climbing space. Pole steps shall be suitably placed for the purpose of facilitating climbing past the level of terminal box, cable, drop wires and guard arm

d. Pole restoration materials are allowed in climbing space provided pole steps are placed in the restoration area as part of the process. Pole stepping shall be in accordance with Rule 91.3-B.

e. Bands limited to 6 inches in total width are allowed in any 24-inch section of climbing space. These limitations are excluded for pole stubbing and pole splicing bands when pole step provisions are installed.

f. Unnecessary impairment of the climbing space is not permitted by the application of this Rule 84.7-E.

Workshop - Proposed revised rule with strikeout/underline

5. Allowable Climbing Space Obstructions

a. Vertical conductors, when in a suitable protective covering attached directly to the surface of the pole, terminal boxes or similar equipment which do not extend more than 5 inches from the surface of the pole, and guys, will not be held to obstruct the climbing space provided not more than two guys (provided they are separated at the pole by a vertical distance of not more than 18 inches) and one other of the above named obstructions are installed in any 4-foot vertical section of climbing space.

b. Crossarms and their supporting members are allowed in climbing spaces provided that, where buck arms are involved, any arms within climbing spaces are treated as double arms.

c. A guard arm, a longitudinal run of messenger, cable or insulated wire will not be held to obstruct the climbing space where they are placed in the climbing space because the presence of a building wall or similar obstacle will not permit the cable to be placed on the side of pole opposite the climbing space. Pole steps shall be suitably placed for the purpose of facilitating climbing past the level of terminal box, cable, drop wires and guard arm

d. Pole restoration materials are allowed in climbing space provided pole steps are placed in the restoration area as part of the process. Pole stepping shall be in accordance with Rule 91.3-~~B~~C.

e. Bands limited to 6 inches in total width are allowed in any 24-inch section of climbing space. These limitations are excluded for pole stubbing and pole splicing bands when pole step provisions are installed.

~~**f.** Unnecessary impairment of the climbing space is not permitted by the application of this Rule 84.7-E.~~

Reasonable efforts shall be made to avoid installing the above listed allowable obstructions within the climbing space.

Final Rule

5. Allowable Climbing Space Obstructions

a. Vertical conductors, when in a suitable protective covering attached directly to the surface of the pole, terminal boxes or similar equipment which do not extend more than 5 inches from the surface of the pole, and guys, will not be held to obstruct the climbing space provided not more than two guys (provided they are separated at the pole by a vertical distance of not more than 18 inches) and one other of the above named obstructions are installed in any 4-foot vertical section of climbing space.

b. Crossarms and their supporting members are allowed in climbing spaces provided that, where buck arms are involved, any arms within climbing spaces are treated as double arms.

c. A guard arm, a longitudinal run of messenger, cable or insulated wire will not be held to obstruct the climbing space where they are placed in the climbing space because the presence of a building wall or similar obstacle will not permit the cable to be placed on the side of pole opposite the climbing space. Pole steps shall be suitably placed for the purpose of facilitating climbing past the level of terminal box, cable, drop wires and guard arm

d. Pole restoration materials are allowed in climbing space provided pole steps are placed in the restoration area as part of the process. Pole stepping shall be in accordance with Rule 91.3-C.

e. Bands limited to 6 inches in total width are allowed in any 24-inch section of climbing space. These limitations are excluded for pole stubbing and pole splicing bands when pole step provisions are installed.

Reasonable efforts shall be made to avoid installing the above listed allowable obstructions within the climbing space.

Rationale

The Commission agrees with the proposed change. This revision to Rule 84.7-A corrects an incorrect cross-reference to Rule 84.7-E that was inadvertently included in D.15-01-005. In R.14-08-012 and resulting D.15-01-005, GO 95 Rule 84.7 was reorganized to create a new 84.7-A for existing Allowable Climbing Space Obstruction rules and added a new 84.7-B for (then) new Working Space rules. Due to the reorganization, original 84.7-E was replaced by 84.7-A5; however, some of the references to 84.7-E were not refreshed.

The new "reasonable efforts" statement at the end of the rule was developed during workshop discussions of PRs that sought to add a slightly modified version of existing Rule 84.7-A5f to all of the climbing space rules. Parties agreed that the revised "reasonable" statement served the intended need and should be included as a standalone (unnumbered) sentence in the climbing space rules.

4.12. PR 12: GO 95, Rule 88 – Miscellaneous Equipment

Original Rule

88.1 Cable Terminals or Boxes

Cable terminals or boxes on poles supporting communication conductors may be placed upon any surface of the pole provided such terminals or boxes where placed in the climbing space shall not extend more than 5 inches from the surface of pole, and provisions of Rule 84.7–E for climbing space obstructions are met. This rule is not intended to apply to equipment placed within the top 3 feet of a pole supporting only communication conductors and no crossarms.

Proposed revised rule with strikeout/underline

88.1 Cable Terminals or Boxes

Cable terminals or boxes on poles supporting communication conductors may be placed upon any surface of the pole provided such terminals or boxes where placed in the climbing space shall not extend more than 5 inches from the surface of pole, and provisions of Rule 84.7–~~E~~A5 for climbing space obstructions are met. This rule is not intended to apply to equipment placed within the top 3 feet of a pole supporting only communication conductors and no crossarms.

Proposed final rule

88.1 Cable Terminals or Boxes

Cable terminals or boxes on poles supporting communication conductors may be placed upon any surface of the pole provided such terminals or boxes where placed in the climbing space shall not extend more than 5 inches from the surface of pole, and provisions of Rule 84.7–A5 for climbing space obstructions are met. This rule is not intended to apply to equipment placed within the top 3 feet of a pole supporting only communication conductors and no crossarms.

Rationale

The Commission agrees with the proposed change. This revision to Rule 88.1 corrects an incorrect cross-reference to Rule 84.7-E that was inadvertently included in D.15-01-005. In R.14-08-012 and resulting D.15-01-005, GO 95 Rule 84.7 was reorganized to create a new 84.7-Afor existing Allowable Climbing Space Obstruction rules and added a new 84.7-B for (then) new Working Space rules. Due to the reorganization, original 84.7-E was replaced by 84.7-A5, however, some of the references to 84.7-E were not refreshed.

4.13. PR 13: GO 95, Rule 91 – Pole, Towers and Structures

Original Rule

91.3 Stepping

A. Use Of Steps

(1) Poles with Vertical Runs or Risers: All jointly used poles which support supply conductors shall be provided with pole steps if vertical runs or risers are attached to the surface of such poles, unless the conditions described in the following subparagraphs (a), (b) or (c) are met:

(a) One–Party Poles: Poles which carry circuits operated and maintained by only one party are not required to be stepped, provided any vertical runs or risers on the surface of such poles are covered by a suitable protective covering (Refer to Rule 54.6–E and Rule 84.6–E) from the ground line to a level not less than 8 ft. above the ground line, or provided that such poles comply with the conditions of Rule 91.3–A1b.

(b) Communications Runs: Joint poles with vertical communications runs are not required to be stepped, provided all of the following conditions are met:

1) The pole has no pole mounted communication terminals, no risers and no vertical runs (including ground wires) located within the climbing space, and not more than three levels of communication line conductors;

2) The communications levels consist only of drop wire in line cable construction, span wire supported cables, and messenger–supported cables;

3) The maximum vertical separation between the highest and lowest line communications levels is not more than 30 inches;

4) The vertical runs other than ground wires consist entirely of drop wire cables for service drops which extend vertically no more than one foot above and below the communication line levels.

(c) Supply Runs: Joint poles with supply vertical runs are not required to be stepped provided all of the following conditions are met:

1) All supply circuits on the pole are operated and maintained by only one party.
2) All supply vertical runs other than ground wires are located entirely above the communication levels.

3) No ground wire runs are located within the climbing space except those portions which are located above the communications level.

B. Location of Steps

The lowest step shall not be less than 8 feet from the ground line, or any easily climbable foreign structure from which one could reach or step. Above this point steps shall be placed, with spacing between steps on the same side of the pole not exceeding 36 inches, at least to that conductor level above which only circuits operated and maintained by one party remain. Steps or fixtures for temporary steps shall be installed as part of a pole restoration process. Steps shall be so placed that runs or risers do not interfere with the free use of the steps.

Exception: Steps are not required above the uppermost Class C circuit where an Antenna is affixed above supply conductors.

Proposed revised rule with strikeout/underline

91.3 Stepping

~~A. Use Of Steps~~

~~**(1) Poles with Vertical Runs or Risers:** All jointly used poles which support supply conductors shall be provided with pole steps if vertical runs or risers are attached to the surface of such poles, unless the conditions described in the following subparagraphs (a), (b) or (c) are met:~~

~~**(a) One-Party Poles:** Poles which carry circuits operated and maintained by only one party are not required to be stepped, provided any vertical runs or risers on the surface of such poles are covered by a suitable protective covering (Refer to Rule 54.6-E and Rule 84.6-E) from the ground line to a level not less than 8 ft. above the ground line, or provided that such poles comply with the conditions of Rule 91.3-A1b.~~

~~**(b) Communications Runs:** Joint poles with vertical communications runs are not required to be stepped, provided all of the following conditions are met:~~

~~1) The pole has no pole mounted communication terminals, no risers and no vertical runs (including ground wires) located within the climbing space, and not more than three levels of communication line conductors;~~

~~2) The communications levels consist only of drop wire in line cable construction, span wire supported cables, and messenger-supported cables;~~

~~3) The maximum vertical separation between the highest and lowest line communications levels is not more than 30 inches;~~

~~4) The vertical runs other than ground wires consist entirely of drop wire cables for service drops which extend vertically no more than one foot above and below the communication line levels.~~

~~**(c) Supply Runs:** Joint poles with supply vertical runs are not required to be stepped provided all of the following conditions are met:~~

~~1) All supply circuits on the pole are operated and maintained by only one party.~~

~~2) All supply vertical runs other than ground wires are located entirely above the communication levels.~~

~~3) No ground wire runs are located within the climbing space except those portions which are located above the communications level.~~

~~**B. Location of Steps**~~

A. Unless otherwise specified in this Order, pole steps used to ascend and descend joint use wood poles are not required. However, occupants on joint use wood poles are not prohibited from installing and maintaining temporary or permanent steps.

B. Unless ~~designated~~ non-climbable, joint use nonwood poles shall include provisions for ascending and descending.

C. Where installed, the lowest step shall not be less than 8 feet from the ground line, or any easily climbable foreign structure from which one could reach or step. Above this point steps shall be placed, with spacing between steps on the same side of the pole not exceeding 36 inches, at least to that conductor level above which only circuits operated and maintained by one party remain. Steps or fixtures for temporary steps shall be installed as part of a pole

restoration process. Steps shall be so placed that runs or risers do not interfere with the free use of the steps.

~~**Exception:** Steps are not required above the uppermost Class C circuit where an Antenna is affixed above supply conductors.~~

Proposed final rule

91.3 Stepping

A. Unless otherwise specified in this Order, pole steps used to ascend and descend joint use wood poles are not required. However, occupants on joint use wood poles are not prohibited from installing and maintaining temporary or permanent steps.

B. Unless non-climbable, joint use nonwood poles shall include provisions for ascending and descending.

C. Where installed, the lowest step shall not be less than 8 feet from the ground line, or any easily climbable foreign structure from which one could reach or step. Above this point steps shall be placed, with spacing between steps on the same side of the pole not exceeding 36 inches, at least to that conductor level above which only circuits operated and maintained by one party remain. Steps or fixtures for temporary steps shall be installed as part of a pole restoration process. Steps shall be so placed that runs or risers do not interfere with the free use of the steps.

Rationale

The Commission agrees with the proposed change. This rule revision improves worker safety by modifying the current rules to make the installation of permanent steps in wood poles optional rather than mandatory. In 2014 Fed-Occupational Safety and Health Administration (OSHA) issued new and revised "fall-protection" rules that include requirements for the use of "wood pole fall-protection devices." Cal-OSHA adopted near identical rules in 2018.

Many of California's electric utilities revised their wood pole climbing policies and practices in advance of the revisions to Cal-OSHA rules and have found that wood pole steps are an encumbrance to the safe and proper use of wood pole fall-protection devices. During the August workshops, one utility described three (recent) serious injuries to line workers involving steps and fall-protection equipment. In addition, a member of the GO 95/128 Rules Committee presented Appendix C and demonstrated the use of this equipment. Parties agree that the presence of wood pole steps can impede linemen ascending and descending poles while using required fall-protection gear, and also agree that although the installation and use of wood pole steps might be warranted in some circumstances, installation should not be required. This revised rule was crafted to enhance safe climbing methods associated with fall-protection gear. The proposed final version of Rule 91.3 also retains prior requirements that are applicable to the installation and maintenance of pole steps when/where installed.

4.14. PR 14: GO 95, New Rule 91.6 – Interference with Fall-Protection Equipment

Workshop - Proposed new rule with strikeout/underline

91.6 Interference with Fall-Protection Equipment

Electric supply and communication attachments shall not interfere with the effective use of fall-protection.

Note: Examples of attachments that might not interfere with fall restraint and fall-protection equipment include, but are not limited to, the following:

(1) Surface-mounted equipment that occupies no more than 24 inches of vertical space.

(2) Surface-mounted risers and vertical runs.

(3) Equipment stood off from the pole to maintain a minimum of 4 inches of clear space between the equipment and the surface of the pole, risers, or vertical runs.

Proposed final rule

91.6 Interference with Fall-Protection Equipment

Electric supply and communication attachments shall not interfere with the effective use of fall-protection equipment.

Note: Examples of attachments that might not interfere with fall restraint and fall-protection equipment include, but are not limited to, the following:

(1) Surface-mounted equipment that occupies no more than 24 inches of vertical space.

(2) Surface-mounted risers and vertical runs.

(3) Equipment stood off from the pole to maintain a minimum of 4 inches of clear space between the equipment and the surface of the pole, risers, or vertical runs.

Rationale

The Commission agrees with this proposed new rule. This proposed new Rule 91.6 is one of three specific rule revisions developed for inclusion in GO 95 that are similar to Rule 94.6-C (adopted by D.16-01-046) addressing interference with fall-protection gear. Collectively, this new rule and new rules for Rules 51.7 and 81.6 will apply to all pole attachments and allow Rule 94.6-C to be deleted.

4.15. PR 15: GO 95, Rule 93 – Climbing Space

Original Rule

93 Climbing Space

Climbing space shall be provided on all jointly used poles which support conductors and the provisions of Rules 54.7 and 84.7 are directly applicable to such poles. Climbing space on jointly used poles shall be so correlated between conductor levels that its position in relation to the pole is not changed by more than 90 degrees in a vertical distance of less than 8 feet. Climbing space shall be maintained from the ground level.

Pre-workshop - Proposed revised rule with strikeout/underline

93 Climbing Space

Climbing space shall be provided on all jointly used poles ~~which support conductors and~~ in accordance with the provisions of Rules 54.7, 54.9, 54.10, 54.11, 54.12 and 84.7 ~~are directly applicable to such poles~~.

Climbing space on jointly used poles shall be ~~so correlated~~ maintained between conductor levels and equipment of different ownership so that its position in relation to the pole is not changed by more than 90 degrees in a vertical distance of less than 8 feet.

Climbing space shall be maintained from the ground level.

Workshop - Proposed revised rule with strikeout/underline

93 Climbing Space

Climbing space shall be provided on all jointly used poles ~~which support conductors and~~ in accordance with the provisions of Rules 54.7, 54.9, 54.10, 54.11, 54.12 and 84.7 ~~are directly applicable to such poles~~.

Climbing space on jointly used poles shall be ~~so correlated~~ maintained ~~between conductor levels and equipment of different ownership~~ so that its position in relation to the pole is not

changed by more than 90 degrees in a vertical distance of less than 8 feet.

Climbing space shall be maintained from the ground level.

Proposed final rule

93 Climbing Space

Climbing space shall be provided on all jointly used poles in accordance with the provisions of Rules 54.7, 54.9, 54.10, 54.11, 54.12 and 84.7.

Climbing space on jointly used poles shall be maintained so that its position in relation to the pole is not changed by more than 90 degrees in a vertical distance of less than 8 feet.

Climbing space shall be maintained from the ground level.

Rationale

The Commission agrees with the proposed change. This proposed revised rule was developed to align the climbing space description contained in Rule 93 with the other applicable climbing requirements of GO 95. The proposed revisions to this rule improve clarity and applicability. Additional references to the climbing space rules are added to ensure completeness of the instant rule and the second paragraph is modified to include a simplified statement for ensuring the proper positioning of climbing space on joint use poles.

4.16. PR 16: GO 95, Rule 94.6 – Climbing Space

Original Rule

A. Climbing space above supply lines shall be maintained in accordance with Rule 54.7-A to:

(1) The bottom of the Antenna (including associated support elements) if affixed less than eight inches from the surface of the pole at the top of the pole or pole- top extension.

(2) The top of the pole or pole-top extension if the Antenna (including associated support elements) is affixed more than eight inches from the surface of the pole or pole-top extension.

(3) The bottom of the uppermost Antenna (including associated support elements) if multiple Antennas are present at different levels above supply lines.

B. Climbing space above communication lines shall be maintained in accordance with Rule 84.7 to:

(1) The bottom of the Antenna (including associated support elements) at the top of the pole or pole-top extension when affixed less than eight inches from the surface of the pole.
(2) The top of the pole or pole-top extension if the Antenna (including associated support elements) is affixed more than eight inches from the surface of the pole or pole-top extension.

C. Antennas and all associated attachments shall not impair climbing space or interfere with fall restraint and fall-protection equipment except as permitted by the application of Rule 54.7 or Rule 84.7.

Note: Examples of attachments that might not interfere with fall restraint and fall-protection equipment include, but are not limited to, the following:

(1) Surface-mounted equipment that occupies no more than 18 inches of vertical space.

(2) Equipment stood off from the pole to maintain a minimum of 4 inches of clear space between the equipment and the pole.

(3) Appropriately designed and installed surface-mounted risers.

Proposed revised rule with strikeout/underline

A. Climbing space above supply lines shall be maintained in accordance with Rule 54.7-A to:

(1) The bottom of the Antenna (including associated support elements) if affixed less than eight inches from the surface of the pole at the top of the pole or pole- top extension.

(2) The top of the pole or pole-top extension if the Antenna (including associated support elements) is affixed more than eight inches from the surface of the pole or pole-top extension.

(3) The bottom of the uppermost Antenna (including associated support elements) if multiple Antennas are present at different levels above supply lines.

B. Climbing space above communication lines shall be maintained in accordance with Rule 84.7 to:

(1) The bottom of the Antenna (including associated support elements) at the top of the pole or pole-top extension when affixed less than eight inches from the surface of the pole.

(2) The top of the pole or pole-top extension if the Antenna (including associated support elements) is affixed more than eight inches from the surface of the pole or pole-top extension.

~~**C.** Antennas and all associated attachments shall not impair climbing space or interfere with fall restraint and fall protection equipment except as permitted by the application of Rule 54.7 or Rule 84.7.~~

~~Note: Examples of attachments that might not interfere with fall restraint and fall protection equipment include, but are not limited to, the following:~~

~~(1) Surface-mounted equipment that occupies no more than 18 inches of vertical space.~~

~~(2) Equipment stood off from the pole to maintain a minimum of 4 inches of clear space between the equipment and the pole.~~

~~(3) Appropriately designed and installed surface-mounted risers.~~

Proposed final rule

A. Climbing space above supply lines shall be maintained in accordance with Rule 54.7-A to:

(1) The bottom of the Antenna (including associated support elements) if affixed less than eight inches from the surface of the pole at the top of the pole or pole- top extension.

(2) The top of the pole or pole-top extension if the Antenna (including associated support elements) is affixed more than eight inches from the surface of the pole or pole-top extension.

(3) The bottom of the uppermost Antenna (including associated support elements) if multiple Antennas are present at different levels above supply lines.

B. Climbing space above communication lines shall be maintained in accordance with Rule 84.7 to:

(1) The bottom of the Antenna (including associated support elements) at the top of the pole or pole-top extension when affixed less than eight inches from the surface of the pole.

(2) The top of the pole or pole-top extension if the Antenna (including associated support elements) is affixed more than eight inches from the surface of the pole or pole-top extension.

Rationale

The Commission agrees with the proposed change. Proposed new Rules 51.7, 81.7, and 91.6 are similar to Rule 94.6-C (adopted by D.16-01- 046) and address interference with fall-protection gear. Collectively, these new rules will apply to all pole attachments and allow Rule 94.6- C to be deleted.

4.17. PR 17 – Elimination of Rule 94.11 (Pole-Overturning Calculation)

Original Rule

94.11 Pole-Overturning Calculation

A pole-overturning calculation shall be performed before a pole-top antenna installation is added to a pole. The calculation shall use a safety factor of 3.0 for Grade A construction, and 2.0 for Grades B and C construction, and incorporate loads for the entire pole structure, including all existing attachments and guys (if any), and all elements of the planned pole-top antenna installation. After the installation, the safety factor shall comply with Rule 44.3.

Note: The purpose of this calculation is to ensure that the pole-overturning moment does not exceed the capacity of the soil, rock, or other material in which the pole is embedded to resist the pole-overturning moment.

Note: Added January 28, 2016 by Decision No. 16-01-046.

Proposed revised rule with strikeout/underline

~~**94.11 Pole Overturning Calculation**~~

~~A pole overturning calculation shall be performed before a pole-top antenna installation is added to a pole. The calculation shall use a safety factor of 3.0 for Grade A construction, and 2.0 for Grades B and C construction, and incorporate loads for the entire pole structure, including all existing attachments and guys (if any), and all elements of the~~

~~planned pole-top antenna installation. After the installation, the safety factor shall comply with Rule 44.3.~~

~~Note: The purpose of this calculation is to ensure that the pole overturning moment does not exceed the capacity of the soil, rock, or other material in which the pole is embedded to resist the pole overturning moment.~~

~~Note: Added January 28, 2016 by Decision No. 16-01-046.~~

Proposed final

No rule.

Rationale

The Commission agrees with the proposed deletion of Rule 94.11. Currently, the existing language of Rule 49.1-C requires deeper settings or other special methods to be used to prevent pole overturning or excessive movement, but is not clear in terms of the loading conditions it must account for. The proposed change to Rule 49.1-C in PR 3 adds a reference to Rules 43 and 44 to require that the provision for deeper settings or other special methods to ensure that the pole must be protected against overturning or excessive movement at any load equal to or less than the load it must be protected against for bending failures. In other words, a pole must not overturn at any load less than the load that causes it to break.

The proposed change to Rule 49.1-C (in PR 3) is applicable to all sole-use and joint-use utility poles and allows Rule 94.11, which addresses only joint use poles supporting antennas, to be deleted.

4.18. PR 18: GO 95, (Renumber) Rule 94.12 to 94.10 – Personnel Access Above Supply Lines

Original Rule

94.12 Personnel Access Above Supply Lines

Only personnel and contractors who are properly qualified to work in proximity to supply lines shall have access to, and work on, wireless facilities installed above supply lines on the same support structure.

Proposed revised rule with strikeout/underline

94.~~12~~ 10 Personnel Access Above Supply Lines
Only personnel and contractors who are properly qualified to work in proximity to supply lines shall have access to, and work on, wireless facilities installed above supply lines on the same support structure.

Note: Added January 28, 2016 by Decision No. 16-01-046.

Proposed final rule

94.10 Personnel Access Above Supply Lines

Only personnel and contractors who are properly qualified to work in proximity to supply lines shall have access to, and work on, wireless facilities installed above supply lines on the same support structure.

Rationale

The Commission agrees with this proposed change. Previously, Rule 49.11 was incorrectly numbered in D.16-01-046. Also, parties reached consensus on revisions to Rule 49.1-C (PR 3) and agreed that Rule 49.11 should be deleted. To accommodate the deletion of 49.11 and correct the previous incorrect numbering of this rule, it is appropriate to correct the numbering of Rule 94.12 to Rule 94.10.

5. Implementation Time Frame, Potential Economic Impact, and Screening Process

As noted above at Section 1.2.5 of this decision, the parties differ on how much time should be permitted to implement the proposed regulations after they have been adopted by the Commission. Cal Advocates agrees with the POUs that the PRs should take effect within 180 days of the Commission's decision. In contrast, PG&E recommended that the PRs take effect no sooner than one year after the Commission's decision in order to give the parties additional time to refine existing procedures to comply with the PRs.

The Commission agrees that 180-day time frame for the PRs to take effect. Of course, the parties are encouraged to implement the PRs sooner than the 180-day limit if possible. Thus, the Commission will modify the decision to state that the PRs will be implemented no later than 180 days from the issuance of the Commission's decision.

Cal Advocates also raised a concern about the potential economic impact of the PRs. While the Workshop Report "it is expected that any internal standards revisions developed by communication carriers or electric supply utilities will have little or no economic impact to communication customers or utility rate payers," Cal Advocates asserts that no economic impacts analysis had been performed. Cal Advocates recommended an expeditious screening process occur prior to the expiration of 180 days after the Commission's decision in order to confirm that the PRs have little to no economic impact on utility ratepayers. Cal Advocates proposes a three-step process: (1) all PRs that solely affect existing activities need no further analysis for economic impact; (2) all PRs with a known economic impact should be compared to a single economic impact threshold for all PRs. The Commission should hold a workshop to develop the

economic impact threshold; (3) all PRs with an unknown economic impact should first be rolled out as 6-month pilot programs, and any economic impacts identified during the pilot period should be compared to the economic impact threshold developed in Step 2.

Joint Parties object to the Cal Advocates's screening process proposal. They claim that the proposal is unnecessary as it would essentially be duplicative of the meetings leading up to the Workshop Report, where there were meetings, discussions, votes, and parties were given the opportunity to voice their opinions and concerns. Having gone through this process, of which Cal Advocates was a part, it would not appear productive to have a new screening process to discuss economic impact as that topic was addressed previously in the party meetings.

The Commission agrees with Joint Parties that Cal Advocates's proposed three-step screening process is unnecessary as it would be a duplicative exercise. The Workshop Report documents that the parties discussed the potential negative economic impacts from the proposed amendments to GO 95, and concluded that there didn't appear to be any. Cal Advocates was a party to the workshops and could have raised its concern if it believed that the GO 95 proposed amendments would have an economic impact on ratepayers. Having failed to do so, and the Commission notes that Cal Advocates did not raise such concerns for inclusion in the Workshop Report, the Commission does not want to delay the adoption and implementation of the GO 95 amendments any further than the 180 day window recommended by Joint Parties.

Of course, if a regulated utility complies with this decision and incurs costs that it proposes to pass on to ratepayers, the utilities should identify those costs in their next general rate case and explain why the costs are reasonable.

6. Comments on Proposed Decision

The proposed decision of Administrative Law Judge Mason in this matter was mailed to the parties in accordance with Section 311 of the Public Utilities Code and comments were allowed under Rule 14.3 of the Commission's Rules of Practice and Procedure.

SED filed comments on January 2, 2020, and requests that the Commission made two changes to the decision. First, SED asks that the 180-day time frame for implementation be reduced to 60 days, reasoning that the PRs are mainly corrections to errors in existing rules, modified language to clarify existing rules, and amended requirements that would apply to facilities constructed after the effective date of the decision. Second, SED askes that a publication paragraph be added to the decision instructing SED to previse and incorporate the changes to GO 95 within 60 days from the effective date of the decision.

The Commission will modify 180-day deadline but not in the manner that SED requests. Instead, the Commission will insert language that the changes to GO 95 adopted by this decision shall become effective no later than 180 days from the effective date of this decision. The parties are encouraged to work expeditiously to the extent that the changes can be achieved in a shorter time frame. Similarly, the publication deadline will also state that the deadline is no later than 180 days.

7. Assignment of Proceeding

Marybel Batjer is the assigned Commissioner and Robert M. Mason III is the assigned Administrative Law Judge in this proceeding

Findings of Fact

1. It is the Commission's regulatory duty to continually assess and reduce the safety risks posed by utilities that are regulated by the Commission.

2. GO 95 was adopted and enacted so that the Commission could make amendments in the construction, operation, and maintenance of overhead electric lines of all types for the protection of employees and the general public.

3. D.16-01-046 identified several safety issues associated with pole attachments and ordered SED to develop proposed amendments to GO 95 to address these safety issues.

4. Between August 28, 2018 and September 27, 2018, the Joint Parties (consisting of twenty-two entities that included SED, IOUs, POUs, Cal Advocates, a labor union, communications companies, cable providers, and industry associations) held six days of workshop meetings plus additional conference calls, and e-mail exchanges to reach agreement on the amendments to GO 95.

5. On October 31, 2018, the Joint Parties served their Workshop Report, which contains eighteen consensus recommendations for amendments to GO 95.

6. No opposition has been filed in response to the Workshop Report,

Conclusions of Law

1. It is in the public interest to institute this rulemaking and to consider the proposed amendments to GO 95 set forth in the Joint Parties Workshop Report.

2. It is reasonable to amend Rule 22.6-A of GO 95 in the manner proposed by the Joint Parties in the Workshop Report.

3. It is reasonable to amend Rule 44.2 of GO 95 in the manner proposed by the Joint Parties in the Workshop Report.

4. It is reasonable to amend Rule 49.1-C of GO 95 in the manner proposed by the Joint Parties in the Workshop Report.

5. It is reasonable to adopt new Rule 51.8 as part of GO 95 in the manner proposed by the Joint Parties in the Workshop Report.

6. It is reasonable to amend Rule 54.7 of GO 95 in the manner proposed by the Joint Parties in the Workshop Report.

7. It is reasonable to amend Rule 54.7-A(3) of GO 95 in the manner proposed by the Joint Parties in the Workshop Report.

8. It is reasonable to amend Rule 54.10-F(3) of GO 95 in the manner proposed by the Joint Parties in the Workshop Report.

9. It is reasonable to amend Rule 54.11-G of GO 95 in the manner proposed by the Joint Parties in the Workshop Report.

10. It is reasonable to amend Rule 54.12-F(3) of GO 95 in the manner proposed by the Joint Parties in the Workshop Report.

11. It is reasonable to adopt new Rule 81.7 as part of GO 95 in the manner proposed by the Joint Parties in the Workshop Report.

12. It is reasonable to amend Rule 84.7-A(5) of GO 95 in the manner proposed by the Joint Parties in the Workshop Report.

13. It is reasonable to amend Rule 88.1 of GO 95 in the manner proposed by the Joint Parties in the Workshop Report.

14. It is reasonable to amend Rule 91.3 of GO 95 in the manner proposed by the Joint Parties in the Workshop Report.

15. It is reasonable to adopt new Rule 91.6 as part of GO 95 in the manner proposed by the Joint Parties in the Workshop Report.

16. It is reasonable to amend Rule 93 of GO 95 in the manner proposed by the Joint Parties in the Workshop Report.

17. It is reasonable to amend Rule 94.6 of GO 95 in the manner proposed by the Joint Parties in the Workshop Report.

18. With the adoption of new Rules 51.8, 81,7, and 91.6 which will apply to all pole attachments, it is reasonable that Rule 94.6-C, adopted by D.16-01-046, may be deleted.

19. It is reasonable to amend Rule 94.11 of GO 95 in the manner proposed by the Joint Parties in the Workshop Report.

20. It is reasonable to renumber Rule 94.12 to Rule 94.10 of GO 95 in the manner proposed by the Joint Parties in the Workshop Report.

21. It is reasonable not to require the joint parties to hold additional workshops on the economic impact of the amendments to GO 95 within 180 days from the date that this decision is issued since discussions regarding economic impacts have already been held as part of the workshop process.

22. It is reasonable to require any utilities who wish to pass on costs to ratepayers they incur in complying with the amendments to GO 95 to first seek permission to recoup those costs by filing a general rate case with the Commission and demonstrate that the costs they wish to pass on to ratepayers are reasonable.

O R D E R

IT IS ORDERED that:

1. The Commission adopts the amendments to General Order 95, Rules 22.6-A, 44.2, 49.1-C, 54.7, 54-7-A(3), 54.10-F(3), 54.11-G, 54.12-F(3), 84.7-A(5), 88.1, 91.3, 93, 94.6, 94.11, and 94.12. The new amendments' language is set forth in Attachment A to this decision.

2. The Commission adopts new Rules 51.8, 81.7, and 91.6 as part of General Order 95. The new Rules are set forth in Attachment A to this decision.

3. With the adoption of new Rules 51.8, 81.7, and 91.6, Rule 94.6-C of General Order 95 shall be deleted.

4. The amendments to General Order (GO) 95, the new Rules to GO 95, and the deletion of Rule 94.6-C from GO 95, shall take effect no later than 180 days from the issuance of this decision.

5. The adopted amendments to General Order (GO) 95 include all ministerial changes necessary to integrate the new and amended rules, such as revised pagination, a revised list of changed rules, and revised tables of content. The Commission's Safety and Enforcement Division shall revise GO 95 to incorporate the new and amended rules, including necessary ministerial changes, and shall publish the revised GO 95 on the Commission's website no later than 180 days from the effective date of this Order.

6. The Commission declines to require the joint parties to hold additional workshops on the economic impact of the amendments to General Order 95 within 180 days from the date that this decision is issued.

7. Any utilities who wish to pass on costs to ratepayers they incur in complying with the amendments to General Order 95 to first seek permission to recoup those costs by filing a general rate case with the Commission and demonstrate that the costs they wish to pass on to ratepayers are reasonable.

8. Rulemaking 17-10-010 is closed.

This order is effective today.

Dated January 16, 2020, at San Francisco, California.

MARYBEL BATJER
President
LIANE M. RANDOLPH
MARTHA GUZMAN ACEVES
CLIFFORD RECHTSCHAFFEN
GENEVIEVE SHIROMA
Commissioners

R.17-10-010
Attachment A
List of Adopted Changes to General Order 95

GO 95, Rule 22.6A – Pole Top Extension

A. Pole Top Extension means a bracket or structure (exclusive of a poletop pin) attached to a pole and extending above its top to support conductors or equipment.

GO 95, Rule 44.2 – Additional Construction

Any entity planning the addition of facilities shall ensure that the addition of the facilities will not reduce the safety factors below the values specified by Rule 44.3.

If performed, the entity responsible for performing loading calculations for additional construction shall maintain these loading calculations for the service life of the pole or other structure for which a loading calculation was made and shall provide such information to authorized joint use occupants and the Commission upon request.

Any loading calculations performed for wood structures more than 15 years old shall incorporate the results of intrusive inspections performed within the previous five years.

GO 95, Rule 49.1 – Poles, Towers, and Other Structures

C. Setting of Poles

The depths of pole setting given in Table 6 are applicable to poles set in firm soil or in solid rock.

Where poles were set in firm soil, but the soil has since been excavated or subjected to erosion, the minimum embedment shall be no less than 90% of the values specified in Table 6.

Where, under the loading conditions in Rule 43 and the requirements of Rule 44, the resultant bearing surface is not sufficient to prevent overturning or excessive movement of the pole at the ground line, and/or the soil is not firm, deeper settings or other special methods shall be used.

GO 95, (New) Rule 51.8 – Interface with Fall Protection Equipment

51.8 Interference with Fall Protection Equipment

Electric supply attachments shall not interfere with the effective use of fall protection equipment.

Note: Examples of attachments that might not interfere with fall restraint and fall protection equipment include, but are not limited to, the following:

(1) Surface-mounted equipment that occupies no more than 24 inches of vertical space.

(2) Surface-mounted risers and vertical runs.

(3) Equipment stood off from the pole to maintain a minimum of 4 inches of clear space between the equipment and the surface of the pole, risers, or vertical runs.

GO 95, Rule 54.7 – Climbing and Working Space

This rule is not applicable to non–climbable poles. See Rule 22.6–D for definition.

Climbing space shall be maintained from the ground level. Climbing space, measured from center line of pole, shall be provided on one side or in one quadrant of all poles or structures with dimensions as specified in the following:

Topic	Rules
Wood Crossarm Construction	54.7-A 1 & 2
Without Wood Crossarms More than 750 Volts (Vertical and Triangular Construction)	54.11-F
Low Voltage Rack Construction	54.9-F
Low Voltage Extended Rack Construction	54.12-F
Low Voltage Multiconductor Cable with Bare Neutral Construction	54.10-F
Poles Jointly Used	84.7 & 93
Allowable Obstructions of These Climbing Spaces	54.7-A 3 54.9-F 54.10-F3 54.11-G 54.12-F 3 84.7-A 5
Working Space (All Types of Construction)	54.7-B

The dimensions specified in the above rules may be reduced not more than 2%because of line angles and minor field variations.
The climbing space required by Rules 54.7–A and 54.11–F may be shifted laterally not more than 5 inches. However, the midpoint of the side of the climbing space coinciding with the center line of the pole shall not be more than 5 inches from the center line of the pole, and the minimum distance of any unprotected conductor (or other energized unprotected part) from centerline of pole shall be maintained. (See Table 1, Case 8.)

GO 95, Rule 54.7A – Climbing Space (Wood Crossarm Construction)
(3) Allowable Climbing Space Obstructions: Allowable climbing space obstructions are:

(a) Crossarms and their supporting members.

(b) Insulators and their attaching brackets which support line conductors may extend one–half of their diameter into the climbing space.

(c) Conductors may extend one–half of their diameter into the climbing space.

(d) Suitably protected:

1) Vertical risers or runs covered only by wood (see Rule 22.8-B);

2) Ground wires covered by wood per Rule 22.8-A1;

3) Ground wires covered by plastic, or other non-conductive material no greater than one-half inch in diameter (see Rule 22.8-A3).
Such risers, runs, and grounds are allowable provided that not more than one is installed in any 4–foot section of climbing space.

(e) Guys (except those guys metallically contacting metal pins or deadend hardware as specified in Rule 52.7–D). However, not more than two guys having a vertical separation of 18 inches or less can be installed in any 4–foot section of climbing space.

(f) Street light brackets may extend one–half their diameter into climbing space. Associated street light bracket struts are allowed in climbing space.

(g) Operating rods (e.g. switch rods) may extend one–half their diameter into climbing space.

(h) Band(s), limited to 6 inches in total width are allowed in any 24-inch section of climbing space. These limitations are excluded for pole stubbing and pole splicing bands when pole step provisions are installed.

(i) Pole restoration materials are allowed in climbing space provided pole steps are placed in the restoration area as part of the process. Pole stepping shall be in accordance with Rule 91.3-B.

(j) Bolts and their washers. However, bolts bonded to or used for the attachment of deadend hardware of circuits above 750 volts in wood crossarm configuration that project into the climbing space shall be covered with a non-conductive material as specified in Rule 22.8-C. If such bolts are bonded, a positive electrical contact shall be made.

EXCEPTIONS: The covering of bolts required by this rule shall not apply to:

1) Bolts associated with circuits of more than 7500 volts when located at the top level of a pole.

2) Bolts associated with brackets and non–wood crossarms.
Reasonable efforts shall be made to avoid installing the above listed allowable obstructions within the climbing space.

GO 95, Rule 54.10F – Climbing Space

(3) Allowable Climbing Space Obstructions: Allowable climbing space obstructions are:

(a) Guys. However, not more than two guys having a vertical separation of 18 inches or less can be installed in any 4–foot section of climbing space.

(b) Suitably protected:

1) Vertical riser or runs covered only by wood (see Rule 22.8-B);

2) Ground wires covered by wood per Rule 22.8-A1;

3) Ground wires covered by plastic, or other non-conductive material no greater than one-half inch in diameter (see Rule 22.8-A3).
Such risers, runs, and grounds are allowable provided that not more than one is installed in any 4–foot section of climbing space.

(c) Insulators and their attaching brackets may extend one–half their diameter into the climbing space.

(d) Conductors may extend one–half their diameter into the climbing space.

(e) Street light brackets may extend one–half their diameter into climbing space. Associated street light bracket struts are allowed in climbing space.

(f) Operating rods (e.g., switch rods) and their associated hardware may extend one–half their diameter into climbing space.

(g) Bands, limited to 6 inches in width with no more than one band allowed in any 24–inch section of climbing space (these limitations are excluded for pole stubbing and pole splicing bands when pole step provisions are installed.)

(h) Bolts and their washers.
Reasonable efforts shall be made to avoid installing the above listed allowable obstructions within the climbing space.

GO 95, Rule 54.11 – Insulators in Vertical and Horizontal Position Without the Use of Wood Crossarms, More thann750 Volts (Vertical and Triangular Construction)

G. Allowable Climbing Space Obstructions
Allowable climbing space obstructions in triangular and vertical configuration without the use of wood crossarms are:

(1) Crossarms, brackets, and their supporting members.

(2) Insulators which support line conductors, jumpers, and incidental wires may extend one–half of their diameter into the climbing space.

(3) Conductors may extend one–half of their diameter into the climbing space.

(4) Suitably protected:

1) Vertical riser or runs covered only by wood (see Rule 22.8-B);

2) Ground wires covered by wood per Rule 22.8-A1;

3) Ground wires covered by plastic, or other non-conductive material no greater than one-half inch in diameter (see Rule 22.8-A3).

Such risers, runs, and grounds are allowable provided that not more than one is installed in any 4–foot section of climbing space.

(5) Guys (except those guys which are metallically contacting metal pins or deadend hardware as specified in Rule 52.7– D). However, not more than two guys having a vertical separation of 18 inches or less can be installed in any 4-foot section of climbing space.

(6) Street light brackets may extend one–half their diameter into climbing space. Associated street light bracket struts are allowed in climbing space.

(7) Operating rods (e.g., switch rods) and their associated hardware may extend one–half their diameter into climbing space.

(8) Bands, limited to 6 inches in width with no more than one band allowed in any 24–inch section of climbing space (these limitations are excluded for pole stubbing and pole splicing bands when pole step provisions are installed.)

(9) Bolts and their washers. If bolts are bonded, a secure electrical contact shall be made. The covering of bolts and bond wire is not required in triangular and vertical configuration without the use of wood crossarms.

Reasonable efforts shall be made to avoid installing the above listed allowable obstructions within the climbing space.

GO 95, Rule 54.12F – Allowable Climbing Space Obstructions

(3) Allowable Climbing Space Obstructions: Allowable climbing space obstructions are:

(a) Guys. However, not more than two guys having a vertical separation of 18 inches or less can be installed in any 4–foot section of climbing space.

(b) Suitably protected:

1) Vertical riser or runs covered only by wood (see Rule 22.8-B;

2) Ground wires covered by wood per Rule 22.8-A1;

3) Ground wires covered by plastic, or other non-conductive material no greater than one-half inch in diameter (see Rule 22.8-A3)
Such risers, runs, and grounds are allowable provided that not more than one is installed in any 4–foot section of climbing space.

(c) Insulators and their attaching brackets may extend one–half their diameter into the climbing space.

(d) Conductors may extend one–half their diameter into the climbing space.

(e) Street light brackets may extend one–half their diameter into climbing space. Associated street light bracket struts are allowed in climbing space.

(f) Operating rods (e.g., switch rods) and their associated hardware may extend one–half their diameter into climbing space.

(g) Bands, limited to 6 inches in width with no more than one band allowed in any 24–inch section of climbing space (these limitations are excluded for pole stubbing and pole splicing bands when pole step provisions are installed.)

(h) Bolts and their washers.

Reasonable efforts shall be made to avoid installing the above listed allowable obstructions within the climbing space.

GO 95, New Rule 81.7 – Interference with Fall Protection Equipment

81.7 Interference with Fall Protection Equipment

Communication attachments shall not interfere with the effective use of fall protection equipment.
Note: Examples of attachments that might not interfere with fall restraint and fall protection equipment include, but are not limited to, the following:

(1) Surface-mounted equipment that occupies no more than 24 inches of vertical space.

(2) Surface-mounted risers and vertical runs.

(3) Equipment stood off from the pole to maintain a minimum of 4 inches of clear space between the equipment and the surface of the pole, risers, or vertical runs.

GO 95, Rule 84.7A – Climbing Space and Working Space

A. Climbing Space

Climbing space shall be provided on one side or quadrant of all poles or structures supporting communications conductors excepting at the level of the one pair of conductors attached to the pole below the lowest crossarm (Rules 84.4–C1c, 84.4–D1 and87.4–C3) and the top 3 feet of poles carrying communication conductors only which are attached directly to pole in accordance with the provisions of Rule 84.4– C1c.

The climbing space shall be maintained in the same position on the pole for minimum vertical distance of 4 feet above and below each conductor level through which it passes, excepting that where a cable is attached to a crossarm or a pole with the cable less than 9 or 15 inches from the center line of the pole supporting conductors on line arms (no buck arm construction involved) in accordance with the provisions of Rules 84.4–D1 or 87.4–C3, the 4 foot vertical distance may be reduced to not less than 3 feet.

The position of the climbing space shall not be shifted more than 90 degrees around the pole within a vertical distance of less than 8 feet. Climbing space shall be maintained from the ground level.

The climbing space shall be kept free from obstructions excepting those obstructions permitted by Rule 84.7–A5.

GO 95 Rule 84.7-A5—Allowable Climbing Space Obstructions

5. Allowable Climbing Space Obstructions

a. Vertical conductors, when in a suitable protective covering attached directly to the surface of the pole, terminal boxes or similar equipment which do not extend more than 5 inches from the surface of the pole, and guys, will not be held to obstruct the climbing space provided not more than two guys (provided they are separated at the pole by a vertical distance of not more than 18 inches) and one other of the above named obstructions are installed in any 4-foot vertical section of climbing space.

b. Crossarms and their supporting members are allowed in climbing spaces provided that, where buck arms are involved, any arms within climbing spaces are treated as double arms.

c. A guard arm, a longitudinal run of messenger, cable or insulated wire will not be held to obstruct the climbing space where they are placed in the climbing space because the presence of a building wall or similar obstacle will not permit the cable to be placed on the side of pole opposite the climbing space. Pole steps shall be suitably placed for the purpose of facilitating climbing past the level of terminal box, cable, drop wires and guard arm

d. Pole restoration materials are allowed in climbing space provided pole steps are placed in the restoration area as part of the process. Pole stepping shall be in accordance with Rule 91.3-C.

e. Bands limited to 6 inches in total width are allowed in any 24-inch section of climbing space. These limitations are excluded for pole stubbing and pole splicing bands when pole step provisions are installed.

Reasonable efforts shall be made to avoid installing the above listed allowable obstructions within the climbing space.

GO 95, Rule 88 – Miscellaneous Equipment
88.1 Cable Terminals or Boxes

Cable terminals or boxes on poles supporting communication conductors may be placed upon any surface of the pole provided such terminals or boxes where placed in the climbing space shall not extend more than 5 inches from the surface of pole, and provisions of Rule 84.7–A5 for climbing space obstructions are met. This rule is not intended to apply to equipment placed within the top 3 feet of a pole supporting only communication conductors and no crossarms.

GO 95, Rule 91 – Pole, Towers and Structures
91.3 Stepping

A. Unless otherwise specified in this Order, pole steps used to ascend and descend joint use wood poles are not required. However, occupants on joint use wood poles are not prohibited from installing and maintaining temporary or permanent steps.

B. Unless non-climbable, joint use nonwood poles shall include provisions for ascending and descending.

C. Where installed, the lowest step shall not be less than 8 feet from the ground line, or any easily climbable foreign structure from which one could reach or step. Above this point steps shall be placed, with spacing between steps on the same side of the pole not exceeding 36 inches, at least to that conductor level above which only circuits operated and maintained by one party remain. Steps or fixtures for temporary steps shall be installed as part of a pole restoration process. Steps shall be so placed that runs or risers do not interfere with the free use of the steps.

GO 95, New Rule 91.6 – Interference with Fall Protection Equipment
91.6 Interference with Fall Protection Equipment

Electric supply and communication attachments shall not interfere with the effective use of fall protection equipment.

Note: Examples of attachments that might not interfere with fall restraint and fall protection equipment include, but are not limited to, the following:

(1) Surface-mounted equipment that occupies no more than 24 inches of vertical space.

(2) Surface-mounted risers and vertical runs.

(3) Equipment stood off from the pole to maintain a minimum of 4 inches of clear space between the equipment and the surface of the pole, risers, or vertical runs.

GO 95, Rule 93 – Climbing Space

93 Climbing Space

Climbing space shall be provided on all jointly used poles in accordance with the provisions of Rules 54.7, 54.9, 54.10, 54.11, 54.12 and 84.7.

Climbing space on jointly used poles shall be maintained so that its position in relation to the pole is not changed by more than 90 degrees in a vertical distance of less than 8 feet.

Climbing space shall be maintained from the ground level.

GO 95, Rule 94.6 – Climbing Space

A. Climbing space above supply lines shall be maintained in accordance with Rule 54.7-A to:

(1) The bottom of the Antenna (including associated support elements) if affixed less than eight inches from the surface of the pole at the top of the pole or pole- top extension.

(2) The top of the pole or pole-top extension if the Antenna (including associated support elements) is affixed more than eight inches from the surface of the pole or pole-top extension.

(3) The bottom of the uppermost Antenna (including associated support elements) if multiple Antennas are present at different levels above supply lines.

B. Climbing space above communication lines shall be maintained in accordance with Rule 84.7 to:

(1) The bottom of the Antenna (including associated support elements) at the top of the pole or pole-top extension when affixed less than eight inches from the surface of the pole.

(2) The top of the pole or pole-top extension if the Antenna (including associated support elements) is affixed more than eight inches from the surface of the pole or pole-top extension.

GO 95, (Renumber) Rule 94.12 to 94.10 – Personnel Access Above Supply Lines

94.10 Personnel Access Above Supply Lines

Only personnel and contractors who are properly qualified to work in proximity to supply lines shall have access to, and work on, wireless facilities installed above supply lines on the same support structure.

(End of ttachment A)