

Rural Utilities Service, USDA

§ 1755.702

Comments: _____

10.3 Isolation ground bars in the relay racks are to be properly connected to the MGB with appropriate sized conductor with no sharp bends.

Acceptable: Yes No
Comments: _____

10.4 All radio equipment cabinet(s) are to be at least 10 feet (305 cm) from the IGZ.

Acceptable: Yes No
Comments: _____

10.5 The metal spare parts cabinet is to be grounded with a #6 AWG or larger insulated wire to non-IGZ cable rack, etc. or directly to the MGB.

Acceptable: Yes No
Comments: _____

[58 FR 30938, May 28, 1993; 58 FR 36252, July 6, 1993, as amended at 60 FR 1711, Jan. 5, 1995, 60 FR 64312, 64314, Dec. 15, 1995; 69 FR 18803, Apr. 9, 2004]

§§ 1755.523–1755.699 [Reserved]

§ 1755.700 RUS specification for aerial service wires.

§§ 1755.701 through 1755.704 cover the requirements for aerial service wires.

[61 FR 26074, May 24, 1996]

§ 1755.701 Scope.

(a) This section covers the requirements for aerial service wires intended for aerial subscriber drops.

(b) The aerial service wires can be either copper coated steel reinforced or nonmetallic reinforced designs.

(c) For the copper coated steel reinforced design, the reinforcing members are the conductors.

(1) The conductors are solid copper-covered steel wires.

(2) The wire structure is completed by insulating the conductors with an overall extruded plastic insulating compound.

(d) For the nonmetallic reinforced design, the conductors are solid copper individually insulated with an extruded solid insulating compound.

(1) The insulated conductors are either laid parallel (two conductor design only) or twisted into pairs (a star-quad configuration is permitted for two pair wires).

(2) The wire structure is completed by the application of nonmetallic reinforcing members and an overall plastic jacket.

(e) All wires sold to RUS borrowers for projects involving RUS loan funds under §§1755.700 through 1755.704 must be accepted by RUS Technical Standards Committee “A” (Telecommunications). For wires manufactured to the specification of §§1755.700 through 1755.704, all design changes to an accepted design must be submitted for acceptance. RUS will be the sole authority on what constitutes a design change.

(f) Materials, manufacturing techniques, or wire designs not specifically addressed by §§1755.700 through 1755.704 may be allowed if accepted by RUS. Justification for acceptance of modified materials, manufacturing techniques, or wire designs must be provided to substantiate product utility and long term stability and endurance.

[61 FR 26074, May 24, 1996]

§ 1755.702 Copper coated steel reinforced (CCSR) aerial service wire.

(a) *Conductors.* (1) Each conductor shall comply with the requirements specified in the American National Standard Institute/Insulated Cable Engineers Association, Inc. (ANSI/ICEA) S-89-648-1993, paragraphs 2.1 through 2.1.5. The ANSI/ICEA S-89-648-1993 Standard For Telecommunications Aerial Service Wire, Technical Requirements (approved by ANSI July 11, 1994) is incorporated by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies of ANSI/ICEA S-89-648-1993 are available for inspection during normal business hours at RUS, room 2845, U.S. Department of Agriculture, Washington, DC 20250-1500, or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html. Copies are available

from ICEA, P. O. Box 440, South Yarmouth, MA 02664, telephone number (508) 394-4424.

(2) Factory joints in conductors shall comply with the requirement specified in ANSI/ICEA S-89-648-1993, paragraph 2.1.6.

(b) *Conductor insulation.* (1) The raw materials used for the conductor insulation shall comply with the requirements specified in ANSI/ICEA S-89-648-1993, paragraph 3.1.1.

(2) The raw materials shall be accepted by RUS prior to their use.

(3) The finished conductor insulation shall be free from holes, splits, blisters, or other imperfections and shall be as smooth as is consistent with best commercial practice.

(4) The finished conductor insulation shall comply with the requirements specified in ANSI/ICEA S-89-648-1993, paragraphs 3.1.5 through 3.1.5.4.

(5) The insulation shall have a minimum spot thickness of not less than 0.9 millimeters (mm) (0.03 inches (in.)) at any point.

(c) *Wire assembly.* (1) The two conductors shall be insulated in parallel to form an integral configuration.

(2) The finished wire assembly shall be either a flat or a notched oval. Other finished wire assemblies may be used provided that they are accepted by RUS prior to their use.

(3) The overall dimensions of the finished wire assembly shall be in accordance with the following requirements:

Diameter	Dimensions	
	Minimum mm (in.)	Maximum mm (in.)
Major	5.5 (0.22)	8.0 (0.31)
Minor	3.0 (0.12)	5.0 (0.19)

(d) *Conductor marking.* The insulated conductors of a finished wire shall be marked in accordance with the requirements specified in ANSI/ICEA S-89-648-1993, paragraph 3.1.4.

(e) *Electrical requirements—(1) Conductor resistance.* The direct current (dc) resistance of each conductor in a completed CCSR aerial service wire shall comply with the requirement specified in ANSI/ICEA S-89-648-1993, paragraph 7.1.2.

(2) *Wet mutual capacitance.* The wet mutual capacitance of the completed CCSR aerial service wire shall comply

with the requirement specified in ANSI/ICEA S-89-648-1993, paragraph 7.1.3.

(3) *Wet attenuation.* The wet attenuation of the completed CCSR aerial service wire shall comply with the requirement specified in ANSI/ICEA S-89-648-1993, paragraph 7.1.4.

(4) *Wet insulation resistance.* The wet insulation resistance of the completed CCSR aerial service wire shall comply with the requirement specified in ANSI/ICEA S-89-648-1993, paragraph 7.1.5.

(5) *Dielectric strength.* (i) The wet dielectric strength between conductors and between each conductor of the completed CCSR aerial service wire and the surrounding water shall comply with the requirement specified in ANSI/ICEA S-89-648-1993, paragraph 7.1.6.

(ii) The dry dielectric strength between conductors of the completed CCSR aerial service wire shall comply with the requirement specified in ANSI/ICEA S-89-648-1993, paragraph 7.1.7.

(6) *Fusing coordination.* The completed CCSR aerial service wire shall comply with the fusing coordination requirement specified in ANSI/ICEA S-89-648-1993, paragraph 7.1.8.

(7) *Insulation imperfections.* Each length of completed CCSR aerial service wire shall comply with the requirement specified in ANSI/ICEA S-89-648-1993, paragraph 7.1.9.

(f) *Mechanical requirements—(1) Impact test.* (i) All CCSR aerial service wires manufactured in accordance with this section shall comply with the unaged impact test specified in ANSI/ICEA S-89-648-1993, paragraph 8.1.2.

(ii) All CCSR aerial service wires manufactured in accordance with this section shall comply with the aged impact test specified in ANSI/ICEA S-89-648-1993, paragraph 8.1.3.

(2) *Abrasion resistance test.* All CCSR aerial service wires manufactured in accordance with this section shall comply with the abrasion resistance test specified in ANSI/ICEA S-89-648-1993, paragraph 8.1.4.

(3) *Static load test.* All CCSR aerial service wires manufactured in accordance with this section shall comply with the static load test specified in

ANSI/ICEA S-89-648-1993, paragraph 8.1.5.

(4) *Plasticizer compatibility test.* All CCSR aerial service wires manufactured in accordance with this section shall comply with the plasticizer compatibility test specified in ANSI/ICEA S-89-648-1993, paragraph 8.1.8.

(g) *Environmental requirements*—(1) *Cold temperature handling test.* (i) All CCSR aerial service wires manufactured in accordance with this section shall comply with the unaged cold temperature handling test specified in ANSI/ICEA S-89-648-1993, paragraph 8.2.1.

(ii) All CCSR aerial service wires manufactured in accordance with this section shall comply with the aged cold temperature handling test specified in ANSI/ICEA S-89-648-1993, paragraph 8.2.2.

(2) *Light absorption test.* All CCSR aerial service wires manufactured in accordance with this section shall comply with the light absorption test specified in ANSI/ICEA S-89-648-1993, paragraph 8.2.3.

(3) *Low temperature separation test.* All CCSR aerial service wires manufactured in accordance with this section shall comply with the low temperature separation test specified in ANSI/ICEA S-89-648-1993, paragraph 8.2.4.

(4) *Flammability test.* All CCSR aerial service wires manufactured in accordance with this section shall comply with the flammability test specified in ANSI/ICEA S-89-648-1993, paragraph 8.3.

(5) *Wire listing.* All CCSR aerial service wires manufactured in accordance with this section shall comply with the listing requirements specified in ANSI/ICEA S-89-648-1993, paragraph 8.4.

(h) *Identification marker.* Each length of CCSR aerial service wire shall be identified in accordance with ANSI/ICEA S-89-648-1993, paragraph 9.1.4. When surface marking is employed, the color of the initial marking shall be either white or silver.

(i) *Length marking (optional).* (1) Sequentially numbered length marking of the completed CCSR aerial service wire may be used at the option of the manufacturer unless specified by the end user.

(2) When sequentially numbered length markings are used, the length

markings shall be in accordance with ANSI/ICEA S-89-648-1993, paragraph 9.1.5. The color of the initial marking shall be either white or silver.

(j) *Durability of marking.* The durability of the marking of the CCSR aerial service wire shall comply with the requirements specified in ANSI/ICEA S-89-648-1993, paragraph 9.1.6.

[61 FR 26075, May 24, 1996, as amended at 69 FR 18803, Apr. 9, 2004]

§ 1755.703 Nonmetallic reinforced (NMR) aerial service wire.

(a) *Conductors.* (1) Each conductor shall comply with the requirements specified in ANSI/ICEA S-89-648-1993, paragraphs 2.2 and 2.2.1. The ANSI/ICEA S-89-648-1993 Standard For Telecommunications Aerial Service Wire, Technical Requirements (approved by ANSI July 11, 1994) is incorporated by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies of ANSI/ICEA S-89-648-1993 are available for inspection during normal business hours at RUS, room 2845, U.S. Department of Agriculture, Washington, DC 20250-1500, or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html. Copies are available from ICEA, P. O. Box 440, South Yarmouth, MA 02664, telephone number (508) 394-4424.

(2) Factory joints made in the conductors during the manufacturing process shall comply with the requirement specified in ANSI/ICEA S-89-648-1993, paragraph 2.2.2.

(b) *Conductor insulation.* (1) The raw materials used for the conductor insulation shall comply with the requirements specified in ANSI/ICEA S-89-648-1993, paragraphs 3.2 through 3.2.2.

(2) The finished conductor insulation shall comply with the requirements specified in ANSI/ICEA S-89-648-1993, paragraph 3.2.3.

(3) The dimensions of the insulated conductors shall comply with the requirements specified in ANSI/ICEA S-89-648-1993, paragraph 3.2.3.1.

(4) The colors of the insulation shall comply with the requirements specified