



# Wheat Belt Public Power District Board of Directors Policy

Policy: **C-6**

Title: **Standard Construction Practice**

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Wheat Belt Public Power District's standard construction method to serve its customers will consist of above ground wiring. Where above ground wiring is deemed not practical or not in the best interest of the District, underground wiring may be installed.

**OBJECTIVE:** To provide an engineering guideline for automatically upgrading line clearances and strength to minimum levels wherever poles and conductors are being replaced to improve safety for customers and the general public, increase reliability, and prevent future damage. Minimum pole lengths described in this policy meet minimum ground clearance requirements for normal, flat ground conditions when the District's standard conductors are used and tensioned using the District's standard sags. Some conditions may require greater clearances such as hilly terrain, bodies of water, railroads, line grading requirements, buildings, road crossings or other structures, or other special conditions.

**ACCOUNTABILITY:** Engineering and Operations

**SCOPE:**

A. Distribution Pole Replacement

1. The minimum pole length and class used to replace any single-phase line pole carrying a voltage above 700 volts shall normally be a 35-foot, class 5 pole.
  - a. If the pole supports a large transformer or a voltage regulator, has underbuilt conductors or communication lines carrying a voltage of less than 700 volts, supports an un-guyed angle of over three degrees or supports a slack span, the class should be evaluated and generally increased by one size.
  - b. In the event a current construction work plan approved by the Board of Directors shows a conductor upgrade or increased number of phases at the same location where the pole is to be replaced, the class for the proposed upgrade should be used.
2. The minimum pole length and class used to replace any two or three-phase line pole with a voltage above 700 volts shall normally be a 35-foot, class 5 pole.

- a. For large conductors, the minimum pole length and class shall normally be a 35-foot, class 3 pole. Large conductors are any conductor larger than 1/0 ACSR.
  - b. If the pole supports a large transformer or a voltage regulator, has underbuilt conductors or communication lines carrying a voltage of less than 700 volts, supports an un-guyed angle of over three degrees or supports a slack span, the class should be evaluated and generally increased by one size.
  - c. In the event a current construction work plan approved by the Board of Directors shoes a conductor upgrade or increased number of phases at the same location where the pole is to be replaced, the class for the proposed upgrade should be used.
  - d. If the new pole is adjacent to a roadway, driveway, field approach, etc., the next size taller pole shall be considered, so as to keep optimal ground to conductor clearance.
3. The minimum pole length and class used to replace any line pole with a voltage below 700 volts shall normally be a 30-foot, class 4 pole.
  4. The maximum desired average span length for lines operating above 700 volts is 300 feet for single-phase and 285 feet for three-phase. When poles are replaced, the number of poles should generally be increased, where practical, to meet these criteria. If the criteria cannot be met, the pole class should be evaluated and generally be increased one size.
  5. The maximum desired average span length for lines operating below 700 volts is 150 feet. When poles are replaced the number of poles should generally be increased, where practical, to meet these criteria. If the criteria cannot be met, the pole class should be evaluated and generally be increased one size.

**B. Sub-Transmission Pole Replacement**

1. The minimum pole length and class used to replace a line pole shall be a 45-foot, class 3 pole

2. The maximum desired average span length is 300 feet for single pole structures. When these criteria are exceeded, or when under-build distribution or communication lines are attached to the sub-transmission pole(s), the line should be evaluated to determine if the span lengths should be reduced or the class of the pole increased. For two-pole structures, the line should be evaluated before decreasing span lengths or increasing the class of the pole.

C. Conductor Replacement

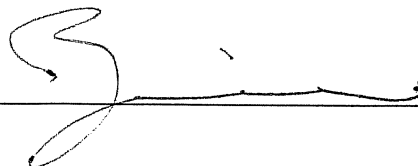
1. When the conductor is to be replaced because of significant damage to poles or the conductor itself, the minimum size to be used for replacement shall be 1/0 ACSR.
2. In the event a current construction work plan approved by the Board of Directors shows a conductor upgrade at the same locations where the conductor is to be replaced, the conductor for the proposed upgrade should be used.
3. In the event a Registered Professional Engineer, who is familiar with the District's electrical system, recommends a conductor upgrade in an area with significant damage to the poles or conductor itself, the Engineer's recommendation shall be followed.

Wheat Belt will consider customer requested underground construction if a customer agrees to advance the increased costs of such underground service, and further agrees to any special terms for increased maintenance costs of such a service. Wheat Belt will not construct an underground service, which could compromise the reliability of the distribution system.

Wheat Belt Public Power District follows the National Electric Safety Code, RUS standards, ANSI standards, Suggested Practices for Avian Protection on Power Lines the State of the Art in 2006 manual or current version and the Reducing Avian Collisions with Power Lines: State of the Art in 2012 or current version.



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President



1-28-22

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Date