

**199—20.5(476) Engineering practice.**

**20.5(1) Requirement for good engineering practice.** The electric plant of the utility shall be constructed, installed, maintained and operated in accordance with accepted good engineering practice in the electric industry to assure, as far as reasonably possible, continuity of service, uniformity in the quality of service furnished, and the safety of persons and property.

**20.5(2) Standards incorporated by reference.** The utility shall use the applicable provisions in the publications listed below as standards of accepted good practice unless otherwise ordered by the board.

- a. Iowa Electrical Safety Code, as defined in 199—Chapter 25.
- b. National Electrical Code, ANSI/NFPA 70-2014.
- c. American National Standard Requirements for Instrument Transformers, ANSI/IEEE C57.13.1-2006; and C57.13.3-2005.
- d. American National Standard for Electric Power Systems and Equipment Voltage Ratings (60 Hertz), ANSI C84.1-2011.
- e. Grounding of Industrial and Commercial Power Systems, IEEE 142-2007.
- f. IEEE Standard 1159-2009, IEEE Recommended Practice for Monitoring Electric Power Quality or any successor standard.
- g. IEEE Standard 519-2014, IEEE Recommended Practices and Requirements for Harmonic Control in Electrical Power Systems or its successor standard.
- h. At railroad crossings, 199—42.6(476), “Engineering standards for electric and communications lines.”

**20.5(3) Adequacy of supply and reliability of service.** The generating capacity of the utility’s plant, supplemented by the electric power regularly available from other sources, must be sufficiently large to meet all normal demands for service and provide a reasonable reserve for emergencies.

In appraising adequacy of supply the board will segregate electric utilities into two classes viz., those having high capacity transmission interconnections with other electrical utilities and those which lack such interconnection and are therefore completely dependent upon the firm generating capacity of the utility’s own generating facilities.

a. In the case of utilities having interconnecting ties with other utilities, the board will, upon appraising adequacy of supply, take appropriate notice of the utility’s recent past record, as of the date of appraisal, of any widespread service interruptions and any capacity shortages along with the consideration of the supply regularly available from other sources, the normal demands, and the required reserve for emergencies.

b. In the case of noninterconnected utilities the board will give attention to the maximum total coincident customer demand which could be satisfied without the use of the single element of plant equipment, the disability of which would produce the greatest reduction in total net plant productive capacity and also give attention to the normal demands for service and to the reasonable reserve for emergencies.

**20.5(4) Electric transmission and distribution facilities.** Rescinded IAB 11/13/02, effective 12/18/02.

**20.5(5) Inspection of electric plant.** Rescinded IAB 12/5/18, effective 1/9/19.

This rule is intended to implement Iowa Code section 476.8 and 478.18.

[ARC 7962B, IAB 7/15/09, effective 8/19/09; ARC 9501B, IAB 5/18/11, effective 6/22/11; ARC 1359C, IAB 3/5/14, effective 4/9/14; ARC 2711C, IAB 9/14/16, effective 10/19/16; ARC 4171C, IAB 12/5/18, effective 1/9/19]