

**199—22.5 (476) Telephone utility service standards.**

**22.5(1) Requirement for good engineering practice.** The telephone plant of the utility shall be designed, constructed, installed, maintained and operated subject to the provisions of the Iowa electrical safety code as defined in 199 IAC Chapter 25 and in accordance with accepted good engineering practice in the communication industry to ensure, as far as reasonably possible, continuity of service, uniformity in the quality of service furnished, and the safety of persons and property.

**22.5(2) Adequacy of service.**

*a.* Each local exchange utility and alternative operator services company shall employ prudent management and engineering practices so that sufficient equipment and adequate personnel are available at all times, including average busy-hour of the busy-season.

*b.* Each local exchange utility and alternative operator services company shall conduct traffic studies, employ reasonable procedures for forecasting future service demand, and maintain records necessary to demonstrate to the board that sufficient equipment is in use and that an adequate operating force is provided.

*c.* Each utility shall employ adequate procedures for assignment of facilities. The assignment record shall be kept up-to-date and checked periodically to determine if adjustments are necessary to maintain proper balance in all trunk and equipment groups. The records shall be available for review by the board upon request.

*d.* The criteria established in these rules define a minimal acceptable standard for the most basic elements of telecommunications service. The rules do not include all criteria and they do not establish the most desirable service level for any basic element. If a specific element is not covered, the provider must meet generally accepted industry standards for that element. Total service must also meet generally accepted industry standards.

*e.* The standards within these rules establish the minimum acceptable quality of service under normal operating conditions. They do not establish a level of performance to be achieved during the periods of emergency, catastrophe affecting large numbers of customers, nor do they apply to extraordinary or abnormal conditions of operation, such as those resulting from work stoppage, civil unrest, or other events.

**22.5(3) Central office requirements.**

*a.* Each local exchange utility shall employ appropriate procedures to determine the adequacy of central office equipment. Sufficient central office capacity and equipment shall be provided to meet the following minimum requirements during average busy-season, busy-hour:

(1) Dial tone within three seconds for 98 percent of call attempts on the switched network.

(2) Complete dialing of called numbers on at least 97 percent of telephone calls without encountering an all-trunks-busy condition within the central office.

(3) At least 98 percent of all correctly dialed interoffice local calls shall not encounter an all-trunks-busy condition.

(4) At least 98 percent of all correctly dialed calls offered to any trunk group within an EAS calling area will not encounter an all-trunks-busy condition.

*b.* Each local exchange utility shall engineer all central office equipment using sound engineering practice, consistent with the practices of the telephone industry. All new central offices shall be engineered on a terminal-per-station basis.

*c.* Rescinded IAB 6/3/09, effective 7/8/09.

*d.* Each central office shall be provided with alarms on a 24-hour basis to indicate improper functioning of equipment. All alarms shall be transmitted to an alarm center or to a location that will receive and respond to the alarm condition as set forth in the Utilities Emergency/Disaster Plan on a 24-hour, seven-day-a-week basis. All alarms and alarm sensors must be tested and reported internally on a regular basis, not to exceed six months.

**22.5(4) Telecommunication circuits.** All circuits shall be properly constructed and maintained to ensure quality service.

**22.5(5) *Interexchange trunks.*** Trunks for extended area service shall be provided so that at least 98 percent of telephone calls will not encounter an all-trunks-busy condition.

**22.5(6) *Loop transmission requirements.*** Local exchange utilities shall furnish and maintain adequate plant, equipment, and facilities to provide satisfactory transmission of communications between users in their service areas. Transmission shall be at adequate volume levels and free of excessive distortion. Levels of noise and cross talk shall be such as not to impair communications.

**22.5(7) *Minimum transmission objectives.***

*a.* The transmission objectives set forth are based upon the use of standard telephone stations connected to a 48-volt dial central office, and measured at a frequency of 1,000 hertz.

*b.* Lines shall have a loop resistance not exceeding the operating design of the associated central office equipment, unless long line adapters and amplifiers or special equipment are used.

*c.* All loop measurements shall be taken across tip and ring and to ground at the demarcation point excluding all inside wiring and terminal equipment.

(1) Loop current shall be acceptable above 20 mA.

(2) Circuit loss shall be measured at 1004 KHz at 0 dBm from the central office. The acceptable level shall be 0 to—8 dBm with a maintenance margin not to exceed 8.5 dB.

(3) Circuit noise shall be measured on a quiet (balanced) termination from the central office. The acceptable level shall be less than 20 dBrnC, the marginal level between 20 and 30 dBrnC, and unacceptable above 30 dBrnC.

(4) Power influence level shall be acceptable from 0 to 80 dBrnC, marginal from 80 to 90 dBrnC, and unacceptable above 90 dBrnC. Although the communication utility has the requirement to meet this objective, the communication and electric utilities shall cooperate in mitigating the effects of AC power induction.

*d.* Whenever feasible, the overall transmission loss, including terminating equipment, on intertandem trunks should be 6 dB for an all digital connection. Overall transmission loss, including terminating equipment on intertandem trunks should not exceed 9 dB for a composite digital and analog connection. This measurement shall be taken at 1004 Hz.

(1) The transmission objectives set forth are based upon measurements at the customer's network interface device with the customer premise disconnected.

(2) The transmission loss as set forth means the loss that occurs in a telecommunication connection measured in decibels (dB) at 1004 Hz exclusive of rest pads, impedance matching coils used for measuring and similar devices.

(3) A customer line shall, in general, have loop resistance not exceeding the operating design of the associated central office equipment. Amplifiers and long line adapters may be used to extend the central office design limits.

(4) A minimum line current of 20 mA DC is acceptable.

(5) The customer line (loop) shall be designed for a maximum loss of 8.0 dB at 1004 Hz to be measured from the customer demarcation to the central office one milliwatt test tone supply.

(6) The actual measured loss of the customer loop shall not exceed 9.0 dB from the customer demarcation to the central office one milliwatt test tone supply. A loss greater than 9.0 dB is unacceptable, requiring immediate action.

(7) Circuit noise is to be measured on a quiet termination from the central office. The acceptable level is not to exceed 20 dBrnC. The marginal level is between 20 dBrnC and 30 dBrnC. Any measurement exceeding 30 dBrnC is unacceptable, requiring immediate action.

**22.5(8) *Joint use.*** Where joint construction is mutually agreed upon, it shall be subject to the provisions of the Iowa electrical safety code and the requirement for good engineering practice found in subrule 22.5(1).

**22.5(9) *Provisions for testing.*** Each telephone utility shall provide or have access to test facilities which will enable it to determine the operating and transmission capabilities of circuit and switching equipment, either for routine maintenance or for fault location.

**22.5(10) *Operator-assisted calls.*** These operator services rules shall apply to all local exchange utilities, interexchange utilities, and alternative operator services companies which provide operator services.

*a.* All communications between customers must be considered as confidential in nature. The provider shall take reasonable action to minimize the potential access of other entities to those communications. Operators or employees of the provider must not listen to any conversation between customers except when an operating necessity. Operators shall not repeat or divulge the nature of any local or long distance conversation, nor divulge any information inadvertently overheard. Providers will be held responsible for strict compliance with this rule by their employees or other entities which perform this service for the provider.

*b.* Suitable rules and instructions shall be adopted by each provider and followed by employees or other entities employed by the provider governing the language and operating methods to be used by operators during assistance to customers. Any required call timing for regulated operator-assisted calls shall accurately record when the customer-requested connection is established and when it is terminated.

*c.* Each provider offering operator assistance to the public shall provide a service that can answer 90 percent of directory, intercept, toll, and local assistance calls within ten seconds. On the average, calls shall be answered within five seconds.

*d.* Rescinded IAB 6/3/09, effective 7/8/09.

*e.* An answer shall mean that the operator is ready to accept information necessary to process the call. An acknowledgment that the customer is waiting on the line shall not constitute an answer.

*f.* All operators receiving 0 - and 911 calls shall be capable of connecting calls to appropriate emergency services at all hours. All operator services providers shall have a board-approved methodology to ensure the routing of all emergency zero-minus (0 - ) calls in the fastest possible way to the proper local emergency service agency.

*g.* Third-party billing from identified public pay telephones and reverse charges from all telephones will be allowed:

(1) If the person or device answering responds positively that the charges will be accepted, with the provision that remaining on the line does not constitute a positive response;

(2) On reverse charges, when it is apparent the voice on the answering machine is the caller's voice; and

(3) On a third-party billing, when it is apparent the voice on the answering machine at the billing number is the caller's voice.

**22.5(11) *Maintenance of plant and equipment.***

*a.* Each telephone utility shall adopt and pursue a program of periodic inspection, testing, and preventive maintenance aimed at achieving efficient operation of its system to permit the rendering of safe, adequate and continuous service at all times.

*b.* Maintenance shall include keeping all plant and equipment in a good state of repair consistent with safe and adequate service performance. Broken, damaged or deteriorated parts which are no longer serviceable shall be repaired or replaced. Adjustable apparatus and equipment shall be readjusted promptly when found by preventive routines or fault location tests to be in unsatisfactory operating condition. Electrical faults, such as leakage or poor insulation, noise induction, cross talk, or poor transmission characteristics shall be promptly corrected to the extent practicable within the design capability of the plant affected when located or identified.

*c.* In all exchanges, periodic leakage tests shall be made on all circuits by use of proper instruments to determine that sufficient insulation is being maintained and further to discover any substantial change in insulation values which might cause future service difficulties. Loop resistance and transmission tests should be made on local circuits when transmission is poor, in an endeavor to locate the source of trouble.

*d.* Central office batteries shall be replaced when required to maintain good telephone service.

*e.* Central office equipment shall be inspected and routinely tested at regular intervals, and any necessary repairs, adjustments or replacements made to ensure the proper functioning of switching equipment.

*f.* All regulated outside plant facilities shall be properly maintained including replacement of equipment when broken, damaged, or when necessary for good transmission.

*g.* Records of various tests and inspections shall be kept on file in the office of the telephone utility for a minimum of one year. These records shall show the line or regulated equipment tested or inspected, the reason for the test, the general conditions under which the test was made, the general result of the test, and any corrections made.

**22.5(12)** Reserved.

**22.5(13)** *Terminating access blocking*. Rescinded IAB 12/21/05, effective 1/25/06.

**22.5(14)** *Information service access blocking*. Each local exchange utility shall provide its customers the option of blocking access to all 900 and 976 prefix numbers, without charge for the first block.

[**ARC 7826B**, IAB 6/3/09, effective 7/8/09; **ARC 2180C**, IAB 10/14/15, effective 11/18/15]