

2.11 Connections - CP Systems not Subject to Part 68/FCC Rules/Regulations

2.11.1 Answer Supervision

Answer supervision must be provided when an IITS offering is connected to switching equipment or a Customer-provided communications system which is not subject to Part 68 of the FCC Rules and Regulations, 47 C.F.R., Part 68. In such cases, the equipment or system must provide answer supervision so that the measure of chargeable time begins upon the delivery of the IITS call to the switching equipment, or to the equipment connected to the communications system, and ends upon termination of the call by the calling party.

2.11.2 Minimum Protection Criteria

General

A. Minimum Protection Criteria have been specified so that Telephone Company personnel, equipment, and services will be protected from the harmful effects of signal power overload, hazardous voltages and longitudinal imbalance. Minimum Protection Criteria apply to the direct electrical, acoustic, or inductive connections of Customer equipment, test equipment and Customer-provided communications systems to IITS.

B. Customer-provided Communications System Failures

When a Customer-provided communications system fails and the connection to IITS is not through switching equipment, the Customer-provided communications system must be arranged to promptly return the IITS to an idle (on-hook) state. In addition, the Customer must notify the Telephone Company when the Customer-provided communications system fails.

C. All Connections

Customer equipment, test equipment and Customer-provided communications systems, which are connected to IITS on a direct electrical basis or an acoustic or inductive basis, must comply with the following:

1. To protect other Telephone Company services, it is necessary that the signal which is applied at the station meets the following limits:

(a) Metallic Voltage

i. 4 kHz to 270 kHz

Center Frequency (f) of 8 kHz Band	Maximum Voltage in All 8 kHz Bands	Terminating Impedance
8 kHz to 12 kHz	- (6.4+12.6 log f) dBV*	300 ohms
12 kHz to 90 kHz	(23 - 40 log f) dBV	135 ohms
90 kHz to 266 kHz	- 55 dBV	135 ohms

*dBV = 20 log₁₀ voltage in volts

- ii. The root-mean-square (RMS) value of the metallic voltage components in the frequency range of 270 kHz to 6 MHz shall, averaged over 2 microseconds, not exceed -15 dBV. This limitation applies with a metallic termination having an impedance of 135 ohms.

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(b) Longitudinal Voltage

i. 4 kHz to 270 kHz Center Frequency (f) of 8 kHz Band	Maximum Voltage in All 8 kHz Bands	Terminating Impedance
8 kHz to 12 kHz	- (18.4+20 log f) dBV*	500 ohms
12 kHz to 42 kHz	(3 - 40 log f) dBV	90 ohms
90 kHz to 266 kHz	- 62 dBV	90 ohms

*dBV = 20 log₁₀ voltage in volts

- ii. The root-mean-square (RMS) value of the longitudinal voltage components in the frequency range of 270 kHz to 6 MHz shall, averaged over 2 microseconds, not exceed -30 dBV. This limitation applies with a longitudinal termination having an impedance of 90 ohms.

2. To prevent the interruption or disconnection of an IITS call, it is necessary that the signal power applied at the station be limited. Specifically, the signal at the station shall at no time have energy concentrated solely in the 2450 to 2750 Hz band. If there is signal power at the station in the 2450 to 2750 Hz band, it must not exceed the power present at the same time in the 800 to 2450 Hz band.

2.11.3 Direct Electrical Connection

Customer-provided communications systems not subject to Part 68 of the Federal Communications Commission's Rules and Regulations may be connected with exchange telephone service to be used with IITS on a direct electrical basis at the Customer's premises provided that:

- A. The connection is made through:
- (a) a connecting arrangement furnished by the Telephone Company, or
 - (b) registered or grandfathered terminal equipment, multiline terminating system, or protective circuitry which, either singularly or in combination, assures that the requirements of Part 68 of the FCC's Rules and Regulations are met at the IITS interface.

In lieu of these conditions for total hardware protection, an optional, alternative method, as described in B, following, is available for the control of signal power only.

B. The connection is:

1. through switching equipment, or
2. to a Customer-Provided communications system that is arranged to promptly return the exchange telephone service to an idle (on hook) state should the communications system fail. In addition, the Customer must notify the Telephone Company when the communications system fails.

- C. Preceding minimum protection criteria set forth in this Guidebook are complied with when the connection is made through equipment or systems that are not registered.

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(Cont'd)****2.11.4 Institutional Procedures for Signal Power Control**

A. When Customer-provided communications systems are connected through: (a) a Telephone Company-provided connecting arrangement, or (b) registered or grandfathered terminal equipment, multiline terminating system or protective circuitry which assures that all of the requirements of Part 68 of the FCC's Rules and Regulations are met at the IITS interface, no further action is required. However, when a Customer elects to connect a communications system to IITS and the registered or grandfathered equipment, system or protective circuitry through which the connection is made does not provide protection for signal power control, the Customer must comply with the following institutional procedures:

1. The Customer-provided communications systems must be installed, operated and maintained so that the signal power (within the frequency range of 200-4000 Hertz) at the IITS interface continuously complies with Part 68 of the FCC's Rules and Regulations.
2. The operator(s)/maintainer(s) responsible for the establishment, maintenance and adjustment of the voice frequency signal power present at the IITS interface must be trained to perform these functions by successfully completing one of the following:
 - (a) a training course provided by the manufacturer of the equipment used to control voice frequency signal power; or
 - (b) a training course provided by the Customer or authorized representative, who has responsibility for the entire communications system, using training materials and instructions provided by the manufacturer of the equipment used to control the voice frequency signal power; or
 - (c) an independent training course (i.e., trade school or technical institution) recognized by the manufacturer of the equipment used to control the voice frequency signal power; or
 - (d) in lieu of the preceding training requirements, the operator(s)/maintainer(s) is under the control of a supervisor trained in accordance with () through (c) preceding.

Upon request the Customer is required to provide the proper documentation to demonstrate compliance with the conditions in (b) preceding.

3. At least 10 days advance notice must be given to the Telephone Company in the form of a notarized affidavit before the initial connection of the Customer-provided communications system. A copy of the affidavit must also be maintained at the Customer's premises. The affidavit must contain the following information:
 - (a) The full name, business address, business telephone number and signature of the Customer or authorized representative who has responsibility for the operation and maintenance of the communications system.
 - (b) The line(s) which the communications system will be either connected to or arranged for connection to.
 - (c) A statement that all operations associated with establishment, maintenance and adjustment of the signal power present at the IITS interface will comply with Part 68 of the FCC's Rules and Regulations.

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- (d) A statement describing how each operator/maintainer of the communications system will meet and continue to meet the training requirements for persons installing, adjusting or maintaining the communications system.

2.11.5 Extraordinary Procedures

- A. The Telephone Company may invoke extraordinary procedures to protect the IITS network where one or more of the following conditions are present:
 - 1. Information provided in the affidavit gives reason to believe that a violation of Part 68 of the FCC's Rules and Regulations or the Institutional Procedures set forth in 2, preceding is likely.
 - 2. Harm has occurred and there is reason to believe this harm was a result of operations performed under the Institutional Procedures set forth in B, preceding.
- B. The extraordinary procedures, which can be invoked by the Telephone Company, include:
 - 1. Requiring the use of protective apparatus which either protects solely against signal power or which assures that all of the requirements of Part 68 are met at the IITS interface. This protective apparatus may be provided by either the Telephone Company or the Customer, or
 - 2. Disconnecting service.
- C. A charge equal to the Maintenance of Service charge (as set forth in the General and Local Exchange Service tariffs of the Telephone Company) will apply when:
 - 1. It is necessary to send a repairperson to the premises where the connection is made because a condition set forth in (a) preceding exists, and
 - 2. A failure to comply with Part 68 of the FCC's Rules and Regulations or the institutional Procedures for Signal Power Control is disclosed.

2.11.6 Connection of Communications Systems Provided by Certain Customers

The regulations set forth in A, thru C, following, apply only to connections of Customer-provided communications systems to Interstate IntraLATA Toll Services which are connected through PBXs provided and installed by the Telephone Company prior to January 1, 1984. Such connections may continue to be made for the life of the PBX. As of January 1, 1984, all other connections of Customer-provided communications systems must be made in accordance with the regulations set forth in A, and B, preceding.

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(Cont'd)****A. Connections of Certain Facilities of Power, Pipe Line and Railroad Companies.**

1. Communications systems of an electric power company, an oil, oil products or natural gas pipe line company, or a railroad company provided primarily to communicate with points located along a right-of-way (including premises of such company anywhere in cities, towns or villages along the right-of-way) owned or controlled by such company, may, in lieu of the regulations for connecting arrangements and minimum protection criteria in A, preceding, be connected with the telecommunications network for the following purposes:
 - (a) in cases of emergency involving safety of life or property;
 - (b) in cases of calls originated by railroad employees under circumstances indicating need for prompt action to secure or maintain the safety, continuity, or reliability of railroad service to the public, and related to the movement of passengers, mail property, or equipment by railroad, or the repair, maintenance, or construction of railroad rights-of-way, structures or equipment;
 - (c) in cases where the Customer facilities serve locations where it is impracticable because of hazard or inaccessibility for the Telephone Company to furnish its services; and
 - (d) during an interim period in cases where the Customer has arranged for replacement of Customer-provided communications systems with Telephone Company-provided services.
2. Telephone circuits of such companies will be connected to a local or toll central office line to form a through connection only through manual switching equipment, or an attendant's position of dial PBX equipment furnished by the Telephone Company prior to January 1, 1984. Such equipment or position may be located at either or both ends of the Customer's circuit.
3. Connection of a telephone circuit of such companies as specified in 1., (b), (c) or (d), preceding may be established at either end of such circuit, but shall not be established at both ends simultaneously.
4. Effective January 1, 1980, Terminal equipment and multiline terminating systems that are subject to Part 68 of the Federal Communications Commission's Rules and Regulations, and are associated with Customer-provided communications systems connected to services provided by the Telephone Company for use with Interstate IntraLATA Toll Services pursuant to this paragraph, must meet the requirements of Part 68 of the Federal Communications Commission's Rules and Regulations.

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B. Connections of Certain Facilities of the National Aeronautics and Space Administration

1. Communications systems of the National Aeronautics and Space Administration (NASA) may, in lieu of the regulations for connecting arrangements and minimum protection criteria in A, preceding, be connected to multiline terminating systems furnished by the Telephone Company prior to January 1, 1984, when the Administrator of NASA or an authorized representative notifies the Telephone Company in writing that the connection is required for the control of space vehicles. Connection of those communications systems to the telecommunications network will be made only:
 - (a) in cases of emergency involving life or property, or
 - (b) when the communications systems provided by NASA are in locations where it is impractical for the Telephone Company to furnish its services.
2. Effective January 1, 1980, terminal equipment and multiline terminating systems that are subject to Part 68 of the Federal Communications Commission's Rules and Regulations, and are associated with Customer-provided communications systems connected to services provided by the Telephone Company for use with Interstate IntraLATA Toll Services pursuant to this paragraph, must meet the requirements of Part 68 of the Federal Communications Commission's Rules and Regulations.

C. Connections of Certain Facilities of the U.S. Army, Navy and Air Force

1. Communications systems of the U.S. Department of the Army, Navy, or Air Force may, in lieu of the provisions for connecting arrangements and minimum protection criteria in A, preceding, be connected to a multiline terminating system, where the:

Secretary of the appropriate Department or his authorized representative notifies the Telephone Company in writing that such connection is required for reasons of military necessity. Such communications systems will be connected to the telecommunications network only:

 - (a) in cases of emergency involving life or property
 - (b) when the communications systems provided by the Department are in locations where it is impractical for the Telephone Company to furnish its services.
2. Effective January 1, 1980, Customer-provided terminal equipment and multiline terminating systems that are subject to Part 68 of the Federal Communication Commission's Rules and Regulations, and are associated with Customer-provided communications system connected to services provided by the Telephone Company for use with Interstate IntraLATA Toll Services pursuant to this paragraph, must meet the requirements of Part 68 of the Federal Communications Commission's Rules and Regulations.

INTERSTATE INTRALATA TOLL SERVICES

PART 2 - General Terms and Conditions

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SECTION 11 - Connections - CP Systems not Subject to Part 68/FCC Rules/Regs

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D. Connections of Service Station Lines and Facilities Furnished by the
Customer Which Involve Hazardous or Inaccessible Locations

1. Customer-provided service station lines, and communications systems which involve hazardous or inaccessible locations and which are authorized to be connected to local exchange service under tariffs filed with the appropriate regulatory agency, may be connected to the telecommunications network.

2. Effective January 1, 1980, Customer-provided terminal equipment and multiline terminating systems that are subject to Part 68 of the Federal Communications Commission's Rules and Regulations, and are connected with Customer-provided communications systems connected to services provided by the Telephone Company for use with Interstate IntraLATA Toll Services pursuant to this paragraph, must meet the requirements of Part 68 of the Federal Communications Commission's Rules and Regulations.