

§ 78.108

(c) The installation of a CARS station shall be made by or under the immediate supervision of a qualified engineer. Any tests or adjustments requiring the radiation of signals and which could result in improper operation shall be conducted by or under the immediate supervision of a person with required knowledge and skill to perform such tasks.

(d) Simple repairs such as the replacement of tubes, fuses, or other plug-in components which require no particular skill may be made by an unskilled person. Repairs requiring replacement of attached components or the adjustment of critical circuits or corroborative measurements shall be made only by a person with required knowledge and skill to perform such tasks.

[37 FR 3292, Feb. 12, 1972, as amended at 45 FR 78695, Nov. 26, 1980; 49 FR 4001, Feb. 1, 1984; 49 FR 20672, May 16, 1984; 50 FR 7343, Feb. 22, 1985; 63 FR 36606, July 7, 1998; 63 FR 49870, Sept. 18, 1998]

§ 78.108 Minimum path lengths for fixed links.

(a) The distance between end points of a fixed link must equal or exceed the value set forth in the table below or the EIRP must be reduced in accordance with the equation set forth below.

Frequency band (MHz)	Minimum path length (km)
12,200 to 13,250	5
Above 17,700	N/A

(b) For paths shorter than those specified in the Table, the EIRP shall not exceed the value derived from the following equation.

$$EIRP = MAXEIRP - 40 \log(A/B) \text{ dBW}$$

Where:

EIRP = The new maximum EIRP (equivalent isotropically radiated power) in dBW.

MAXEIRP = Maximum EIRP as set forth in the Table in § 74.636 of this part.

A = Minimum path length from the Table above for the frequency band in kilometers.

B = The actual path length in kilometers.

NOTE TO PARAGRAPH (b): For transmitters using Automatic Transmitter Power Control, EIRP corresponds to the maximum transmitter power available, not the coordinated transmit power or the nominal transmit power.

(c) Upon an appropriate technical showing, applicants and licensees unable to meet the minimum path length requirement may be granted an exception to these requirements.

NOTE: Links authorized prior to April 1, 1987, are excluded from this requirement, except that, effective April 1, 1992, the Commission will require compliance with the criteria where an existing link would otherwise preclude establishment of a new link.

[52 FR 7145, Mar. 9, 1987, as amended at 68 FR 12776, Mar. 17, 2003]

§ 78.109 Major and minor modifications to stations.

(a) Amendments to applications and modifications to stations are classified as major or minor. A major modification requires a formal application. A major amendment to an application is treated as a new application.

(b) Major modifications to a station or amendments to an application include, but are not limited to:

- (1) Any increase in bandwidth;
- (2) Any change in the transmitting antenna system of a station, other than a CARS pickup station, including the direction of the main radiation lobe, directive pattern, antenna gain or transmission line, antenna height or location;
- (3) Any change in the type of modulation;
- (4) Any change in the location of a station transmitter, other than a CARS pickup station transmitter, except a move within the same building or upon the tower or mast or a change in the area of operation of a CARS pickup station;
- (5) Any change in frequency assignment, including polarization;
- (6) Any increase in authorized operating power;
- (7) Any substantial change in ownership or control;
- (8) Any addition or change in frequency, excluding removing a frequency;
- (9) Any modification or amendment requiring an environmental assessment (as governed by §§ 1.1301 through 1.1319 of this chapter, including changes affecting historic preservation under § 1.1307(a)(4) of this chapter and 16 U.S.C. 470 (National Historic Preservation Act));