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§ 101.509 Interference protection criteria.

(a) As a condition for use of frequencies in this service each licensee is required to:

(1) Engineer the system to be reasonably compatible with adjacent and co-channel operations in the same or adjacent areas on all frequencies; and

(2) Cooperate fully and in good faith to resolve whatever potential interference and transmission security problems may be present in adjacent and co-channel operations.

(b) All harmful interference to other users of co-channel and adjacent channel use in the same or adjacent geographical area are prohibited. In areas where Economic Areas are in close proximity, careful consideration should be given to minimum power requirements and to the location, height, and radiation pattern of the transmitting and receiving antennas. Licensees are expected to cooperate fully in attempting to resolve problems of potential interference before bringing the matter to the attention of the Commission.

(c) Licensee shall coordinate their facilities whenever the facilities have optical line-of-sight into other licensees' areas or are within the same geographic area. Licensees are encouraged to develop operational agreements with relevant licensees in the same or adjacent areas. Incumbent SMSA licensee(s) shall retain exclusive rights to its channel(s) within its SMSA and must be protected.

(d) Licensees shall comply with the appropriate coordination agreements between the United States and Canada and the United States and Mexico concerning cross-border sharing and use of the 24 GHz bands which may require using channels pairs in accordance with the table in §101.147(r)(9).

(e) The Commission recommends that coordination is not necessary if the power flux density (pfd) at the boundary of the relevant adjacent area is lower than -114 dBW/m² in any 1 MHz. This value can be changed and agreed upon by both coordinating parties. Licensees should be able to deploy with a pfd up to -94 dBW/m² in any 1 MHz at the boundary of the relevant adjacent area without negatively af-

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fecting the successful operations of the adjacent area licensee.

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§ 101.511 Permissible services.

(a) Authorizations for stations in the 24 GHz Service will be granted to provide services on a common carrier basis or a non-common carrier basis or on both a common carrier and non-common carrier basis in a single authorization.

(b) Stations may render any kind of digital communications service consistent with the Commission's rules and the regulatory status of the station to provide services on a common carrier or non-common carrier basis.

(c) An applicant or licensee may submit a petition at any time requesting clarification of the regulatory status required to provide a specific communications service.

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§ 101.513 Transmitter power.

The transmitter power will be governed by §101.113. Further, each application must contain an analysis demonstrating compliance with §101.113(a).

§ 101.515 Emissions and bandwidth.

Different types of emissions may be authorized if the applicant describes fully the modulation and bandwidth desired, and demonstrates that the bandwidth desired is no wider than needed to provide the intended service. In no event, however, may the necessary or occupied bandwidth exceed the specified channel width of the assigned pair.

§ 101.517 Antennas.

(a) Transmitting antennas may be omnidirectional or directional, consistent with coverage and interference requirements.

(b) The use of horizontal or vertical plane wave polarization, or right hand or left hand rotating elliptical polarization must be used to minimize harmful interference between stations.

(c) Directive antennas must be used at all DEMS User Stations and may be elevated no higher than necessary to assure adequate service. Antenna structures requiring FAA notification under part 17 of this chapter must be

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registered with the Commission. The structure owner is responsible for registering, painting, and lighting the structure if applicable. Requests for such authorization must show the inclusive dates of the proposed operation.

§ 101.519 Interconnection.

(a) All DEMS licensees must make available to the public all information necessary to allow the manufacture of user equipment that will be compatible with the licensee's network.

(b) All DEMS licensees must make available to the public all information necessary to allow interconnection of DEMS networks.

§ 101.521 Spectrum utilization.

All applicants for DEMS frequencies in the 10.6 GHz band must submit as part of the original application a detailed plan indicating how the bandwidth requested will be utilized. In particular the application must contain detailed descriptions of the modulation method, the channel time sharing method, any error detecting and/or correcting codes, any spatial frequency reuse system and the total data throughput capacity in each of the links in the system. Further, the application must include a separate analysis of the spectral efficiency including both information bits per unit bandwidth and the total bits per unit bandwidth.

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§ 101.523 Service areas.

(a) The service areas for 24 GHz are Economic Areas (EAs) as defined in this paragraph (a). The Bureau of Economic Analysis, U.S. Department of Commerce, organized the 50 States and the District of Columbia into 172 EAs. *See* 60 FR 13114 (March 10, 1995). Additionally, there are four FCC-created EA-like areas:

- (1) Guam and Northern Mariana Islands;
- (2) Puerto Rico and the U.S. Virgin Islands;
- (3) American Samoa, and
- (4) the Gulf of Mexico. The Gulf of Mexico EA extends from 12 nautical miles off the U.S. Gulf coast outward into the Gulf. *See* 62 FR 9636 (March 3,

1997), in which the Commission created an additional four economic area-like areas for a total of 176 EA service areas. Maps of the EAs and the FEDERAL REGISTER Notice that established the 172 Economic Areas (EAs) are available for public inspection and copying at the FCC Reference Center, Room CY A-257, 445 12th St., SW., Washington, DC 20554. These maps and data are also available on the FCC Web site at www.fcc.gov/oet/info/maps/areas/.

(b) Where an incumbent SMSA license area in the 24 GHz band occupies only a portion of an EA available for application under the competitive bidding rules, the SMSA portion will be excluded from auction and the incumbent licensee will retain the exclusive right to those channels within the SMSA.

[65 FR 59360, Oct. 5, 2000, as amended at 69 FR 44608, July 27, 2004]

§ 101.525 24 GHz system operations.

(a) A licensee using the 24 GHz band may construct and operate any number of fixed stations anywhere within the area authorized to serve without prior authorization, except as follows:

(1) A station would be required to be individually licensed if:

- (i) International agreements require coordination;
- (ii) Submission of an Environmental Assessment is required under § 1.1307 of this chapter;
- (iii) The station would affect areas identified in § 1.924 of this chapter.

(2) Any antenna structure that requires notification to the Federal Aviation Administration (FAA) must be registered with the Commission prior to construction under § 17.4 of this chapter.

(b) Whenever a licensee constructs or makes system changes as described in paragraph (a)(1) of this section, the licensee is required to notify the Commission within 30 days of the change under § 1.947 of this chapter and include a statement of the technical parameters of the changed station.

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