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(b) relative to the authorization sought to be renewed and upon a factual showing that further progress in the program of research and development requires further radio transmission and that the public interest, convenience or necessity would be served by renewal of such authorization.

§ 101.413 Developmental report required.

(a) Upon completion of the program of research and development, or, in any event, upon the expiration of the instrument of station authorization under which such investigations were permitted, or at such times during the term of the station authorization as the Commission may deem necessary to evaluate the progress of the developmental program, the licensee must submit a comprehensive report on the following items, in the order designated:

- (1) Report on the various phases of the project which were investigated;
- (2) Total number of hours of operation on each frequency assigned;
- (3) Copies of any publication on the project;
- (4) Detailed analysis of the result obtained; and
- (5) Any other pertinent information.

(b) In addition to the information required by paragraph (a) of this section, the developmental report of a station authorized for the development of a proposed radio service must include comprehensive information on the following items:

- (1) Probable public support and methods of its determination;
- (2) Practicability of service operations;
- (3) Interference encountered;
- (4) Pertinent information relative to merits of the proposed service;
- (5) Propagation characteristics of frequencies used, particularly with respect to the service objective;
- (6) Frequencies believed to be more suitable and reasons therefor; and
- (7) Type of signals or communications employed in the experimental work.

(c) Developmental reports will be made a part of the Commission's public records, except upon the applicant's specific request for confidentiality and Commission approval in accordance

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with § 0.459 of this chapter. Information determined confidential by the Commission will not be publicly disclosed.

[61 FR 26677, May 28, 1996, as amended at 63 FR 68983, Dec. 14, 1998]

Subpart G—Digital Electronic Message Service

§ 101.501 Eligibility.

In that DEMS operations will be transitioned to the 24 GHz band, applications for new facilities using the 18 GHz channels identified in § 101.147(r)(9) are not acceptable for filing as of June 5, 1997.

[62 FR 24583, May 6, 1997]

§ 101.503 Digital Electronic Message Service Nodal Stations.

DEMS Nodal Stations may be authorized only as a part of an integrated communication system wherein DEMS User Stations associated therewith also are licensed to the DEMS Nodal Station licensee. Applications for DEMS Nodal Station licenses should specify the maximum number of DEMS User Stations to be served by that nodal station. Any increase in that number must be applied for pursuant to § 1.913 of this chapter.

[61 FR 26677, May 28, 1996, as amended at 63 FR 68983, Dec. 14, 1998]

§ 101.505 Frequencies.

Frequencies, and the conditions on which they are available, for DEMS operations are contained in this subpart as well as in § 101.147(r)(9) of subpart C of this part.

[62 FR 24583, May 6, 1997]

§ 101.507 Frequency stability.

The frequency stability in the 17,700-19,700 and 24,250-25,250 MHz bands must be $\pm 0.001\%$ for each DEMS Nodal Station transmitter and $\pm 0.003\%$ for each DEMS User Station transmitter.

[62 FR 24583, May 6, 1997]

§ 101.509 Interference protection criteria.

(a) All harmful interference to other users and blocking of adjacent channel use in the same city and cochannel use

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in nearby Standard Metropolitan Statistical Areas is prohibited. In areas where SMSA's are in close proximity, careful consideration should be given to minimum power requirements and to the location, height, and radiation pattern of the transmitting antenna. Licensees and applicants are expected to cooperate fully in attempting to resolve problems of potential interference before bringing the matter to the attention of the Commission.

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

(1) Engineer the system to be reasonably compatible with adjacent channel operations in the same city; and

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

(c) The following interference studies, as appropriate, must be included in DEMS Nodal Station applications to the extent they are provided for in this subpart:

(1) An analysis of the potential for harmful interference with other stations if the coordinates of any proposed station are located within 80 kilometers (50 miles) of the coordinates of any authorized, or previously proposed station(s) that utilizes, or would utilize, the same frequency or an adjacent potentially interfering frequency; and

(2) An analysis concerning possible adverse impact upon Canadian communications if the station's transmitting antenna is to be located within 55 kilometers (35 miles) of the Canadian border.

(d) In addition a copy of the interference analysis submitted in response to paragraph (c)(1) of this section must be served on all applicants and/or grantees concerned within 5 days of its submission to the Commission.

[61 FR 26677, May 28, 1996, as amended at 62 FR 24583, May 6, 1997]

§ 101.511 Purpose and permissible service.

(a) The DEMS is intended to provide for the exchange of digital information among and between subscribers using one or more DEMS Systems.

(b) Unless otherwise directed or conditioned in the applicable instrument of authorization, DEMS may be used to exchange any type of digital information consistent with the Commission's Rules and the applicable tariff of the carrier.

(c) The carrier's tariff must fully describe the parameters of the service to be provided, including the degree of communications security a subscriber can expect in ordinary service.

§ 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 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.