

APPENDIX A: PROPOSED RULES

For the reasons set forth above, Parts 1 and 2 of title 47 of the Code of Federal Regulations are proposed to be amended as follows:

PART 1 – PRACTICE AND PROCEDURE

1. The authority citation for Part 1 continues to read as follows:

AUTHORITY: 47 U.S.C. 151, 154, 303, and 309(j) unless otherwise noted.

2. Section 1.1307(b) is revised by modifying Table 1 and paragraphs 1.1307(b)(1) and 1.1307(b)(2) to read as follows:

§1.1307 Actions that may have a significant environmental effect, for which Environmental Assessments (EAs) must be prepared.

* * * * *

(b) * * *

(1) The appropriate exposure limits in §§1.1310 and 2.1093 of this chapter are generally applicable to all facilities, operations and transmitters regulated by the Commission. However, a determination of compliance with the exposure limits in §1.1310 or §2.1093 of this chapter (routine environmental evaluation), and preparation of an EA if the limits are exceeded, is necessary only for the facilities, operations and transmitters indicated in Table 1, or those specified in paragraph (b)(2) of this section. All other facilities, operations and transmitters are categorically excluded from making such studies or preparing an EA, except as indicated in (b)(1)(ii) below and in paragraphs (c) and (d) of this section. The term *power* in column 2 of Table 1 refers to total operating power of the transmitting operation in question in terms of effective radiated power (ERP), effective isotropically radiated power (EIRP), or peak envelope power (PEP), as defined in §2.1 of this chapter. The phrase *total transmit power of all channels* when used in column 2 of Table 1 means the sum of the ERP or EIRP of all co-located simultaneously operating transmitters owned and operated by a single licensee. When applying criteria of Table 1, radiation in all directions should be considered. For the case of transmitting facilities using sectorized transmitting antennas, the criteria are to be applied to all transmitting channels in a given sector, noting that for a highly directional antenna there is relatively little contribution to ERP or EIRP summation for other directions. See Section 1.1310 for general information on compliance with the FCC's limits for RF exposure.

(i) Table 1 applies to "fixed" transmitters. For purposes of applying these rules, a fixed transmitter is defined as one that is physically secured at one location and is not able to be easily moved to another location. This definition includes transmitters that are physically secured at one location on a temporary basis. An example of this latter case would be a wireless base station installed temporarily to accommodate increased call volume at a special event.

(ii) Fixed transmitters in any service are not required to undergo routine environmental evaluation for RF exposure, and the provisions of Table 1 do not apply, if the transmitter is mounted such that persons cannot be closer than 20 cm from any part of the radiating structure and if the operating power of the transmitter is less than 1.5 W effective radiated power (ERP), for transmitters operating at frequencies at or below 1.5 GHz, or less than 3 W ERP for operating frequencies above 1.5 GHz. Compliance with exposure guidelines for fixed transmitters can be accomplished by the use of labels specifying minimum separation distance and/or proper antenna installation.

(iii) *Labeling requirements:* With the exception of (iv) below, licensees in service categories with labeling requirements are required to attach a label to a fixed subscriber transceiver antenna if: (1) the transceiver is mounted such that persons cannot be closer than 20 cm from any part of the radiating structure and the operating power of the transmitter is greater than 1.5 W ERP, for transmitters operating at frequencies at or below 1.5 GHz, or greater than 3 W ERP for operating frequencies above 1.5 GHz; or, (2) the transceiver is designed with the potential to be mounted closer than 20 cm from the body or from nearby persons and the operating power is greater than 100 mW conducted or radiated peak power. The label must provide adequate notice regarding potential radiofrequency safety hazards, *e.g.*, information regarding the safe minimum distance required between users and antennas; and reference the applicable FCC-adopted limits for radiofrequency exposure specified in § 1.1310 of this chapter. Such labels must be clearly visible and legible to nearby persons.

(iv) Labels are not required on any fixed subscriber transceiver antennas if it can be demonstrated that the appropriate partial body SAR limits specified in §2.1093 of this chapter cannot be exceeded by persons immediately adjacent to the antenna. Also, labels are not required on any fixed subscriber transceiver antenna if the transmitter is mounted such that persons can never be closer than 20 cm from any part of the radiating structure and the device can be shown to comply with the MPE limits for field strength and/or power density at a distance of 20 cm or more.

TABLE 1: FIXED TRANSMITTERS, FACILITIES AND OPERATIONS SUBJECT TO ROUTINE ENVIRONMENTAL EVALUATION

SERVICE (TITLE 47 CFR RULE PART)	EVALUATION REQUIRED IF:
Experimental Radio Services (Part 5)	(1) Transmit power is 100 W ERP (164 W EIRP) or more <i>or</i> (2) Separation distance is less than 3 m
Multipoint Distribution Service (Subpart K of Part 21)	(1) Separation distance is less than 10 m and transmit power is greater than 200 W ERP (328 W EIRP) <i>or</i> (2) Separation distance is less than 3 m Labeling: In addition, MDS licensees are required to comply with the labeling requirements set forth in Sections 1.1307(b)(1)(iii) and (iv) of this Chapter.
Paging and Radiotelephone Service (Subpart E of Part 22)	(1) Separation distance is less than 10 m and transmit power is greater than 100 W ERP (164 W EIRP) for VHF, UHF, and 900 MHz channels, or greater than 200 W ERP (328 W EIRP) for 2.1 GHz channels <i>or</i> (2) Separation distance is less than 3 m
Cellular Radiotelephone Service (Subpart H of Part 22)	(1) Separation distance is less than 10 m and transmit power is greater than 100 W ERP (164 W EIRP) <i>or</i> (2) Separation distance is less than 3 m.

Table 1 (cont.)

<p>Personal Communications Services (Part 24)</p>	<p><i>Narrowband PCS (subpart D):</i></p> <p>(1) Separation distance is less than 10 m and transmit power is greater than 100 W ERP (164 W EIRP)</p> <p><i>or</i></p> <p>(2) Separation distance is less than 3 m.</p> <p><i>Broadband PCS (subpart E):</i></p> <p>(1) Separation distance is less than 10 m and transmit power is greater than 200 W ERP (328 W EIRP).</p> <p><i>or</i></p> <p>(2) Separation distance is less than 3 m.</p>
<p>Satellite Communications (Part 25)</p>	<p>All Included.</p> <p><i>For DARS terrestrial repeater stations only:</i></p> <p>(1) Separation distance is less than 10 m and transmit power is greater than 200 W ERP (328 W EIRP)</p> <p><i>or</i></p> <p>(2) Separation distance is less than 3 m.</p> <p><i>Labeling:</i> In addition, for NGSO subscriber equipment, licensees are required to comply with the labeling requirements set forth in Sections 1.1307(b)(1)(iii) and (iv) of this Chapter.</p>

Table 1 (cont.)

<p>Wireless Communications Service (Part 27)</p>	<p>700 MHz service:</p> <p>(1) Separation distance is less than 10 m and transmit power is greater than 100 W ERP (164 W EIRP)</p> <p><i>or</i></p> <p>(2) Separation distance is less than 3 m.</p> <p>2.3 GHz service:</p> <p>(1) Separation distance is less than 10 m and transmit power is greater than 200 W ERP (328 W EIRP)</p> <p><i>or</i></p> <p>(2) Separation distance is less than 3 m.</p>
<p>Radio Broadcast Services (Part 73)</p>	<p>All included, except Subpart G.</p> <p>For subpart G only: Separation distance less than 3 m (assuming ERP 100 W or less)</p>
<p>Experimental, auxiliary, and special Broadcast and other program Distributional services (Part 74)</p>	<p>Subparts A, G, L:</p> <p>(1) Transmit power is greater than 100 W ERP (164 W EIRP)</p> <p><i>or</i></p> <p>(2) Separation distance is less than 3 m.</p> <p>Subpart I:</p> <p>(1) Separation distance is less than 10 m and transmit power is greater than 200 W ERP (328 W EIRP)</p> <p><i>or</i></p> <p>(2) Separation distance is less than 3 m.</p> <p>Labeling: In addition, ITFS licensees are required to comply with the labeling requirements set forth in Sections 1.1307(b)(1)(iii) and (iv) of this Chapter.</p>

Table 1 (cont.)	
Stations in the Maritime Services (Part 80)	Ship earth stations only.
Private Land Mobile Radio Services Paging Operations & Specialized Mobile Radio (Part 90)	(1) Separation distance is less than 10 m and transmit power is greater than 100 W ERP (164 W EIRP) <i>or</i> (2) Separation distance is less than 3 m.
Amateur Radio Service (Part 97)	Transmitter output power > levels specified in § 97.13(c)(1) of this chapter
Fixed Microwave Service (Part 101)	<i>For frequencies at or below 1500 MHz:</i> (1) Separation distance is less than 10 m and transmit power is greater than 100 W ERP (164 W EIRP) <i>or</i> (2) Separation distance is less than 3 m. <i>For frequencies above 1500 MHz:</i> (1) Separation distance is less than 10 m and transmit power is greater than 200 W ERP (328 W EIRP) <i>or</i> (2) Separation distance is less than 3 m. <i>Labeling:</i> In addition, licensees in the LMDS, 24 GHz and DEMS, and 39 GHz Service are required to comply with the labeling requirements set forth in Sections 1.1307(b)(1)(iii) and (iv) of this Chapter.

NOTE: The term "separation distance" in Table 1 is defined to mean the minimum distance from any part of the radiating structure of a transmitting antenna in any direction to any area that may be entered by a member of the general public. Workers meeting the criteria for occupational/controlled exposures may access such areas consistent with appropriate engineering and/or administrative controls that result in compliance with FCC occupational/controlled limits without triggering the need for routine evaluation.

(2) Except as provided under Sections 2.1091 and 2.1093, mobile and portable devices that operate in the Cellular Radiotelephone Service, the Personal Communications Services (PCS), the Satellite Communications Services, the Wireless Communications Service, the Maritime Services (ship earth stations only), and the Specialized Mobile Radio Service authorized under subpart H of part 22, part 24, part 25, part 27, part 80, and part 90, respectively, of this chapter, are subject to routine environmental evaluation for RF exposure prior to equipment authorization or use, as specified in §§2.1091 and 2.1093 of this chapter. Cordless telephones and portable transmitters, millimeter devices, unlicensed PCS and unlicensed NII devices authorized under §15.247, §15.253, §15.255, §15.319 and §15.407 of this chapter are also subject to routine environmental evaluation for RF exposure prior to equipment authorization or use. However, routine evaluation for portable devices authorized under §15.247 is required only if the maximum peak output power of the device exceeds 100 milliwatts (100 mW). Portable transmitting equipment for use in the Wireless Medical Telemetry Service (WMTS) authorized under Part 95 of this chapter is subject to routine environmental evaluation as specified in §§2.1093 and 95.1125 of this chapter. Equipment authorized for use in the Medical Implant Communications Service (MICS) as a medical implant transmitter (as defined in Appendix 1 to Subpart E of part 95 of this chapter) is subject to routine environmental evaluation for RF exposure prior to equipment authorization or use, as specified in §2.1093 of this chapter. All other mobile, portable and unlicensed transmitting devices are categorically excluded from routine environmental evaluation for RF exposure under §2.1091 and §2.1093 prior to equipment authorization or use, except as specified in §§1.1307(c) and 1.1307(d) of this chapter.

(3) * * *

(i) * * *

(ii) * * *

3. Introductory language and Notes (1) and (2) to Table 1 in Section 1.1310 are revised and a new Note (3) to Table 1 is added to read as follows:

§ 1.1310 Radiofrequency radiation exposure limits.

The limits for Maximum Permissible Exposure (MPE) listed in Table 1 shall be used to evaluate the environmental impact of radiofrequency (RF) radiation as specified in § 1.1307(b), except as specified below and except in the case of portable devices, as defined in §2.1093 of this chapter, and fixed transmitters that are mounted so that persons may normally be within 20 cm of any part of the radiating structure. The latter devices and transmitters shall be evaluated according to the provisions of §2.1093 of this chapter. The MPE values in Table 1 are derived from a Specific Absorption Rate (SAR) limit for occupational/controlled exposure of 0.4 W/kg, as averaged over the whole-body, and an SAR limit for general population/uncontrolled exposure of 0.08 W/kg, as averaged over the whole-body. In addition, the Commission has adopted exposure limits for spatial peak SAR. In general, and in lieu of compliance with the MPE values in Table 1,

compliance can generally also be demonstrated with respect to the allowed limits for SAR. The SAR limits are as follows. (1) Limits for occupational/controlled exposure: 0.4 W/kg as averaged over the whole-body and spatial peak SAR not exceeding 8 W/kg as averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube); exceptions are the hands, wrists, feet and ankles where the spatial peak SAR shall not exceed 20 W/kg, as averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube). (2) Limits for general population/uncontrolled exposure: 0.08 W/kg as averaged over the whole-body and spatial peak SAR not exceeding 1.6 W/kg as averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube); exceptions are the hands, wrists, feet and ankles where the spatial peak SAR shall not exceed 4 W/kg, as averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube). Detailed information on evaluating compliance with all of these exposure limits can be found in the FCC's OET Bulletin Number 65, "Evaluating Compliance with FCC-Specified Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields." and in supplements to Bulletin 65, all available at the FCC's Internet Web site: www.fcc.gov/oet/rfsafety.

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NOTE 1 to TABLE 1: The occupational/controlled limits of Table 1 apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure. The phrase *fully aware* in the context of applying these exposure limits means that an exposed individual has received written and verbal information concerning the potential for RF exposure. With the exception of *transient* individuals as specified above, it also means that an exposed individual has received comprehensive training regarding appropriate work practices relating to controlling or mitigating his or her exposure. Such training is not required for *transient* individuals, but they must receive written or verbal information and notification (for example, warning signs) concerning their exposure potential and appropriate means available to mitigate their exposure. The phrase *exercise control* means that an exposed individual is allowed to reduce or avoid exposure by administrative or engineering work practices, such as use of personal protective equipment or time-averaging of exposure.

NOTE 2 to TABLE 1: The general population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

NOTE 3 to TABLE 1: Licensees and applicants are generally responsible for compliance with *both* the occupational/controlled exposure limits and the general population/uncontrolled exposure limits in Table 1 as they apply to transmitters under their jurisdiction. Licensees and applicants should be aware that the occupational/controlled exposure limits apply especially in situations where workers may have access to areas in very close proximity to antennas where access to the general public may be restricted.

**PART 2 – FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS;
GENERAL RULES AND REGULATIONS**

The authority citation for Part 2 continues to read as follows:

AUTHORITY: 47 U.S.C. 154, 302a, 303, and 336, unless otherwise noted.

1. Section 2.1091 is amended by adding new paragraphs (c)(1), (c)(2), and by revising (d) and (d)(3) to read as follows:

§ 2.1091 Radiofrequency radiation exposure evaluation: mobile devices.

(a) * * *

(b) * * *

(c)

Mobile devices that operate in the Cellular Radiotelephone Service, the Personal Communications Service (PCS), the Satellite Communications Services, the Wireless Communications Service, the Maritime Services, the Specialized Mobile Radio Service, authorized under subpart H of part 22 of this chapter, part 24 of this chapter, part 25 of this chapter, part 27 of this chapter, part 80 of this chapter (ship earth station devices only), and part 90 of this chapter are subject to routine environmental evaluation for RF exposure prior to equipment authorization or use if they operate at frequencies of 1.5 GHz or below and their effective radiated power (ERP) is 1.5 watts or more, or if they operate at frequencies above 1.5 GHz and their ERP is 3 watts or more. Unlicensed personal communications service devices, unlicensed millimeter wave devices and unlicensed NII devices authorized under §15.253, §15.255, and subparts D and E of part 15 of this chapter are also subject to routine environmental evaluation for RF exposure prior to equipment authorization or use if their ERP is 3 watts or more or if they meet the definition of a portable device as specified in §2.1093(b) requiring evaluation under the provisions of that section. All other mobile and unlicensed transmitting devices are categorically excluded from routine environmental evaluation for RF exposure prior to equipment authorization or use, except as specified in §§1.1307(c) and 1.1307(d) of this chapter. Applications for equipment authorization of portable transmitting devices subject to routine environmental evaluation must contain a statement confirming compliance with the limits specified in paragraph (d) of this section as part of their application. Technical information showing the basis for this statement must be submitted to the Commission upon request.

(1) When antennas for Part 15 modular transmitters (“transmitter modules”) that operate at power levels of 200 mW or less (peak EIRP or peak conducted output power) are designed to be incorporated into a laptop (“notebook”) computer such that they will be located at a distance of at least 20 cm from the body of a user (the configuration necessary to be classified as a mobile device) evaluation of the modular transmitter for compliance with the Commission’s RF

exposure limits is not required. Evaluation for compliance with the Commission's RF exposure limits is required for modular transmitters operating in excess of 200 mW (peak EIRP or peak conducted output power).

(2) In general, the maximum RF exposure of a combination device (host device plus modules) can be determined by adding the frequency-dependent RF exposure levels of all antennas incorporated within a single combination device that could functionally transmit at the same time. Such antennas can be considered to be "mobile" transmitting devices for purposes of evaluating compliance as long as the 20 cm separation criterion defined in (b) of this section is met.

(d) The limits to be used for evaluation of mobile devices are the limits for Maximum Permissible Exposure (MPE) specified in § 1.1310 of this chapter. Appropriate methodologies for evaluating exposure from mobile devices are described in the most current edition of *OET Bulletin 65*. All unlicensed personal communications service (PCS) devices and unlicensed NII devices shall be subject to the limits for general population/uncontrolled exposure.

(1) * * *

(2) * * *

(3) If appropriate, compliance with exposure guidelines for devices in this section can be accomplished by the use of labels and by providing users with information concerning minimum separation distances from transmitting structures and proper installation of antennas. Labels should be legible and clearly visible to the user of the device. Labels used on devices that are subject to occupational/controlled exposure limits must indicate that the device is for occupational use only, must refer the user to specific information on RF exposure, such as that provided in a user manual, and must note that the label and its information is required for FCC RF exposure compliance. Such instructional material must provide the user with information on how to use the device in order to ensure compliance with the occupational/controlled exposure limits. A sample of the label, illustrating its location on the device, and any instructional material intended to accompany the device when marketed, shall be filed with the Commission along with the application for equipment authorization. For occupational devices, details of any special training requirements pertinent to limiting RF exposure should also be submitted. Holders of grants for mobile devices to be used in occupational settings are encouraged, but not required, to coordinate with end-user organizations to ensure appropriate RF safety training.

(4) * * *

2. Section 2.1093 is amended by adding new paragraphs (c)(1) – (c)(6) and (d)(1)(i) and by revising (d)(3) to read as follows:

§ 2.1093 Radiofrequency radiation exposure evaluation: portable devices.

(a) * * *

(b) * * *

(c) Portable devices that operate in the Cellular Radiotelephone Service, the Personal Communications Service (PCS), the Satellite Communications Services, the Wireless Communications Service, the Maritime Services, the Specialized Mobile Radio Service, the Wireless Medical Telemetry Service (WMTS) and the Medical Implant Communications Service (MICS), authorized under subpart H of part 22 of this chapter, part 24 of this chapter, part 25 of this chapter, part 27 of this chapter, part 80 of this chapter (ship earth station devices only), part 90 of this chapter, subparts H and I of part 95, and unlicensed personal communication service, unlicensed NII devices and millimeter wave devices authorized under subparts D and E, §15.253 and §15.255 of part 15 of this chapter are subject to routine environmental evaluation for RF exposure prior to equipment authorization or use. Portable devices authorized under §15.247 of part 15 of this chapter are subject to routine evaluation for RF exposure prior to equipment authorization or use if the maximum peak output power of the device exceeds 100 milliwatts (100 mW). Evaluation of MICS transmitters may be demonstrated by use of computational modeling or laboratory measurement techniques. Unless otherwise specified in this chapter, other portable transmitting devices are categorically excluded from routine environmental evaluation for RF exposure prior to equipment authorization or use, except as specified in §§1.1307(c) and 1.1307(d) of this chapter. Applications for equipment authorization of portable transmitting devices subject to routine environmental evaluation must contain a statement confirming compliance with the limits specified in paragraph (d) of this section as part of their application. Technical information showing the basis for this statement must be submitted to the Commission upon request.

(1) Unlicensed transmitters authorized under §15.247 may be authorized as “transmitter modules” for use in various host devices provided that the configurations and exposure conditions of host products are identified and provided the maximum peak conducted output power is 100 milliwatts (100 mW) or less. Such transmitters may be authorized as modules when they have been shown to comply with our RF exposure guidelines and when it can be demonstrated that the use of the module in additional host devices would not result in non-compliance.

(2) When a modular transmitter (“transmitter module”) is designed to be used in a hand-held wireless portable telephone or in a portable digital assistant (“PDA”) that can be used in contact with the head or body, and the operating power level of the module is 2 mW or less (peak EIRP or peak conducted output power), if the phone or PDA (“host” device) has been previously shown to be compliant with the Commission’s limits for SAR, no additional SAR evaluation of the combined device (host plus module) is required. When a modular transmitter is designed to be used in a hand-held wireless portable telephone or in a PDA that can be used in contact with the head or body, and the operating power level of the module is greater than 2 mW (peak EIRP or peak conducted output power), the combined device (host plus module) must be evaluated for SAR in the normal operating configuration. If the combined device is demonstrated to be in compliance with the Commission’s SAR limits, this demonstration of compliance can be applied to such modules designed to be used in similar host devices that have been tested and certified for similar configurations.

(3) When modular transmitters ("transmitter modules") operating at power levels of 10 mW or less (peak EIRP or peak conducted output power) are designed to be used in the keyboard portion of a laptop ("notebook") computer evaluation for compliance with the Commission's limits for SAR is not required.

(4) When modular transmitters ("transmitter modules") operating at power levels of 25 mW or less (peak EIRP or peak conducted output power) are designed to be used in a PDA, designed only to be held in the hand, evaluation for compliance with the Commission's limits for SAR is not required.

(5) When a modular transmitter is designed to be used in a PDA (the "host device") that is only used when held in the hand, and the operating power level of the module is greater than 25 mW (peak EIRP or peak conducted output power), the combined device (host plus module) must be evaluated for SAR in the normal operating configuration. If the combined device is demonstrated to be in compliance with the Commission's SAR limits, this demonstration of compliance can be applied to such modules designed to be used in similar host devices that have been tested and certified for similar configurations.

(6) For a combination device that incorporates at least one modular transmitter in addition to the host transmitter, when the relevant exclusion thresholds described in (i) - (iii) of this section are not applicable, evaluation of SAR of the combination device can be determined by adding the maximum RF exposure levels of all antennas incorporated within a single combination device that could functionally transmit at the same time.

(d) * * *

(1) * * *

(i) Labels placed directly on portable devices designed only for occupational use can be used as part of an applicant's evidence of compliance with occupational/controlled exposure limits. Such labels should be legible and clearly visible to the user of the device. They must indicate that the device is for occupational use only, refer the user to specific information on RF exposure, such as that provided in a user manual and note that the label and its information is required for FCC RF exposure compliance. Such instructional material must provide the user with information on how to use the device in order to ensure compliance with the occupational/controlled exposure limits. A sample of the label, illustrating its location on the device, and any instructional material intended to accompany the device when marketed, shall be filed with the Commission along with the application for equipment authorization. Details of any special training requirements pertinent to limiting RF exposure should also be submitted. Holders of grants for portable devices to be used in occupational settings are encouraged, but not required, to coordinate with end-user organizations to ensure appropriate RF safety training.

(2) * * *

(3) Compliance with SAR limits can be demonstrated by either laboratory measurement techniques or by computational modeling. The latter must be supported by adequate documentation. The methodologies that shall be used for evaluating SAR for wireless handsets and similar devices are described in the most current edition of *Supplement C to OET Bulletin 65*, issued by the Commission's Office of Engineering and Technology.

(4) * * *

(5) * * *

3. Section 95.603 is amended by revising (f) as follows:

§ 95.603 Certification required.

(a) – (e) * * *

(f) Each Medical Implant Communications Service transmitter (a transmitter that operates or is intended to operate in the MICS) must be certificated except for medical implant transmitters that are not marketed for use in the United States, but which otherwise comply with the MICS technical requirements and are operated in the United States by individuals who have traveled to the United States from abroad. Medical implant transmitters (as defined in appendix 1 to subpart E of part 95 of this chapter) are subject to the radiofrequency radiation exposure requirements specified in §§1.1307 and 2.1093 of this chapter, as appropriate. Applications for equipment authorization of devices operating under this section must demonstrate compliance with these requirements using either finite difference time domain computational modeling or by laboratory measurement techniques. Where a showing is based on computational modeling, the Commission retains the discretion to request that specific absorption rate (SAR) data also be submitted.

(g) * * *

APPENDIX B: INITIAL REGULATORY FLEXIBILITY ANALYSIS

As required by the Regulatory Flexibility Act of 1980 (RFA),³⁸ the Commission has prepared this Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on small entities by the policies and rules proposed in this *Notice of Proposed Rule Making (NPRM)*. Written public comments are requested on this IRFA. Comments must be identified as responses to the IRFA and must be filed by the deadlines for comments provided in paragraph 58 in this *NPRM*. The Commission will send a copy of this *NPRM*, including this IRFA, to the Chief Counsel for Advocacy of the Small Business Administration (SBA).³⁹ In addition, the *NPRM* and IRFA (or summaries thereof) will be published in the Federal Register.⁴⁰

A. Need for, and Objectives of, the Proposed Rules

The National Environmental Policy Act of 1969 (NEPA) requires agencies of the Federal Government to evaluate the effects of their actions on the quality of the human environment.⁴¹ To meet its responsibilities under NEPA, the Commission has adopted requirements for evaluating the environmental impact of its actions. One of several environmental factors addressed by these requirements is human exposure to radiofrequency (RF) energy emitted by FCC-regulated transmitters, facilities and devices.⁴²

The *Notice* proposes to amend Parts 1 and 2 of our rules relating to the compliance of FCC-regulated transmitters, facilities, and devices with the guidelines for human exposure to radiofrequency (RF) energy adopted by the Commission in 1996 and 1997. Specifically we are proposing to make certain revisions in our rules that we believe will result in more efficient, practical and consistent application of compliance procedures.

B. Legal Basis

³⁸ See 5 U.S.C. § 603. The RFA, *sec* 5 U.S.C. § 601 - 612*et. seq.*, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA) Contract With America Advancement Act of 1996, Pub. L. No. 104-121, 110 Stat. 857847 (1996).) (CWAAA). Title II of the CWAAA is the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA).

³⁹ See 5 U.S.C. § 603(a).

⁴⁰ See *id.*

⁴¹ National Environmental Policy Act of 1969, as amended, 42 U.S.C. 4321-4335.

⁴² See 47 CFR 1.1307(b).

The proposed action is authorized under Sections 4(i), 301, 303(f) and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. Sections 154(i), 301, 303(f) and 303(r).

C. Description and Estimate of the Number of Small Entities To Which the Proposed Rules Will Apply

The RFA directs agencies to provide a description of, and, where feasible, an estimate of the number of small entities that may be affected by the proposed rules, if adopted.⁴³ The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."⁴⁴ In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act, 15 U.S.C. § 632, unless the Commission has developed one or more definitions that are appropriate to its activities.⁴⁵ A "small business concern" is one that: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) meets any additional criteria established by the Small Business Administration ("SBA").⁴⁶

A small organization is generally "any not-for-profit enterprise which is independently owned and operated and is not dominant in its field."⁴⁷ Nationwide, as of 1992, there were approximately 275,801 small organizations.⁴⁸ "Small governmental jurisdiction"⁴⁹ generally means "governments of cities, counties, towns, townships, villages, school districts, or special districts, with a population of less than 50,000."⁵⁰ As of 1992, there were approximately 85,006 governmental entities, total, in the United States.⁵¹ This number includes 38,978 cities, counties, and towns; of these, 37,566, or 96%, have populations of fewer than 50,000.⁵² The Census

⁴³ 5 U.S.C. § 603(b)(3).

⁴⁴ 5 U.S.C. § 601(6).

⁴⁵ 5 U.S.C. § 601(3) (incorporating by reference the definition of "small business concern" in 15 U.S.C. § 632). Pursuant to the RFA, the statutory definition of a small business applies "unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register." 5 U.S.C. § 601(3).

⁴⁶ 15 U.S.C. § 632.

⁴⁷ 5 U.S.C. § 601(4).

⁴⁸ U.S. Department of Commerce, Bureau of Census, 1992 Economic Census, Table 6 (special tabulation of data under contract to the Office of Advocacy of the U.S. Small Business Administration).

⁴⁹ 47 CFR § 1.1162.

⁵⁰ 5 U.S.C. § 601(5).

⁵¹ U.S. Department of Commerce, Bureau of the Census, 1992 Census of Governments.

⁵² U.S. Department of Commerce, Bureau of the Census, 1992 Census of Governments.
(continued....)

Bureau estimates that this ratio is approximately accurate for all governmental entities. Thus, of the 85,006 governmental entities, we estimate that 81,600 (96%) are small entities. Nationwide, as of 1992, there were 4.44 million small business firms, according to SBA data.⁵³

EXPERIMENTAL RADIO SERVICE (OTHER THAN BROADCAST)

The majority of experimental licenses are issued to companies such as Motorola and Department of Defense contractors such as Northrop, Lockheed and Martin Marietta. Businesses such as these may have as many as 200 licenses at one time. The majority of these applications, are from entities such as these. Given this fact, the remaining 30 percent of applications, we assume, for purposes of our evaluations and conclusions in this IRFA, will be awarded to small entities, as that term is defined by the SBA.

The Commission processes approximately 1,000 applications a year for experimental radio operations. About half or 500 of these are renewals and the other half are for new licenses. We do not have adequate information to predict precisely how many of these applications will be impacted by our proposed rule revisions. However, based on the above figures we estimate that as many as 300 of these applications could be from small entities and potentially could be impacted.

MASS MEDIA SERVICES

Multichannel Multipoint Distribution Service (MMDS), Multipoint Distribution Service (MDS), Instruction Television Fixed Service (ITFS) and Local Multipoint Distribution Service (LMDS). MMDS systems, often referred to as "wireless cable," transmit video programming to subscribers using the microwave frequencies of the MDS and ITFS.⁵⁴ MDS and ITFS are authorized to operate in the 2.5-2.69 GHz band. In addition, MDS entities have licenses in the 2.15-2.162 GHz band. Wireless cable systems combine multiple MDS (*i.e.*, multichannel MDS) frequencies and ITFS frequencies to transmit video programming and high-speed internet access to residential subscribers in limited areas. This delivery technology is also known as MMDS.

In connection with the 1996 MDS auction, the Commission defined small businesses as entities that had annual average gross revenues of less than \$40 million in the previous three calendar years.⁵⁵ This definition of a small entity in the context of MDS auctions has been

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⁵³ U.S. Department of Commerce, Bureau of the Census, 1992 Census of Transportation, Communications, and Utilities, UC 92-S-1, Subject Series, Establishment and Firm Size, Table 2D, Employment Size of Firms.

⁵⁴ *Amendment of Parts 21 and 74 of the Commission's Rules with Regard to Filing Procedures in the Multipoint Distribution Service and in the Instructional Television Fixed Service and Implementation of Section 309(j) of the Communications Act - Competitive Bidding*, MM Docket No. 94-131 and PP Docket No. 93-253, Report and Order, 10 FCC Red at 9589, 9593 ¶ 7 (1995).

⁵⁵ 47 C.F.R. § 21.961(b)(1)

approved by the SBA.⁵⁶ The MDS auctions resulted in 67 successful bidders obtaining licensing opportunities for 493 Basic Trading Areas (BTAs). Of the 67 auction winners, 61 met the definition of a small business. MDS also includes licensees of stations authorized prior to the auction. In that regard, the SBA has developed a definition of small entities for cable and other subscription programming, which includes all such companies generating \$12.5 million or less in annual receipts.⁵⁷ This definition includes multipoint distribution services, and thus applies to MDS licensees and wireless cable operators that did not participate in the MDS auction. Information available indicates that there are approximately 850 of these licensees and operators that do not generate revenue in excess of \$11 million annually. Therefore, for purposes of the IRFA, we find there are approximately 850 or more small MDS providers as defined by the SBA and the Commission's auction rules.

The SBA definition of small entities for Cable and Other Program Distribution, which includes such companies generating \$12.5 million in annual receipts, appears applicable to ITFS.⁵⁸ There are presently 2,032 ITFS licensees. All but 100 of these licenses are held by educational institutions. Educational institutions are included in the definition of a small business.⁵⁹ However, we do not collect annual revenue data for ITFS licensees, and are not able to ascertain how many of the 100 non-educational licensees would be categorized as small under the SBA definition. Thus, we tentatively conclude that at least 2,032 licensees are small businesses.

LMDS is a fixed broadband point-to-multipoint microwave service that provides for two-way video telecommunications.⁶⁰ In addition to the 1996 MDS auction, the auction of the 1,030 LMDS licenses began on February 18, 1998, and closed on March 25, 1998. The Commission defined "small entity" for LMDS licenses as an entity that has average gross revenues of less than \$40 million in the three previous calendar years.⁶¹ An additional classification for "very small business" was added and is defined as an entity that, together with its affiliates, has average gross revenues of not more than \$15 million for the preceding calendar years.⁶² These regulations defining "small entity" in the context of LMDS auctions have been approved by the SBA.⁶³ There were 93 winning bidders that qualified as small entities in the LMDS auctions. A total of 93 small and very small business bidders won approximately 277 A Block licenses and 387 B Block licenses. On March 27, 1999, the Commission re-auctioned 161 licenses; there were 40 winning bidders. Based on this information, we conclude that the number of small LMDS licenses will

⁵⁶ See *Amendment of Parts 21 and 74 of the Commission's Rules With Regard to Filing Procedures in the Multipoint Distribution Service and in the Instructional Television Fixed Service and Implementation of Section 309(j) of the Communications Act - Competitive Bidding*, MM Docket No. 94-131 and PP Docket No. 93-253, Report and Order, 10 FCC Rcd 9589 (1995).

⁵⁷ 13 C.F.R. § 121.201, NAICS code 517510.

⁵⁸ *Id.*

⁵⁹ "Small entity" under SBREFA includes not only small businesses, but nonprofit organizations and governmental organizations such as cities, counties, towns, townships, villages, school districts, or special districts, with populations of less than 50,000. 5 U.S.C. § 601(5).

⁶⁰ See *Local Multipoint Distribution Service*, Second Report and Order, 12 FCC Rcd 12545 (1997).

⁶¹ *Id.*

⁶² *Id.*

⁶³ See Letter to Daniel Phythyon, Chief, Wireless Telecommunications Bureau (FCC) from A. Alvarez, Administrator, SBA (January 6, 1998).

include the 93 winning bidders in the first auction and the 40 winning bidders in the re-auction, for a total of 133 small entity LMDS providers as defined by the Commission's auction rules and approved by the SBA. The LMDS service could be impacted by the proposed revisions of our rules, particularly with respect to consumer subscriber transceivers that may be subject to labeling requirements.

In sum, there are approximately a total of 2,000 MDS/MMDS/LMDS stations currently licensed. Of the approximate total of 2,000 stations, we estimate that there are 1,595 MDS/MMDS/LMDS providers that are small businesses as deemed by the SBA and the Commission's auction rules.

MARITIME SERVICES

The proposed rules would not change the current rules that affect licensees using ship earth stations in the Maritime Services. The Commission has not developed a definition of small entities applicable to licensees of ship earth stations. Therefore, the Commission is unable at this time to make a precise estimate of the number of licensees of ship earth stations which are small businesses.

INTERNATIONAL SERVICES

The Commission has not developed a small business size standard applicable to licensees in the international services. However, the SBA has developed a size standard for a small business within the category of Other Telecommunications. Under that SBA size standard, such a business is small if it has \$12.5 million or less in average annual receipts.⁷³ According to Census Bureau data for 1997, there were a total of 439 other communications services providers, operating for the entire year.⁷⁴ Of the 439, a total of 430 had annual receipts of less than \$10.0 million. Consequently, the Commission estimates that most Other Telecommunications providers are small entities that may be affected by the rules and policies adopted herein.

⁷³ 13 C.F.R. § 121.201, North American Industry Classification System (NAICS) code 517410.

⁷⁵ 13 CFR 121.201, NAICS codes 48531, 513322, 51334, and 51339.

⁷⁴ *Id.*

⁷⁶ 13 C.F.R. § 121.201, North American Industry Classification System (NAICS) code 517410 (formerly 513340).

International Broadcast Stations. Commission records show that there are 19 international high frequency broadcast station authorizations. We do not request nor collect annual revenue information, and are unable to estimate the number of international high frequency broadcast stations that would constitute a small business under the SBA definition. Since all international broadcast stations operate using relatively high power levels, it is likely that they could all be impacted by our rule revisions.

Satellite Telecommunications. The SBA has developed a small business size standard for Satellite Telecommunications Carriers, which consists of all such companies having \$12.5 million or less in annual receipts.⁷⁶ In addition, a second SBA size standard for Other Telecommunications includes "facilities operationally connected with one or more terrestrial communications systems and capable of transmitting telecommunications to or receiving telecommunications from satellite systems."⁷⁷ and also has a size standard of annual receipts of \$12.5 million or less. According to Census Bureau data for 1997, there were 324 firms in the category Satellite Telecommunications, total, that operated for the entire year.⁷⁸ Of this total, 273 firms had annual receipts of \$5 million to \$9,999,999 and an additional 24 firms had annual receipts of \$10 million to \$24,999,990.⁷⁹ Thus, under this size standard, the majority of firms can be considered small. In addition, according to Census Bureau data for 1997, there were 439 firms in the category Satellite Telecommunications, total, that operated for the entire year.⁸⁰ Of this total, 424 firms had annual receipts of \$5 million to \$9,999,999 and an additional 6 firms had annual receipts of \$10 million to \$24,999,990.⁸¹ Thus, under this second size standard, the majority of firms can be considered small.

Fixed Satellite Transmit/Receive Earth Stations. There are approximately 4,303 earth station authorizations, a portion of which are Fixed Satellite Transmit/Receive Earth Stations. We do not request nor collect annual revenue information, and are unable to estimate the number of the earth stations that would constitute a small business under the SBA definition. However, the majority of these stations could be impacted by our revised rules.

Fixed Satellite Small Transmit/Receive Earth Stations. There are approximately 4,303 earth station authorizations, a portion of which are Fixed Satellite Small Transmit/Receive Earth Stations. We do not request nor collect annual revenue information, and are unable to estimate

⁷⁷ Id. NAICS code 517910 (formerly 513390).

⁷⁸ U.S. Census Bureau, 1997 Economic Census, Subject Series: Information, "Receipt Size of Firms Subject to Federal Income Tax: 1997," Table 4, NAICS code 517410 (issued Oct. 2000).

⁷⁹ Id.

⁸⁰ U. S. Census Bureau, 1997 Economic Census, Subject Series: Information, "Receipt Size of Firms Subject to Federal Income Tax: 1997," Table 4, NAICS code 517910 (issued Oct. 2000).

⁸¹ Id.

⁸⁹ 13 CFR § 121.201, NAICS code 517211.

the number of fixed small satellite transmit/receive earth stations that would constitute a small business under the SBA definition. However, the majority of these stations could be impacted by our revised rules.

Fixed Satellite Very Small Aperture Terminal (VSAT) Systems. These stations operate on a primary basis, and frequency coordination with terrestrial microwave systems is not required. Thus, a single "blanket" application may be filed for a specified number of small antennas and one or more hub stations. There are 492 current VSAT System authorizations. We do not request nor collect annual revenue information, and are unable to estimate the number of VSAT systems that would constitute a small business under the SBA definition. However, it is expected that many of these stations could be impacted by our revised rules.

Mobile Satellite Earth Stations. There are 19 licensees. We do not request nor collect annual revenue information, and are unable to estimate the number of mobile satellite earth stations that would constitute a small business under the SBA definition. However, it is expected that many of these stations could be impacted by our revised rules.

WIRELESS AND COMMERCIAL MOBILE SERVICES

Cellular and Other Wireless Telecommunications. The SBA has developed a small business size standard for wireless firms within the two broad economic census categories of Paging⁸⁹ and Cellular and Other Wireless Telecommunications.⁹⁰ Under both SBA categories, a wireless business is small if it has 1,500 or fewer employees. For the census category of Paging, Census Bureau data for 1997 show that there were 1,320 firms in this category, total, that operated for the entire year.⁹¹ Of this total, 1,303 firms had employment of 999 or fewer employees, and an additional 17 firms had employment of 1,000 employees or more.⁹² Thus, under this category and associated small business size standard, the great majority of firms can be considered small. For the census category Cellular and Other Wireless Telecommunications firms, Census Bureau data for 1997 show that there were 977 firms in this category, total, that operated for the entire year.⁹³ Of this total, 965 firms had employment of 999 or fewer employees, and an additional 12 firms had employment of 1,000 employees or more.⁹⁴ Thus, under this second category and size

⁸⁹ 13 CFR § 121.201, NAICS code 517212.

⁹¹ U.S. Census Bureau, 1997 Economic Census, Subject Series: Information, "Employment Size of Firms Subject to Federal Income Tax: 1997," Table 5, NAICS code 513321 (issued Oct. 2000).

⁹² *Id.* The census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is "Firms with 1,000 employees or more."

⁹³ U.S. Census Bureau, 1997 Economic Census, Subject Series: Information, "Employment Size of Firms Subject to Federal Income Tax: 1997," Table 5, NAICS code 513322 (issued Oct. 2000).

⁹⁴ *Id.* The census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is "Firms with 1,000 employees or more."

standard, the great majority of firms can, again, be considered small.

Private and Common Carrier Paging. In the Paging *Third Report and Order*, we adopted criteria for defining small businesses and very small businesses for purposes of determining their eligibility for special provisions such as bidding credits and installment payments.⁹⁵ We have defined a small business as an entity that, together with its affiliates and controlling principals, has average gross revenues not exceeding \$15 million for the preceding three years. Additionally, a very small business is defined as an entity that, together with its affiliates and controlling principals, has average gross revenues that are not more than \$3 million for the preceding three years.⁹⁶ The SBA has approved these definitions.⁹⁷ An auction of Metropolitan Economic Area licenses commenced on February 24, 2000, and closed on March 2, 2000.⁹⁸ Of the 985 licenses auctioned, 440 were sold. Fifty-seven companies claiming small business status won. A second auction commenced on October 30, 2001 and closed on December 5, 2001.⁹⁹ One hundred, thirty-two entities claiming small or very small business status won a total of 3,724 licenses. At present, there are approximately 4,500 Private-Paging site-specific licenses and 5,100 Common Carrier Paging site specific licenses. According to the most recent in the *Telecommunications Provider Locator*, 608 carriers reported that they were engaged in the provision of either paging or "other mobile" services, which are placed together in the data.¹⁰⁰ We do not have data specifying the number of these carriers that are not independently owned and operated or have more than 1,500 employees, and therefore are unable at this time to estimate with greater precision the number of paging carriers that would qualify as small business concerns under the SBA's definition. Consequently, we estimate that there are fewer than 608 small paging carriers that may be affected by these revised rules. We estimate that the majority of private and common carrier paging providers would qualify as small entities under the SBA definition. All may be impacted by these proposed rule revisions.

Specialized Mobile Radio (SMR). Pursuant to 47 CFR 90.814(b)(1), the Commission has defined "small business" for purposes of auctioning 900 MHz SMR licenses, 800 MHz SMR licenses for the upper 200 channels, and 800 MHz SMR licenses for the lower 230 channels on the 800 MHz band, as a firm that has had average annual gross revenues of \$15 million or less in

⁹⁵ 220 MHz *Third Report and Order*, 62 FR 16004 (April 3, 1997), at paragraphs 291-295.

⁹⁶ "700 MHz Guard Band Auction Closes," Public Notice, 15 FCC Rcd 18026 (2000).

⁹⁷ "Revision of Part 22 and Part 90 of the Commission's Rules to Facilitate Future Development of Paging Systems," Memorandum Opinion and Order on Reconsideration and Third Report and Order, 14 FCC Rcd 10030, at paragraph 98-107 (1999).

⁹⁸ "Revision of Part 22 and Part 90 of the Commission's Rules to Facilitate Future Development of Paging Systems," Memorandum Opinion and Order on Reconsideration and Third Report and Order, 14 FCC Rcd 10030, at paragraph 98 (1999).

⁹⁹ "Lower and Upper Band Auction Closes", Public Notice 16 FCC Rcd 21821 (2001).

¹⁰⁰ See Letter to Amy Zoslov, Chief, Auctions and Industry Analysis Division from A. Alvarez, Administrator, SBA (December 2, 1998).

the three preceding calendar years.¹⁰¹ The SBA has approved this small business size standard for the 800 MHz and 900 MHz auctions.¹⁰² Sixty winning bidders for geographic area licenses in the 900 MHz SMR band qualified as small business under the \$15 million size standard. The auction of the 525 800 MHz SMR geographic area licenses for the upper 200 channels began on October 28, 1997, and was completed on December 8, 1997.¹⁰³ Ten winning bidders for geographic area licenses for the upper 200 channels in the 800 MHz SMR band qualified as small businesses under the \$15 million size standard.¹⁰⁴ An auction of 800 MHz SMR geographic area licenses for the General Category channels began on August 16, 2000 and was completed on September 1, 2000. Of the 1,050 licenses offered in that auction, 1,030 licenses were sold. Eleven winning bidders for licenses for the General Category channels in the 800 MHz SMR band qualified as small business under the \$15 million size standard. In an auction completed on December 5, 2000, a total of 2,800 Economic Area licenses in the lower 80 channels of the 800 MHz SMR service were sold. Of the 22 winning bidders, 19 claimed small business status. Thus, 40 winning bidders for geographic licenses in the 800 MHz SMR band qualified as small businesses. In addition, there are numerous incumbent site-by-site SMR licenses on the 800 and 900 MHz band. All may be impacted by these proposed rule revisions.

Private Land Mobile Radio (PLMR). PLMR systems serve an essential role in a range of industrial, business, land transportation, and public safety activities. These radios are used by companies of all sizes operating in all U.S. business categories. The Commission has not developed a definition of small entity specifically applicable to PLMR licensees due to the vast array of PLMR users. For the purpose of determining whether a licensee is a small business as defined by the SBA, each licensee would need to be evaluated within its own business area. Therefore, the Commission is unable at this time to estimate the number of small businesses which could be impacted by the rules.

Fixed Microwave Services. Microwave services include common carrier,¹⁰⁵ private-operational fixed,¹⁰⁶ and broadcast auxiliary radio services.¹⁰⁷ At present, there are approximately 22,015

¹⁰¹ 47 CFR 90.814(b)(1).

¹⁰² See Letter to Thomas J. Sugrue, Chief, Wireless Telecommunications Bureau (FCC) from A. Alvarez, Administrator, SBA (August 10, 1999).

¹⁰³ See Letter to Daniel B. Python, Chief, Wireless Telecommunications Bureau (FCC) from A. Alvarez, Administrator, SBA (October 27, 1997).

¹⁰⁴ *Id.*

¹⁰⁵ 47 CFR 101 *et seq.* (formerly, part 21 of the Commission's Rules).

¹⁰⁶ Persons eligible under parts 80 and 90 of the Commission's rules can use Private Operational-Fixed Microwave services. See 47 CFR parts 80 and 90. Stations in this service are called operational-fixed to distinguish them from common carrier and public fixed stations. Only the licensee may use the operational-fixed station, and only for communications related to the licensee's commercial, industrial, or safety operations.

¹⁰⁷ Auxiliary Microwave Service is governed by part 74 of Title 47 of the Commission's Rules. See 47 CFR 74 *et seq.* As discussed earlier, there should be no impact on this class of transmitters.

common carrier fixed licensees and 61,670 private operational-fixed licensees and broadcast auxiliary radio licensees in the microwave services. The Commission has not yet defined a small business with respect to microwave services. For purposes of this FRFA, we will use the SBA's definition applicable to cellular and other telecommunications firms -- *i.e.*, an entity with no more than 1,500 persons.¹⁰⁸ We estimate that all of the Fixed Microwave licensees (excluding broadcast auxiliary licensees) would qualify as small entities under the SBA definition for cellular and other telecommunications firms. Some of these services could be impacted by the proposed revisions of our rules, particularly those which utilize consumer subscriber transceivers that may be subject to labeling requirements.

Personal Radio Services. Personal radio services provide short-range, low power radio for personal communications, radio signaling, and business communications not provided for in other services. The services include the citizen's band (CB) radio service, general mobile radio service (GMRS), radio control radio service, and family radio service (FRS).¹⁰⁹ Since the CB, GMRS, and FRS licensees are individuals, no small business definition applies for these services. We are unable at this time to estimate the number of other licensees that would qualify as small under the SBA's definition. However, in general, there should be little impact of these proposed rule revisions on these services.

Wireless Communications Services. This service can be used for fixed, mobile, radiolocation and digital audio broadcasting satellite uses. The Commission defined "small business" for the wireless communications services (WCS) auction as an entity with average gross revenues of \$40 million for each of the three preceding years, and a "very small business" as an entity with average gross revenues of \$15 million for each of the three preceding years. The SBA has approved these definitions.¹¹⁰ The FCC auctioned geographic area licenses in the WCS service. In the auction, there were seven winning bidders that qualified as very small business entities, and one that qualified as a small business entity. We conclude that the number of geographic area WCS licensees which could be impacted includes these eight entities.

D. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements

¹⁰⁸ 13 CFR 121.201; NAICS codes 517211, 517212, 513321, 513322, 51333.

¹⁰⁹ Licensees in the Citizens Band (CB) Radio Service, General Mobile Radio Service (GMRS), Radio Control (R/C) Radio Service and Family Radio Service (FRS) are governed by Subpart D, Subpart A, Subpart C, and Subpart B, respectively, of part 95 of the Commission's Rules, 47 CFR 95.401 through 95.428; 95.1 through 95.181; 95.201 through 95.225; 47 CFR 95.191 through 95.194.

¹¹⁰ See Letter to Amy Zoslov, Chief, Auctions and Industry Analysis Division from A. Alvarez, Administrator, SBA (December 2, 1998).

¹¹¹ 5 U.S.C. § 603(c).

The proposals being made in this item, may require additional reporting regarding compliance with our RF exposure limits for certain facilities, operations and transmitters, such as some wireless base stations and some antennas at multiple transmitter sites. In other cases, current reporting requirements are being relaxed. Also, we are proposing to require that in order for the occupational/controlled SAR or MPE limits to be used in evaluating compliance for a portable or mobile device, certain conditions must be met, that may include placing a label on a device that provides a user with specific information on RF exposure. We are also proposing that a sample of the label and instructional material be filed with the Commission along with the application for equipment authorization.

We are also proposing to adopt a general labeling requirement for certain high-gain subscriber across all services that will be consistent and ensure compliance of consumer products with our RF safety guidelines. When equipment authorization is required, we are proposing that a sample of the label and illustrations showing its location should be filed with the Commission along with the application for a grant of equipment authorization.

E. Steps Taken to Minimize Significant Economic Impact on Small Entities, and Significant Alternatives Considered

The RFA requires an agency to describe any significant alternatives that it has considered in reaching its proposed approach, which may include the following four alternatives (among others): (1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance or reporting requirements under the rule for small entities; (3) the use of performance, rather than design, standards; and (4) an exemption from coverage of the rule, or any part thereof, for small entities.¹¹¹ In this proceeding, our proposals are consistent with (2), in that our goal is making our RF rules more consistent and clarifying certain areas that have created confusion in the past. In addition, due to our revisions in our policy on categorical exclusions, we are providing exemptions from routine RF evaluation for many small entities that should reduce the overall impact on small entities (see number 4 above).

F. Federal Rules that May Duplicate, Overlap, or Conflict With the Proposed Rule

None.

**STATEMENT OF
CHAIRMAN MICHAEL K. POWELL**

*RE: In the Matter of Proposed Changes in the Commission's Rules Regarding Human Exposure
to Radiofrequency Electromagnetic Fields*

Earlier this month, I announced the launch of the Commission's Environmental and Historic Preservation Action Plan. The goal of the plan is to improve our ability to protect valuable historic and environmental resources, while at the same time accelerating the process of deploying necessary communications infrastructure.

Today's action takes an important step in updating our rules to reflect technology development and more efficient ways of carrying out our statutory responsibilities. The current rules contain requirements for evaluating human exposure to RF energy emitted by FCC-regulated transmitters and facilities and date back to 1996/1997. Since that time, it has become apparent that certain aspects of our rules may warrant further revision to clarify the responsibilities of our licensees and grantees and to ensure compliance with the FCC limits in a more practical, reasonable and efficient manner. This NPRM makes several proposals to accomplish that goal.

The proposals were developed based on extensive consultation with industry, standards groups, and consumers. Working together, we have developed a set of proposals that will facilitate deployment of new technologies. The proposals are intended to correct inconsistencies, clarify definitions, and standardize guidelines on laboratory testing requirements.