

selected for a post-mission disposal orbit and the calculations that are used in deriving the disposal altitude. The statement shall also include a casualty risk assessment if planned post-mission disposal involves atmospheric re-entry of the space station. In general, an assessment shall include an estimate as to whether portions of the spacecraft will survive re-entry and reach the surface of the Earth, as well as an estimate of the resulting probability of human casualty.

§ 5.65 Defective applications.

(a) Applications that are defective with respect to completeness of answers to required questions, execution or other matters of a purely formal character may not be accepted for filing by the Commission, and may be returned to the applicant with a brief statement as to the omissions.

(b) If an applicant is requested by the Commission to file any documents or information not included in the prescribed application form, a failure to comply with such request will constitute a defect in the application.

(c) Applications not in accordance with the Commission's rules, regulations, or other requirements will be considered defective unless accompanied either by:

(1) a petition to amend any rule, regulation, or requirement with which the application is in conflict; or

(2) a request for waiver of any rule, regulation, or requirement with which the application is in conflict. Such request shall show the nature of the waiver desired and set forth the reasons in support thereof.

§ 5.67 Amendment or dismissal of applications.

(a) Any application may be amended or dismissed without prejudice upon request of the applicant. Each amendment to, or request for dismissal of an application shall be signed, authenticated, and submitted in the same manner as required for the original application. All subsequent correspondence or other material that the applicant desires to have incorporated as a part of an application already filed shall be submitted in the form of an amendment to the application.

(b) Defective applications, as defined in §5.65 of this part, are subject to dismissal. Such dismissal will be without prejudice.

§ 5.69 License grants that differ from applications.

In cases when the Commission grants a license with parameters that differ from those set forth in the application, an applicant may reject the grant by filing, within 30 days from the effective date of the grant, a written description of its objections. Upon receipt of such request, the Commission will coordinate with the applicant in an attempt to resolve problems arising from the grant.

§ 5.71 License period.

(a) Conventional experimental radio licenses.

(1) The regular license period is 2 years. An applicant may apply for a license term up to 5 years, but must provide justification for a license of that duration.

(2) A license may be renewed for up to 5 years upon an adequate showing of need to complete the experiment.

- (b) Program experimental radio licenses. Licenses are issued for 5 years and may be renewed.
- (c) Broadcast experimental radio license. Licenses for broadcast experimental radio stations will be issued for a maximum one-year period.

§ 5.73 Experimental report.

- (a) Conventional experimental radio licenses.
 - (1) The Commission may, as a condition of authorization, may request the licensee to forward periodic reports in order to evaluate the progress of the experimental program.
 - (2) An applicant may request that the Commission withhold from the public certain reports and associated material and the Commission will do so unless the public interest requires otherwise. These requests should follow the procedures for submission set forth in §0.459 of this chapter.
- (b) Program and broadcast experimental radio licenses must follow the requirements in §§ 5.207 and 5.309, respectively.

§ 5.77 Change in equipment and emission characteristics.

- (a) The licensee of a conventional or broadcast experimental radio station may make any changes in equipment that are deemed desirable or necessary provided:
 - (1) That the operating frequency is not permitted to deviate more than the allowed tolerance;
 - (2) That the emissions are not permitted outside the authorized band;
 - (3) That the power output complies with the license and the regulations governing the same; and
 - (4) That the transmitter as a whole or output power rating of the transmitter is not changed.
- (b) For conventional experimental radio stations, the changes permitted in paragraph (a) of this section may be made without prior authorization from the Commission provided that the license supplements its application file with a description of such change. If the licensee wants these emission changes to become a permanent part of the license, an application for modification must be filed.
- (c) Prior authorization from the Commission is required before the following antenna changes may be made at a station at a fixed location:
 - (1) Any change that will either increase the height of a structure supporting the radiating portion of the antenna or decrease the height of a lighted antenna structure.
 - (2) Any change in the location of an antenna when such relocation involves a change in the geographic coordinates of latitude or longitude by one second or more, or when such relocation involves a change in street address.

§ 5.79 Transfer and assignment of station authorization for conventional experimental radio licenses.

A station authorization, the frequencies authorized to be used by the grantee of such authorization, and the rights therein granted by such authorization shall not be transferred, assigned, or in any manner either voluntarily or involuntarily disposed of, unless the Commission decides that such a transfer is in the public interest and gives its consent in writing.

§ 5.81 Discontinuance of station operation.

In case of permanent discontinuance of operation of a station in the Experimental Radio Service, the licensee shall notify the Commission.

§ 5.83 Cancellation provisions.

The applicant for a station in the Experimental Radio Services accepts the license with the express understanding:

- (a) that the authority to use the frequency or frequencies permitted by the license is granted upon an experimental basis only and does not confer any right to conduct an activity of a continuing nature; and
- (b) that said grant is subject to change or cancellation by the Commission at any time without notice or hearing if in its discretion the need for such action arises. However, a petition for reconsideration or application for review may be filed to such Commission action.

§ 5.84 Non-interference basis.

Operation of an experimental radio station is permitted only on the condition that harmful interference will not be caused to any station operating in accordance with the Table of Frequency Allocation of part 2 of this chapter. If harmful interference to an established radio service develops, the licensee shall cease transmissions and such transmissions shall not be resumed until it is certain that harmful interference will not be caused.

§ 5.85 Frequencies and policy governing their assignment.

(a) Stations operating in the Experimental Radio Service may be authorized to use any government or non-government frequency designated in the Table of Frequency Allocations set forth in part 2 of this chapter, provided that the need for the frequency requested is fully justified by the applicant, except that experimental stations may not be authorized the use of any frequency or frequency band exclusively allocated to the passive services (including the radio astronomy service).

(b) Each frequency or band of frequencies available for assignment to stations in the Experimental Radio Service is available on a shared basis only, will not be assigned for the exclusive use of any one applicant, and such use may also be restricted to specified geographical areas.

(c) *Broadcast experimental radio stations.*

(1) Frequencies best suited to the purpose of the experimentation and on which there appears to be the least likelihood of interference to established stations shall be selected.

(2) Except as indicated, only frequencies allocated to broadcasting service will be assigned. If an experiment cannot be feasibly conducted on frequencies allocated to a broadcasting service, an

experimental station may be authorized to operate on other frequencies upon a satisfactory showing of the need therefore and a showing that the proposed operation can be conducted without causing harmful interference to established services.

(d) *Use of Public Safety Frequencies.* Applicants in the Experimental Radio Service must avoid use of public safety frequencies identified in part 90 of this chapter except when a compelling showing can be made that use of such frequencies is in the public interest. If an experimental license to use public safety radio frequencies is granted, the authorization will be conditioned to require coordination between the experimental licensee and the appropriate frequency coordinator and/or all of the public safety licensees in its intended area of operation.

(e) The Commission may, at its discretion, condition any experimental license or STA on the requirement that before commencing operation, the new licensee coordinate its proposed facility with other licensees that may receive interference as a result of the new licensee's operations.

(f) *Protection of FCC monitoring stations.* (1) Applicants may need to protect FCC monitoring stations from harmful interference and their station authorization may be conditioned accordingly. Geographical coordinates of such stations are listed in §0.121(b) of this chapter.

(2) In the event that calculated value of expected field strength exceeds a direct wave fundamental field strength of greater than 10 mV/m in the authorized bandwidth of service (-65.8 dBW/m² power flux density assuming a free space characteristic impedance of 120π ohms) at the reference coordinates, or if there is any question whether field strength levels might exceed the threshold value, the applicant should consult with the FCC's Enforcement Bureau, telephone (202) 418-1210, to discuss any protection necessary.

(3) Coordination is suggested particularly for those applicants who have no reliable data that indicates whether the field strength or power flux density figure indicated in (e)(2) of this section would be exceeded by their proposed radio facilities (except mobile stations). The following is a suggested guide for determining whether coordination is needed:

(i) All stations within 2.4 kilometers (1.5 statute miles);

(ii) Stations within 4.8 kilometers (3 statute miles) with 50 watts or more average ERP in the primary plane of polarization in the azimuthal direction of the Monitoring Station;

(iii) Stations within 16 kilometers (10 statute miles) with 1 kW or more average ERP in the primary plane of polarization in the azimuthal direction of the Monitoring Station;

(iv) Stations within 80 kilometers (50 statute miles) with 25 kW or more average ERP in the primary plane of polarization in the azimuthal direction of the Monitoring Station.

(4) Advance coordination for stations operating above 1000 MHz is recommended only where the proposed station is in the vicinity of a monitoring station designated as a satellite monitoring facility in §0.121(b) of this Chapter and also meets the criteria outlined in paragraphs (e) (2) and (3) of this section.

§ 5.91 Notification of the National Radio Astronomy Observatory.

In order to minimize possible harmful interference at the National Radio Astronomy Observatory site located at Green Bank, Pocahontas County, West Virginia, and at the Naval Radio Research Observatory site at Sugar Grove, Pendleton County, West Virginia, any applicant for a station authorization other than mobile, temporary base, temporary fixed, Personal Radio, Civil Air Patrol, or Amateur seeking a station license for a new station, or a construction permit to construct a new station or to modify an existing station license in a manner that would change either the frequency, power, antenna height or directivity, or location of such a station within the area bounded by 39 deg. 15' N on the north, 78 deg. 30' W on the east, 37 deg. 30' N on the south and 80 deg. 30' W on the west shall, at the time of filing such application with the Commission, simultaneously notify the Director, National Radio Astronomy Observatory, P.O. Box NZ2, Green Bank, West Virginia, 24944, in writing, of the technical particulars of the proposed station. Such notification shall include the geographical coordinates of the antenna, antenna height, antenna directivity if any, frequency, type of emission, and power. In addition, the applicant shall indicate in its application to the Commission the date notification was made to the Observatory. After receipt of such applications, the Commission will allow a period of twenty (20) days for comments or objections in response to the notifications indicated. If an objection to the proposed operation is received during the twenty-day period from the National Radio Astronomy Observatory for itself or on behalf of the Naval Radio Research Observatory, the Commission will consider all aspects of the problem and take whatever action is deemed appropriate.

§ 5.95 Informal objections.

A person or entity desiring to object to or to oppose an Experimental Radio application for a station license or authorization may file an informal objection against that application. The informal objection and any responsive pleadings shall comply with the requirements set forth in §§1.41 through 1.52 of this chapter.

Subpart C—Technical Standards and Operating Requirements**§ 5.101 Frequency stability.**

Licensees must use a frequency tolerance that would confine emissions within the band of operation, unless permission is granted to use a lesser frequency tolerance. Equipment is presumed to operate over the temperature range -20 to +50 degrees Celsius with an input voltage variation of 85% to 115% of rated input voltage, unless justification is presented to demonstrate otherwise.

§ 5.103 Types of emission.

Stations in the Experimental Radio Service may be authorized to use any of the classifications of emissions covered in part 2 of this chapter.

§ 5.105 Authorized bandwidth.

Each authorization issued to a station operating in this service will show, as the prefix to the emission classification, a figure specifying the maximum necessary bandwidth for the emission used. The authorized bandwidth is considered to be the occupied or necessary bandwidth, whichever is greater. This bandwidth shall be determined in accordance with §2.202 of this chapter.

§ 5.107 Transmitter control requirements.

Each licensee shall be responsible for maintaining control of the transmitter authorized under its station authorization, including the ability to terminate transmissions should interference occur.

(a) Conventional experimental radio stations. The licensee shall ensure that transmissions are in conformance with the operating characteristics prescribed in the station authorization and that the station is operated only by persons duly authorized by the licensee.

(b) Program experimental radio stations. The licensee shall ensure that transmissions are in conformance with the requirements in subpart E of this part and that the station is operated only by persons duly authorized by the licensee.

(c) Broadcast experimental stations. Except where unattended operation is specifically permitted, the licensee of each station authorized under the provisions of this part shall designate a person or persons to activate and control its transmitter. At the discretion of the station licensee, persons so designated may be employed for other duties and for operation of other transmitting stations if such other duties will not interfere with the proper operation of the station transmission systems.

§ 5.109 Inspection and maintenance of antenna structure marking and associated control equipment.

The owner of each antenna structure required to be painted and/or illuminated under the provisions of Section 303(q) of the Communications Act of 1934, as amended, shall operate and maintain the antenna structure painting and lighting in accordance with part 17 of this chapter. In the event of default by the owner, each licensee or permittee shall be individually responsible for conforming to the requirements pertaining to antenna structure painting and lighting.

§ 5.110 Power limitations.

(a) The operating power for all stations authorized under the experimental radio service shall be limited to the minimum practical radiated power.

(b) For broadcast experimental radio stations, the operating power shall not exceed more than 5 percent above the maximum power specified. Engineering standards have not been established for these stations. The efficiency factor for the last radio stage of transmitters employed will be subject to individual determination but shall be in general agreement with values normally employed for similar equipment operated within the frequency range authorized.

§ 5.111 Limitations on use.

(a) Stations may make only such transmissions as are necessary and directly related to the conduct of the licensee's stated program of experimentation and the related station instrument of authorization, and as governed by the provisions of the rules and regulations contained in this part. When transmitting, the licensee must use every precaution to ensure that it will not cause harmful interference to the services carried on by stations operating in accordance with the Table of Frequency Allocations of part 2 of this chapter.

(b) A licensee shall adhere to the program of experimentation as stated in its application or in the station instrument of authorization.

(c) The radiations of the transmitter shall be suspended immediately upon detection or notification of a deviation from the technical requirements of the station authorization until such deviation is corrected, except for transmissions concerning the immediate safety of life or property, in which case the transmissions shall be suspended as soon as the emergency is terminated.

§ 5.115 Station identification.

(a) Conventional experimental radio licenses. A licensee, unless specifically exempted by the terms of the station authorization, shall transmit its assigned call sign at the end of each complete transmission: Provided, however, that the transmission of the call sign at the end of each transmission is not required for projects requiring continuous, frequent, or extended use of the transmitting apparatus, if, during such periods and in connection with such use, the call sign is transmitted at least once every thirty minutes. The station identification shall be transmitted in clear voice or Morse code. All digital encoding and digital modulation shall be disabled during station identification.

(b) Broadcast experimental licenses. Each experimental broadcast station shall make aural or visual announcements of its call letters and location at the beginning and end of each period of operation, and at least once every hour during operation.

(c) Program experimental radio licenses.

(1) Research licenses and innovation zone licenses must comply with either:

(i) Stations may transmit identifying information sufficient to identify the license holder and the geographic coordinates of the station. This information shall be transmitted at the end of each complete transmission except that: this information is not required at the end of each transmission for projects requiring continuous, frequent, or extended use of the transmitting apparatus, if, during such periods and in connection with such use, the information is transmitted at least once every thirty minutes. The station identification shall be transmitted in clear voice or Morse code. All digital encoding and digital modulation shall be disabled during station identification; or

(ii) Stations may post information sufficient to identify it on the web site

(2) Medical facility licenses. Stations authorized under a medical facility license are exempt from the station identification requirement.

§ 5.121 Station record requirements.

(a) For Conventional and program experimental radio stations, the current original authorization or a clearly legible photocopy for each station shall be retained as a permanent part of the station records, but need not be posted. Station records are required to be kept for a period of at least one year after license expiration.

(b) For Broadcast experimental radio stations, the license must be available at the transmitter site. The licensee of each experimental broadcast station must maintain and retain for a period of two years, adequate records of the operation, including:

(1) Information concerning the nature of the experimental operation and the periods in which it is being conducted.

(2) Information concerning any specific data requested by the FCC.

§ 5.123 Inspection of stations.

All stations and records of stations in the authorized under this Part shall be made available for inspection at any time while the station is in operation or shall be made available for inspection upon reasonable request of an authorized representative of the Commission.

§ 5.125 Authorized points of communication.

Generally, stations in the Experimental Radio Service may communicate only with other stations licensed in the Experimental Radio Service. Nevertheless, upon a satisfactory showing that the proposed communications are essential to the conduct of the research project, authority may be granted to communicate with stations in other services and U.S. Government stations.

Subpart D – Broadcast Experimental Licenses**§ 5.201 Applicable rules.**

In addition to the rules in this subpart, broadcast experimental station applicants and licensees must follow the rules in subparts B and C of this part. In case of any conflict between the rules set forth in this subpart and the rules set forth in subparts B and C of this part, the rules in this subpart shall govern.

§ 5.203 Experimental authorizations for licensed broadcast stations.

(a) Licensees of broadcast stations (including TV Translator, LPTV, and TV Booster stations) may obtain experimental authorizations to conduct technical experimentation directed toward improvement of the technical phases of operation and service, and for such purposes may use a signal other than the normal broadcast program signal.

(b) Experimental authorizations for licensed broadcast stations may be requested by filing an informal application with the FCC in Washington, DC, describing the nature and purpose of the experimentation to be conducted, the nature of the experimental signal to be transmitted, and the proposed schedule of hours and duration of the experimentation. Experimental authorizations shall be posted with the station license.

(c) Experimental operations for licensed broadcast stations are subject to the following conditions:

(1) The authorized power of the station may not be exceeded more than 5 percent above the maximum power specified, except as specifically authorized for the experimental operations.

(2) Emissions outside the authorized bandwidth must be attenuated to the degree required for the particular type of station.

(3) The experimental operations may be conducted at any time the licensed station is authorized to operate, but the minimum required schedule of programming for the class and type of station must be met. AM stations also may conduct experimental operations during the experimental period (12 midnight local time to local sunrise) and at additional hours if permitted by the experimental authorization provided no interference is caused to other stations maintaining a regular operating schedule within such period(s).

(4) If a licensed station's experimental authorization permits the use of additional facilities or hours of operation for experimental purposes, no sponsored programs or commercial announcements may be transmitted during such experimentation.

(5) The licensee may transmit regularly scheduled programming concurrently with the experimental transmission if there is no significant impairment of service.

(6) No charges may be made, either directly or indirectly, for the experimentation; however, normal charges may be made for regularly scheduled programming transmitted concurrently with the experimental transmissions.

(d) The FCC may request a report of the research, experimentation and results at the conclusion of the experimental operation.

§ 5.205 Licensing requirements, necessary showing.

(a) An applicant for a new experimental broadcast station, change in facilities of any existing station, or modification of license is required to make a satisfactory showing of compliance with the general requirements of the Communications Act of 1934, as amended, as well as the following:

(1) That the applicant has a definite program of research and experimentation in the technical phases of broadcasting which indicates reasonable promise of substantial contribution to the developments of the broadcasting art.

(2) That upon the authorization of the proposed station the applicant can and will proceed immediately with its program of research and experimentation.

(3) That the transmission of signals by radio is essential to the proposed program of research and experimentation.

(4) That the program of research and experimentation will be conducted by qualified personnel.

(b) A license for an experimental broadcast station will be issued only on the condition that no objectionable interference to the regular program transmissions of broadcast stations will result from the transmissions of the experimental stations.

(c) *Special provision for broadcast experimental radio station applications.* For purposes of the definition of “experimental authorization” in Section II.A.6 of the Nationwide Programmatic Agreement Regarding the Section 106 National Historic Preservation Act Review Process set forth in Appendix C to Part 1 of this chapter, an Broadcast Experimental Radio Station authorized under this Subpart shall be considered an “Experimental Broadcast Station authorized under Part 74 of the Commission’s rules.”

§ 5.207 Supplemental reports with application for renewal of license.

A report shall be filed with each application for renewal of experimental broadcast station license which shall include a statement of each of the following:

(a) Number of hours operated.

(b) Full data on research and experimentation conducted including the types of transmitting and studio equipment used and their mode of operation.

(c) Data on expense of research and operation during the period covered.

- (d) Power employed, field intensity measurements and visual and aural observations and the types of instruments and receivers utilized to determine the station service area and the efficiency of the respective types of transmissions.
- (e) Estimated degree of public participation in reception and the results of observations as to the effectiveness of types of transmission.
- (f) Conclusions, tentative and final.
- (g) Program of further developments in broadcasting.
- (h) All developments and major changes in equipment.
- (i) Any other pertinent developments.

Technical Operation and Operators

§ 5.211 Frequency monitors and measurements.

The licensee of a broadcast experimental radio station shall provide the necessary means for determining that the frequency of the station is within the allowed tolerance. The date and time of each frequency check, the frequency as measured, and a description or identification of the method employed shall be entered in the station log. Sufficient observations shall be made to insure that the assigned carrier frequency is maintained within the prescribed tolerance.

§ 5.213 Time of operation.

- (a) Unless specified or restricted hours of operation are shown in the station authorization, broadcast experimental radio stations may be operated at any time and are not required to adhere to a regular schedule of operation.
- (b) The FCC may limit or restrict the periods of station operation in the event interference is caused to other broadcast or non-broadcast stations.
- (c) The FCC may require that a broadcast experimental radio station conduct such experiments as are deemed desirable and reasonable for development of the type of service for which the station was authorized.

§ 5.215 Program service and charges.

- (a) The licensee of a broadcast experimental radio station may transmit program material only when necessary to the experiments being conducted, and no regular program service may be broadcast unless specifically authorized.
- (b) The licensee of a broadcast experimental radio station may make no charges nor ask for any payment, directly or indirectly, for the production or transmission of any programming or information used for experimental broadcast purposes.

§ 5.217 Rebroadcasts.

(a) The term *rebroadcast* means reception by radio of the programs or other transmissions of a broadcast station, and the simultaneous or subsequent retransmission of such programs or transmissions by a broadcast station.

(1) As used in this section, the word “program” includes any complete program or part thereof.

(2) The transmission of a program from its point of origin to a broadcast station entirely by common carrier facilities, whether by wire line or radio, is not considered a rebroadcast.

(3) The broadcasting of a program relayed by a remote broadcast pickup station is not considered a rebroadcast.

(b) No licensee of a broadcast experimental radio station may retransmit the program of another U.S. broadcast station without the express authority of the originating station. A copy of the written consent of the licensee originating the program must be kept by the licensee of the broadcast experimental radio station retransmitting such program and made available to the FCC upon request.

§ 5.219 Broadcasting emergency information.

(a) In an emergency where normal communication facilities have been disrupted or destroyed by storms, floods or other disasters, a broadcast experimental radio station may be operated for the purpose of transmitting essential communications intended to alleviate distress, dispatch aid, assist in rescue operations, maintain order, or otherwise promote the safety of life and property. In the course of such operation, a station of any class may communicate with stations of other classes and in other services. However, such operation shall be conducted only on the frequency or frequencies for which the station is licensed and the used power shall not exceed the maximum authorized in the station license. When such operation involves the use of frequencies shared with other stations, licensees are expected to cooperate fully to avoid unnecessary or disruptive interference.

(b) Whenever such operation involves communications of a nature other than those for which the station is licensed to perform, the licensee shall, at the earliest practicable time, notify the FCC in Washington, DC of the nature of the emergency and the use to which the station is being put and shall subsequently notify the same offices when the emergency operation has been terminated.

(c) Emergency operation undertaken pursuant to the provisions of this section shall be discontinued as soon as substantially normal communications facilities have been restored. The Commission may at any time order discontinuance of such operation.

Subpart E –Program Experimental Radio Licenses**Requirements for all program experimental radio licenses****§5.301 Applicable rules.**

In addition to the rules in this subpart, program experimental applicants and licensees must follow the rules in subparts B and C of this part. In case of any conflict between the rules set forth in this subpart and the rules set forth in subparts B and C of this part, the rules in this subpart shall govern.

§ 5.303 Frequencies.

Licensees may operate in any frequency band, including those above 38.6 GHz, except for frequency bands exclusively allocated to the passive services (including the radio astronomy service). In addition, licensees may not use any frequency or frequency band below 38.6 GHz that is listed in §15.205(a).

§ 5.305 Program license not permitted.

Experiments are not permitted under this subpart and a conventional experimental radio license is required when:

- (a) An environmental assessment must be filed with the Commission as required by §5.63(a) of this part; or
- (b) An orbital debris mitigation plan must be filed with the Commission as required by §5.64 of this part; or
- (c) The applicant requires non-disclosure of proprietary information.

§ 5.307 Responsible party.

(a) Each program experimental radio license must identify a single point of contact responsible for all experiments conducted under the license, including

- (1) ensuring compliance with the notification requirements of §5.309 of this part; and
- (2) ensuring compliance with all applicable rules; and

(b) The responsible individual will serve as the initial point of contact for all matters involving interference resolution and must have the ability to discontinue any and all experiments being conducted under the license, if necessary.

(c) The responsible individual along with contact information, such as a phone number and e-mail address at which he or she can be reached at any time of the day, must be identified on the license application and will be listed on the license. Licensees are required to keep this information current.

§ 5.309 Notification requirements.

(a) At least seven calendar days prior to commencement of any experiment under a program experimental radio license, licensees must provide the following information to the web site [http://www.XXX.gov/???:](http://www.XXX.gov/???)

- (1) a narrative statement describing the experiment;
- (2) contact information for the researcher in charge; and
- (3) technical details including:
 - (i) the frequency or frequency bands;
 - (ii) the maximum effective isotropically radiated power (EIRP) or effective radiated power (ERP) under consideration;

- (iii) the emission designators to be used;
- (iv) a description of the geographic area in which the test will be conducted;
- (v) the number of units to be used;
- (vi) a public safety mitigation plan as required by §5.311 of this part, if necessary; and
- (vii) for medical program experimental radio licenses, the rule part for which the experimental device is intended.

(b) Experiments may commence without specific approval or authorization once the seven calendar days has elapsed. However, if any licensee of an authorized service raises interference concerns, it must contact the program license responsible party and it must post its complaint along with supporting documentation to the web page <http://www.XXX.gov/???>. The experiment shall not commence until the parties resolve the complaint. The complainant bears the burden of proof that the proposed experiment will cause harmful interference. It is expected that parties work in good faith to resolve such concerns, including modifying experiments if necessary to reach an agreeable resolution.

(c) The Commission can prohibit or require modification of specific experiments under a program experimental radio license at any time without notice or hearing if in its discretion the need for such action arises.

(d) Within 30 days after completion of each experiment conducted under a program experimental radio license, the licensee shall file a narrative statement describing the results of the experiment, including any interference incidents and steps taken to resolve them. This narrative statement must be filed to the web site <http://www.XXX.gov/???> and be associated with the materials described in paragraphs (a) and (b) of this section.

(e) All information submitted pursuant to this section will be made publicly available.

§ 5.311 Additional requirements related to safety of the public.

For experiments that may affect bands used for the provision of commercial mobile services, emergency notifications, or public safety purposes the program experimental radio licensee shall, prior to commencing transmissions, develop a specific plan to avoid interference to these bands. The plan must include provisions for:

- (a) providing notice to parties, including other Commission licensees and end users, who might be affected by the experiment;
- (b) providing for the quick identification and elimination of any harm the experiment may cause; and
- (c) providing an alternate means for accomplishing potentially affected vital public safety functions during the experiment.

Requirements specific to research program experimental radio licenses

§ 5.321 Eligibility.

Research experimental licensees must:

- (a) Be (i) an Accreditation Board for Engineering and Technology (ABET) accredited college or university with a graduate research program or existing industry partnership or (ii) a Nationally recognized non-profit research laboratory.
- (b) Have a defined campus setting; and
- (c) Have institutional processes to monitor and effectively manage a wide variety of research projects.

§5.323 Area of Operations.

Applications must specify and the Commission will grant authorizations for a geographic area that is inclusive of an institution's real-property facilities.

Requirements specific to innovation zone program experimental radio licenses

§ 5.331 Eligibility.

Each licensee must hold appropriate technical credentials demonstrating technical competence in radio spectrum management.

§ 5.333 Area of operations.

Innovation zone program experimental radio licenses are restricted to areas designated by the Commission as innovation zones, available for use by multiple parties, and will be listed on the Commission's web site.

Requirement specific to medical program experimental radio licenses

§ 5.341 Eligibility. Medical program experimental radio licenses may be granted to hospitals and health care institutions that have demonstrated expertise in radio spectrum management.

§ 5.343 Additional requirements.

- (a) Experiments conducted under the authority of a medical program experimental radio license are limited to therapeutic and diagnostic medical equipment that is designed to meet the Commission's rules for such equipment.
- (b) Licensees of medical program experimental radio licenses shall file a yearly report of the activity that has been performed under the license.

Subpart F – Product Development and Market Trials

§ 5.401 Product Development Trials.

Unless otherwise stated in the instrument of authorization, experimental radio licenses granted for the purpose of product development trials pursuant to §5.3(j) of this part are subject to the following conditions:

- (a) All transmitting and/or receiving equipment used in the study shall be owned by the licensee.
- (b) The licensee is responsible for informing all participants in the experiment that the operation of the service or device is being conducted under an experimental authorization and is strictly temporary.

(c) Marketing of devices (as defined in § 2.803) or provision of services for hire is not permitted.

(d) The size and scope of the experiment are subject to limitations as the Commission shall establish on a case-by-case basis. If the Commission subsequently determines that a product development trial is not so limited, the trial shall be immediately terminated.

§ 5.403 Market Trials.

Unless otherwise stated in the instrument of authorization, experimental radio licenses granted for the purpose of market trials pursuant to §5.3(j) of this part are subject to the following conditions:

(a) Marketing of devices (as defined in § 2.803) and provision of services for hire is permitted before the radio frequency device has been authorized by the Commission, provided that the device will be operated in compliance with existing Commission rules, waivers of such rules that are in effect at the time of operation, or rules that have been adopted by the Commission but that have not yet become effective.

(b) The operation of all radio frequency devices that are included in a market trial must be authorized under this rule section, including those devices that are designed to operate under Parts 15, 18 or 95.

(c) If more than one entity will be responsible for conducting the same market trial e.g., manufacturer and service provider, each entity will be authorized under a separate license. A service provider shall be either a current FCC licensee or eligible for a license in the service that would eventually deploy the device being tested. If more than one licensee is authorized, one shall be designated as the responsible party for the trial.

(d) All transmitting and/or receiving equipment used in the study shall be owned by the licensees. Marketing of devices is only permitted as follows:

(1) The licensees may sell equipment to each other, e.g., manufacturer to service provider,

(2) The licensees may lease equipment to trial participants for purposes of the study, and

(3) The number of devices to be marketed shall be the minimum quantity of devices necessary to conduct the market trial as approved by the Commission.

(e) Licensees are required to ensure that trial devices are either rendered inoperable or retrieved by them from trial participants at the conclusion of the trial. Licensees are required to notify trial participants in advance that operation of the trial device is subject to this condition.

(f) The size and scope of the experiment are subject to limitations as the Commission shall establish on a case-by-case basis. If the Commission subsequently determines that a market trial is not so limited, the trial shall be immediately terminated.

PART 22—PUBLIC MOBILE SERVICES

15. The Authority section of Part 22 continues to read as follows:

Authority: 47 U.S.C. 154, 222, 303, 309, and 332.

16. Section 22.165 is amended by revising paragraph (d)(2) to read as follows:

§ 22.165 Additional transmitters for existing systems.

(d) ***

(2) Additional transmitters in the 43 MHz frequency range operate under experimental authority pursuant to Part 5 of this chapter.

17. Section 22.377 is revised by removing and reserving paragraph (b) to read as follows:

§ 22.377 Certification of transmitters.

(b) (Reserved)

18. Part 22, Subpart D is revised by removing and reserving the D.

Subpart D (Reserved)

19. Section 22.591 is amended by revising the first sentence of paragraph (a) to read as follows:

§ 22.591 Channels for point-to-point operation.

(a) The 72–76 MHz channels may be assigned under experimental authority pursuant to Part 5 of this chapter and the requirements of Section 22.599, paragraphs (c) and (d) of this part. ***

20. Section 22.599 is amended by revising paragraph (b) and adding a new paragraphs (c) and (d) to read as follows:

§ 22.599 Assignment of 72–76 MHz channels.

(b) 72–76 MHz channels may be assigned for use within 16 kilometers (10 miles) of a full service TV station transmitting on TV Channel 4 or 5 under an experimental authorization, pursuant to Part 5 of this chapter. However, for use within 50 meters (164 feet) of a TV station transmitting on TV Channel 4 or 5, 72–76 MHz channels may be assigned under a regular authorization, rather than an experimental authorization.

(c) *Carrier responsibility.* Carriers so authorized shall operate the 72–76 MHz fixed station under experimental authority for a period of at least six months. During the experimental period, carriers must resolve any broadcast television receiver interference problems that may occur as a result of operation of the 72–76 MHz transmitter(s).

(d) *Exceptions.* The FCC may grant a regular authorization in the Paging and Radiotelephone Service for a 72–76 MHz fixed station under the following circumstances:

(1) After six months of operation under experimental authorization, and provided that broadcast TV interference complaints have been resolved by the carrier in a satisfactory manner. Licensees that hold an experimental authorization for a 72–76 MHz fixed station and wish to request a regular authorization must file an application using FCC Form 601 via the ULS prior to the expiration of the experimental authorization.

(2) In the case of the assignment of or a transfer of control of a regular authorization of a 72–76 MHz fixed station in the Paging and Radiotelephone Service, the FCC may grant such assignment or consent to such transfer of control provided that the station has been in continuous operation providing service with no substantial interruptions.

PART 73--RADIO BROADCAST SERVICES

21. The authority section of Part 73 continues to read as follows:

Authority: 47 U.S.C. 154, 303, 334, 336 and 339.

22. Section 73.1510 is deleted:

PART 74—EXPERIMENTAL RADIO, AUXILIARY, SPECIAL BROADCAST AND OTHER PROGRAM DISTRIBUTIONAL SERVICES

23. The Table of Contents of Part 74 is amended by removing and reserving Subpart A:

* * * * *

Subpart A (Reserved)

* * * * *

24. The authority section of Part 74 continues to read as follows:

Authority: 47 U.S.C. 154, 302a, 303, 307, 336(f), 336(h) and 554.

25. Section 74.1 is revised to read as follows:

§ 74.1 Scope.

(a) The rules in this subpart are applicable to the Auxiliary and Special Broadcast and Other Program Distributional Services.

(b) Rules in part 74 which apply exclusively to a particular service are contained in that service subpart, as follows: Remote Pickup Broadcast Stations, Subpart D; Aural Broadcast STL and Intercity Relay Stations, Subpart E; TV Auxiliary Broadcast Stations, Subpart F; Low-power TV, TV Translator and TV Booster Stations, Subpart G; Low-power Auxiliary Stations, Subpart H; FM Broadcast Translator Stations and FM Broadcast Booster Stations, subpart L.

26. Section 74.5 is amended by revising the introductory text to read as follows:

§ 74.5 Cross reference to rules in other parts.

Certain rules applicable to Auxiliary, Special Broadcast and other Program Distribution services, some of which are also applicable to other services, are set forth in the following Parts of the FCC Rules and Regulations:

* * * * *

27. Section 74.15 is amended by removing and reserving paragraph (a) and revising paragraph (f) to read as follows:

§ 74.15 Station license period.

(a) (Reserved)

* * * * *

(f) The license of an FM translator or FM broadcast booster, TV translator or TV broadcast booster, or low power TV station will expire as a matter of law upon failure to transmit broadcast signals for any consecutive 12-month period notwithstanding any provision, term, or condition of the license to the contrary. Further, if the license of any AM, FM, or TV broadcasting station licensed under part 73 of this chapter expires for failure to transmit signals for any consecutive 12-month period, the licensee's authorizations under part 74, subparts D, E, F, and H in connection with the operation of that AM, FM, or TV broadcasting station will also expire notwithstanding any provision, term, or condition to the contrary.

28. Section 74.16 is revised to read as follows:

§ 74.16 Temporary extension of station licenses.

Where there is pending before the Commission any application, investigation, or proceeding which, after hearing, might lead to or make necessary the modification of, revocation of, or the refusal to renew an existing auxiliary broadcast station license or a television broadcast translator station license, the Commission in its discretion, may grant a temporary extension of such license: *Provided, however,* That no such temporary extension shall be construed as a finding by the Commission that the operation of any radio station thereunder will serve public interest, convenience, and necessity beyond the express terms of such temporary extension of license: *And provided further,* That such temporary extension of license will in no wise affect or limit the action of the Commission with respect to any pending application or proceeding.

29. Section 74.28 is revised to read as follows:

§ 74.28 Additional orders.

In case the rules contained in this part do not cover all phases of operation with respect to external effects, the FCC may make supplemental or additional orders in each case as may be deemed necessary.

30. Part 74, Subpart A is amended by removing and reserving the entire subpart A.

Subpart A (Reserved)

31. Section 74.780 is revised by adding an entry for “Part 5 -Experimental authorizations” in numerical order and removing the entry for “Section 73.1510—Experimental authorizations.”

PART 80—STATIONS IN THE MARITIME SERVICES

32. The authority citation of Part 80 continues to read as follows:

Authority: Secs. 4, 303, 307(e), 309, and 332, 48 Stat. 1066, 1082, as amended; 47 U.S.C. 154, 303, 307(e), 309, and 332, unless otherwise noted. Interpret or apply 48 Stat. 1064–1068, 1081–1105, as amended; 47 U.S.C. 151–155, 301–609; 3 UST 3450, 3 UST 4726, 12 UST 2377.

33. Section 80.25 is amended by removing paragraph (c).
34. Section 80.33 is amended by deleting the entire section.
35. Section 80.203 is amended by removing and reserving paragraph (j) to read as follows:

§ 80.203 Authorization of transmitters for licensing.

* * * * *

(j) (Reserved)

* * * * *

36. Section 80.211 is amended by deleting paragraph (g).
37. Section 80.377 is amended by revising the entire section to read as follows:

§ 80.377 Frequencies for ship earth stations.

The frequency band 1626.5–1645.5 MHz is assignable for communication operations and radiodetermination and telecommand messages that are associated with the position, orientation and operational functions of maritime satellite equipment. The frequency band 1645.5–1646.5 MHz is reserved for use in the Global Maritime Distress and Safety System (GMDSS).

38. Section 80.391 is amended by removing the title “Developmental Stations” above the section and deleting the entire section.

PART 87—AVIATION SERVICES

39. The authority section of Part 87 continues to read as follows:

Authority: 47 U.S.C. 154, 303 and 307(e), unless otherwise noted.

40. Section 87.27 is amended to read as follows:

§ 87.27 License term.

Licenses for stations in the aviation services will normally be issued for a term of ten years from the date of original issuance, or renewal.

41. Section 87.37 is amended by deleting the entire section.

PART 90—PRIVATE LAND MOBILE RADIO SERVICES

42. The authority citation of Part 90 continues to read as follows:

Authority: Sections 4(i), 11, 303(g), 303(r), and 332(c)(7) of the Communications Act of 1934, as amended, 47 U.S.C. 154(i), 161, 303(g), 303(r), 332(c)(7).

43. Section 90.7 is amended by removing the definition for “Developmental Operation.”

44. Section 90.20 is amended by removing and reserving paragraph 90.20(e)(3) to read as follows:

§ 90.20 Public Safety Pool.

* * * * *

(e) * * *

(3) (Reserved)

* * * * *

45. Section 90.35 is amended by removing the entry for “8,400 to 8,500” from the table in section 90.35(b) and by removing and reserving paragraphs 90.35(c)(75), 90.35(d)(6) and 90.35(e)(2) to read as follows:

§ 90.35 Industrial/Business Pool.

* * * * *

(c) * * *

(75) (Reserved)

* * * * *

(d) * * *

(6) (Reserved)

* * * * *

(e) * * *

(2) (Reserved)

* * * * *

46. Section 90.129 is amended by removing reserving paragraph 90.129(f) to read as follows:

§ 90.129 Supplemental information to be routinely submitted with applications.

* * * * *

(f) (Reserved)

* * * * *

47. Section 90.149 is amended by deleting paragraph 90.149(c).

48. Section 90.175 is amended by removing and reserving paragraph 90.175(j)(4) to read as follows:

§ 90.175 Frequency coordinator requirements.

* * * * *

(j) * * *

(4) (Reserved)

* * * * *

49. Section 90.203 is amended by removing and reserving paragraph 90.203(b)(1) to read as follows:

§ 90.203 Certification required.

* * * * *

(b) * * *

(1) (Reserved)

* * * * *

50. Section 90.241 is amended by deleting paragraph 90.241(e).

51. Section 90.250 is amended by revising paragraph (i) to read as follows:

§ 90.250 Meteor burst communications.

* * * * *

(i) Stations employing meteor burst communications shall not cause interference to other stations operating in accordance with the allocation table. New authorizations will be issued subject to the Commission's experimental licensing rules in part 5 of this chapter. Prior to expiration of the experimental authorization, application Form 601 should be filed for issuance of a permanent authorization.

52. Part 90, Subpart Q is amended by removing and reserving the entire subpart Q.

Subpart Q (Reserved)

PART 101—FIXED MICROWAVE SERVICES

53. The authority citation of Part 101 continues to read as follows:

Authority: 47 U.S.C. 154, 303.

54. Section 101.21 is amended by removing and reserving paragraph (b) to read as follows:

§ 101.21 Technical content of applications.

* * * * *

(b) (Reserved)

* * * * *

55. Section 101.129 amended by revising paragraph (a) to read as follows:

§ 101.129 Transmitter location.

(a) The applicant must determine, prior to filing an application for a radio station authorization, that the antenna site specified therein is adequate to render the service proposed. In cases of questionable antenna locations, it is desirable to conduct propagation tests to indicate the field intensity which may be expected in the principal areas or at the fixed points of communication to be served, particularly where severe shadow problems may be expected. In considering applications proposing the use of such locations, the Commission may require site survey tests to be made pursuant to an experimental license under Part 5 of this Chapter. In such cases, propagation tests should be conducted in accordance with recognized engineering methods and should be made with a transmitting antenna simulating, as near as possible, the proposed antenna installation. Full data obtained from such surveys and its analysis, including a description of the methods used and the name, address and qualifications of the engineer making the survey, must be supplied to the Commission.

* * * * *

56. Part 101, Subpart F is amended by removing and reserving the entire subpart F.

Subpart F (Reserved)

APPENDIX B

Initial Regulatory Flexibility Analysis

As required by the Regulatory Flexibility Act of 1980, as amended (RFA),¹ the Commission has prepared this present 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 specified on the first page of 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).² In addition, the NPRM and IRFA (or summaries thereof) will be published in the Federal Register.³

A. Need for and Objectives of the Proposed Rules.

In this NPRM the Commission takes steps to promote innovation and efficiency in spectrum use in our Part 5 Experimental Radio Service (ERS). For many years, the ERS has provided fertile ground for testing innovative ideas that have led to new services and new devices for all sectors of the economy. We propose specific steps to accelerate the rate at which these ideas transform from prototypes to consumer devices and services. These proposals will contribute to advancements in devices and services available to the American public by enabling a quicker equipment development process and promoting greater spectrum efficiency over the long term.

Six areas have been targeted which can provide increased opportunities for experimentation and innovation. In particular, our Notice of Proposed Rulemaking (NPRM) proposes to: (1) create new opportunities for universities and researchers to use a wide variety of radio frequencies for experimentation under a broad research license that eliminates the need to obtain prior authorization before conducting individual experiments; (2) empower researchers to conduct tests in specified geographic locations with pre-authorized boundary conditions through the creation of new “innovation zones”; (3) promote advancement in the development of medical radio devices by creating a medical experimental authorization that would be available to qualified hospitals, Veterans Administration (VA) facilities, and other medical institutions; (4) broaden opportunities for market studies by revising and consolidating our rules; (5) promote greater overall experimentation by streamlining our existing rules and procedures; and (6) open new opportunities for experimentation by making targeted modifications to our rules and procedures.

B. Legal Basis:

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

C. Description and Estimate of the Number of Small Entities to Which the Rules May Apply.

The RFA directs agencies to provide a description of and, where feasible, an estimate of the number of small entities that will be affected by the proposed rules.⁴ The RFA generally defines the term “small

¹ See 5 U.S.C. § 603. The RFA, see 5 U.S.C. § 601-612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996, (SBREFA) Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

² See 5 U.S.C. § 603(a).

³ See 5 U.S.C. § 603(a).

⁴ See 5 U.S.C. §§ 603(b)(3), 604(a)(3).

entity” as having the same meaning as the terms “small business,” “small organization,” and “small governmental jurisdiction.”⁵ In addition, the term “small business” has the same meaning as the term “small business concern” under the Small Business Act.⁶ A small business concern is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (SBA).⁷

Nationwide, there are a total of approximately 29.6 million small businesses, according to the SBA.⁸ A “small organization” is generally “any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.”⁹ Nationwide, as of 2002, there were approximately 1.6 million small organizations.¹⁰ The term “small governmental jurisdiction” is defined generally as “governments of cities, towns, townships, villages, school districts, or special districts, with a population of less than fifty thousand.”¹¹ Census Bureau data for 2002 indicate that there were 87,525 local governmental jurisdictions in the United States.¹² We estimate that, of this total, 84,377 entities were “small governmental jurisdictions.”¹³ Thus, we estimate that most governmental jurisdictions are small.

There is an overall trend of increasing experimental activity. For example, disposals (grants and dismissals) under the ERS increased from 1,067 in 2000 to 1,235 in 2005 to a projected 1,481 in 2010.¹⁴ By contrast, much less activity takes place under our developmental rules. Since 1999 in the non-broadcast (wireless) radio services, ten developmental licenses have been granted under Part 22 (Public Mobile Services), one has been granted under Part 80 (Maritime Services), 37 have been granted under Part 87 (Aviation Services), and eight have been granted under Part 90 (Private Land Mobile Radio Services). None have been granted since 1999 under Part 101 (Fixed Microwave Services).

Wireless Telecommunications Carriers (except Satellite). Since 2007, the Census Bureau has placed wireless firms within this new, broad, economic census category.¹⁵ Prior to that time, such firms were

⁵ *Id.*, § 601(6).

⁶ See 5 U.S.C. § 601(3) (incorporating by reference the definition of “small business concern” in the Small Business Act, 15 U.S.C. § 632). Pursuant to 5 U.S.C. § 601(3), 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 terms which are appropriate to the activities of the agency and publishes such definitions(s) in the Federal Register.”

⁷ See 15 U.S.C. § 632.

⁸ See SBA, Office of Advocacy, “Frequently Asked Questions,” <http://web.sba.gov/faqs/faqindex.cfm?areaID=24> (revised Sept. 2009).

⁹ See 5 U.S.C. § 601(4).

¹⁰ Independent Sector, *The New Nonprofit Almanac & Desk Reference* (2002).

¹¹ See 5 U.S.C. § 601(5).

¹² U.S. Census Bureau, *Statistical Abstract of the United States: 2006*, Section 8, page 272, Table 415.

¹³ We assume that the villages, school districts, and special districts are small, and total 48,558. See U.S. Census Bureau, *Statistical Abstract of the United States: 2006*, section 8, page 273, Table 417. For 2002, Census Bureau data indicate that the total number of county, municipal, and township governments nationwide was 38,967, of which 35,819 were small. *Id.*

¹⁴ These figures include all Part 5 experimental application types: new licenses, modifications of licenses, assignment of licenses, license renewals, transfers of control, and grants of Special Temporary Authority. See <https://fallfoss.fcc.gov/oetcf/els/reports/GenericSearch.cfm>.

¹⁵ U.S. Census Bureau, 2007 NAICS Definitions, “517210 Wireless Telecommunications Categories (Except Satellite)”; <http://www.census.gov/naics/2007/def/ND517210.HTM#N517210>.