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47 CFR Parts 0, 1, 2 et al.

Radio Experimentation and Market Trials Under Part 5 of the  
Commission's Rules and Streamlining Other Related Rules; Proposed Rule

## FEDERAL COMMUNICATIONS COMMISSION

47 CFR Parts 0, 1, 2, 5, 22, 73, 74, 80, 87, 90 and 101

[ET Docket No. 10–236; FCC 10–197]

### Radio Experimentation and Market Trials Under Part 5 of the Commission's Rules and Streamlining Other Related Rules

**AGENCY:** Federal Communications Commission.

**ACTION:** Proposed rule.

**SUMMARY:** In this document, the Commission seeks to promote innovation and efficiency in spectrum use in the 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. The Commission proposes to leverage the power of experimental radio licensing to accelerate the rate at which these ideas transform from prototypes to consumer devices and services. Its goal is to inspire researchers to dream, discover and deliver the innovations that push the boundaries of the broadband ecosystem. The resulting advancements in devices and services available to the American public and greater spectrum efficiency over the long term will promote economic growth, global competitiveness, and a better way of life for all Americans.

**DATES:** Comments must be filed on or before March 10, 2011, and reply comments must be filed on or before April 11, 2011.

**FOR FURTHER INFORMATION CONTACT:** For further information, contact James Burtle at (202) 418–2445, Doug Young at (202) 418–2440, and James Miller at (202) 418–7351, Office of Engineering and Technology; or via the Internet at [James.Burtle@fcc.gov](mailto:James.Burtle@fcc.gov), [Douglas.Young@fcc.gov](mailto:Douglas.Young@fcc.gov), and [James.Miller@fcc.gov](mailto:James.Miller@fcc.gov), respectively.

**ADDRESSES:** You may submit comments, identified by ET Docket No. 10–236, by any of the following methods:

- **Federal eRulemaking Portal:** <http://www.regulations.gov>. Follow the instructions for submitting comments.

- **Federal Communications Commission's Web site:** <http://www.fcc.gov/cgb/ecfs/>. Follow the instructions for submitting comments.

- **E-mail:** [Optional: Include the e-mail address only if you plan to accept comments from the general public]. Include the docket number(s) in the subject line of the message.

- **Mail:** [Optional: Include the mailing address for paper, disk or CD-ROM submissions needed/requested by your Bureau or Office. Do not include the Office of the Secretary's mailing address here.]

- **People with Disabilities:** Contact the FCC to request reasonable accommodations (accessible format documents, sign language interpreters, CART, etc.) by e-mail: [FCC504@fcc.gov](mailto:FCC504@fcc.gov) or phone: 202–418–0530 or TTY: 202–418–0432.

For detailed instructions for submitting comments and additional information on the rulemaking process, see the **SUPPLEMENTARY INFORMATION** of this document.

**SUPPLEMENTARY INFORMATION:** This is a summary of the Commission's *Notice of Proposed Rulemaking*, ET Docket No. 10–236, FCC 10–197, adopted and released on November 30, 2010. The full text of this document is available for inspection and copying during normal business hours in the FCC Reference Center (Room CY–A257), 445 12th Street, SW., Washington, DC 20554. The complete text of this document also may be purchased from the Commission's copy contractor, Best Copy and Printing, Inc., 445 12th Street, SW., Room, CY–B402, Washington, DC 20554. The full text may also be downloaded at: <http://www.fcc.gov>.

Pursuant to §§ 1.415, 1.419, and 1.430 of the Commission's rules, 47 CFR 1.415, 1.419, and 1.430, interested parties may file comments and reply comments on or before the dates indicated on the first page of this document. Comments may be filed using: (1) The Commission's Electronic Comment Filing System (ECFS), (2) the Federal Government's eRulemaking Portal, or (3) by filing paper copies. See *Electronic Filing of Documents in Rulemaking Proceedings*, 63 FR 24121, May 2, 1998.

- **Electronic Filers:** Comments may be filed electronically using the Internet by accessing the ECFS: <http://fjallfoss.fcc.gov/ecfs2/> or the Federal eRulemaking Portal: <http://www.regulations.gov>.

- **Paper Filers:** Parties who choose to file by paper must file an original and four copies of each filing. If more than one docket or rulemaking number appears in the caption of this proceeding, filers must submit two additional copies for each additional docket or rulemaking number.

Filings can be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail. All filings must be addressed to the

Commission's Secretary, Office of the Secretary, Federal Communications Commission.

- All hand-delivered or messenger-delivered paper filings for the Commission's Secretary must be delivered to FCC Headquarters at 445 12th St., SW., Room TW–A325, Washington, DC 20554. The filing hours are 8 a.m. to 7 p.m. All hand deliveries must be held together with rubber bands or fasteners. Any envelopes must be disposed of *before* entering the building.

- Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9300 East Hampton Drive, Capitol Heights, MD 20743.

- U.S. Postal Service first-class, Express, and Priority mail must be addressed to 445 12th Street, SW., Washington, DC 20554.

**People with Disabilities:** To request materials in accessible formats for people with disabilities (braille, large print, electronic files, audio format), send an e-mail to [fcc504@fcc.gov](mailto:fcc504@fcc.gov) or call the Consumer & Governmental Affairs Bureau at 202–418–0530 (voice), 202–418–0432 (tty).

### Paperwork Reduction Act of 1995 Analysis

This document contains proposed modified information collection requirements. The Commission, as part of its continuing effort to reduce paperwork burdens, invites the general public and the Office of Management and Budget (OMB) to comment on the information collection requirements contained in this document, as required by the Paperwork Reduction Act of 1995, Public Law 104–13. In addition, pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107–198, see 44 U.S.C. 3506(c)(4), the Commission seeks specific comment on how it might further reduce the information collection burden for small business concerns with fewer than 25 employees.

### Summary of Notice of Proposed Rulemaking

1. In the *Notice of Proposed Rulemaking* (NPRM), the Commission observes that numerous provisions for experimentation and development of new radio equipment and techniques that are scattered throughout Title 47 of the Code of Federal Regulations (CFR). The ERS rules, which are contained in part 5 and permit a broad range of experiments in all services except for broadcast systems, prescribe the manner in which the radio spectrum may be made available to manufacturers, inventors, entrepreneurs, and students

to experiment with new radio technologies, equipment designs, characteristics of radio wave propagation, or service concepts related to the use of the radio spectrum. In order to encourage innovation, the part 5 rules provide great flexibility regarding allowable frequency range, power, and emissions. In exchange for the flexibility we give researchers to design and conduct experiments and tests, experimental operations are not protected from harmful interference from allocated services and they must not cause harmful interference to stations of authorized services, including secondary services. Additionally, experimental stations can be required to immediately cease operation at our request, and are subject to revocation without notice.

2. There are seven additional rule parts that allow for developmental work within a particular service, and these rules are generally more restrictive than those contained in part 5. Specifically, parts 22, 73, 74, 80, 87, 90, and 101 of our rules provide for issuance of developmental licenses. Like ERS licenses, developmental licenses are issued on a non-interference basis. However, they are limited to applicants eligible for licenses in that particular service and on frequencies that are allocated to that service. Additionally, the developmental rules may require that applications be accompanied by a petition for rulemaking seeking changes consistent with the operation under investigation. Experimentation with broadcast radio technologies is not permitted under the ERS rules but is instead allowed under separate provisions set forth in parts 73 and 74 of our rules.

3. The ERS program has a record of success, and there is an overall trend of increasing experimental activity under the part 5 rules. By contrast, there has been limited use of the developmental rules for non-broadcast experimentation.

4. To further provide flexibility, the Commission permits limited market studies so that developers can assess whether their equipment designs show promise in the marketplace. Just like the experimental rules, the rules for market studies can be found in multiple rule parts. Under part 5, limited market studies are permitted for experimental operations provided that all transmitting and receiving equipment is owned by the licensee, the licensee informs all participants in the study that it is strictly temporary, and the size and scope of the study is limited. For devices that are beyond the experimental stage, but have not yet

been certified (e.g. a new mobile phone), rules in part 2 allow exceptions to the general prohibition on marketing of radio frequency (RF) devices prior to equipment authorization, subject to disclosure and labeling requirements and other restrictions. The restrictions on unauthorized RF equipment also limit the number of devices that may be imported to conduct tests or market studies. Generally, up to 2,000 units are permitted to be imported within an authorized service for which an operating license is required, and up to 200 units are permitted to be imported for all other products.

5. The Commission proposes rule changes in six specific areas to build on the experimental licensing program's record of promoting innovation and creating cutting-edge technologies in order to accelerate innovation in this space. Given the immense spectrum challenges created by the tsunami of broadband demand, the Commission seeks to find ways to use the power of experimental licensing to shorten the time it takes to transform concepts into consumer products and to bring ideas from the lab to the marketplace. The goal is to inspire researchers to dream, discover and deliver the innovations that push the boundaries of the broadband ecosystem. The resulting advancements in devices and services available to the American public and greater spectrum efficiency over the long term will promote economic growth, global competitiveness, and a better way of life for all Americans.

6. The first three areas where the Commission proposes rule changes involve the creation of a new type of experimental license—a program experimental license—which would carry broad authority to conduct an ongoing program of research and experimentation under a single experimental authorization, and that would only be available to qualified institutions. The three varieties of proposed program experimental licenses are: (1) The research program experimental radio license; (2) the innovation zone program experimental radio license; and (3) the medical program experimental radio license. Under our proposed rule revisions, the Commission would continue to offer individual conventional experimental radio licenses to conduct research and experimentation related to the development of new radio technologies and techniques and for product development and market trials. These conventional experimental radio licenses would be available to entities not qualified to hold a program experimental radio license, and for

those experimental activities that would not be authorized under program licenses.

7. The research program experimental radio license would allow qualified institutions to use of a large range of radio frequencies for research and experimentation on a non-interference basis without having to obtain prior authorization for the use of specific frequencies. Holders of the new research program experimental radio license will be given broad authority to conduct any experiments that further the goals of innovation and efficiency in spectrum use under such a license, subject to limitations discussed below and ongoing reporting requirements through, for example, narrative filings submitted via a Commission web page. These institutions would still be able to continue to apply for conventional experimental radio licenses, as appropriate to the needs of the institution and type of research being conducted.

8. Given the unique abilities of universities and research institutions to act as trusted stewards of the radio resource, and based on their track record of impressive research results, the Commission believes that they are well suited for this proposed new type of program license. The existing experimental licensing rules are not a good fit for the type of work being conducted at many universities and research institutions. By limiting experiments to a narrowly defined inquiry, specific frequencies, emissions and power levels, our current rules can prevent researchers from using the results of experiments to try out new ideas and make innovative changes unless they obtain a new or modified authorization. The time and process for obtaining experimental authorizations can also be a roadblock to innovation. The research program experimental radio license proposal is an attempt to find a balance that allows research organizations the greatest level of flexibility to experiment—particularly in high-value bands that may host the newest generation of consumer devices and applications—in order to unlock enormous economic and social benefits, while respecting the fundamental principle that experiments must be designed to avoid harmful interference to existing services.

9. This new research license will be limited to colleges, universities, and non-profit research organizations. These institutions typically have a record of generating the types of innovations and technological breakthroughs we seek to foster. The Commission tentatively proposes to limit applications under

this rule to Accreditation Board for Engineering and Technology (ABET) accredited institutions with graduate research programs in place or existing industry partnerships and to nationally recognized non-profit research laboratories. Further, the Commission proposes that these institutions must have defined campus settings and institutional processes to monitor and effectively manage a wide variety of research projects. The Commission seeks comment on this proposal. Specifically, it seeks comment on what criteria it should use to define a “nationally recognized non-profit research laboratory.” Are there any standards or certifications that it should require for such institutions? Additionally, if commenters believe the Commission should incorporate a broader range of institutions, what criteria should it use for selection, and how does that more effectively balance the interests at stake here?

10. Section 15.205(a) of our rules lists “restricted bands” that typically host sensitive operations and that warrant special attention to prevent possible harmful interference. Because it would not be appropriate to include these frequencies in a research program experimental radio license, the Commission proposes that the license not allow experiments on frequencies that are listed in § 15.205(a). The Commission recognizes that § 15.205 categorically exclude all frequencies above 38.6 GHz. The National Broadband Plan observed that frequencies above 20 GHz may be modestly used in urban areas and may be nonexistent in most other areas. The Commission concludes that it would be counterproductive to exclude spectrum in the 38–300 GHz range from the benefits of added innovation and research, but that it is also important to protect sensitive bands above 38.6 GHz. Many federal agencies use spectrum above 38.6 GHz for satellite communication and scientific research which use extremely low received signal levels. Thus, the Commission proposes that a research program experimental radio license also allow experiments on those frequencies above 38.6 GHz except for those that are listed in footnote US246 of the Table of Frequency Allocations. Under this proposal the Commission would permit licensees to conduct experiments on all other frequencies. It seeks comment on these proposals. Are there other frequencies that it should categorically exclude, and if so why?

11. All operations conducted under the authority of a research program experimental radio license would be

restricted to the grounds of the license holder’s campus. In this regard, the Commission proposes that the applicant for a research license specify a geographic area that is inclusive of an institution’s real-property facilities, and that the application may be returned or a license restricted to specify a smaller area if necessary to ensure adequate interference protection. The Commission also proposes that emissions must not exceed non-interfering levels beyond the authorized geographical area. Should it rely on the licensees to meet this requirement by evaluating the radiofrequency use in the proximity of its campus, or should there be a specific measure, such as a maximum measured power flux density (pfd) limit a set distance from the boundary? If so, at what level should this pfd be set? Should there be different pfd limits for different bands? If so, how should the pfd vary by frequency band? And finally, the Commission seeks comment on whether a standard method needs to be specified for calculating the pfd. It seeks comment on whether additional technical limits should be imposed. Should it restrict transmitters to specific sites? Should experiments be limited to terrestrial operations or can airborne operations also be permitted? If so, are there special requirements that should be imposed on airborne operations given the long line of site distances of these operations. Finally, should there be a threshold power limit above which the Commission would always require an individual license under our traditional experimental authorization procedures, and if so, what should this power be—100 watts, 10 watts, the limits specified for part 15 unlicensed operations, or some other limit? Commenters who advocate a specific limit should also discuss how the levels of interference protection that such a limit would provide would also allow sufficient flexibility to conduct a wide range of experiments. The Commission also seeks comment on whether it should make special distinctions between indoor and outdoor use, either as part of the general terms of the research program experimental radio license grant or through distinct requirements associated with the testing and reporting requirements.

12. The Commission also proposes to afford institutions much greater flexibility in choosing the frequency band(s) and technical characteristics associated with individual tests and experiments conducted under the authority of a research program experimental radio license. It recognizes

that some types of experiments have added filing requirements under our existing rules. For example, § 5.53(c) requires the submission of an environmental assessment in certain cases, § 5.63(e) requires applicants for an experimental authorization involving a satellite system not already authorized by the Commission to submit information regarding orbital debris mitigation plans, and § 5.63(a) sets forth procedures for requesting non-disclosure of proprietary information. These rules serve important legal and public interest purposes, and cannot be readily accommodated under the broad research license concept. The Commission therefore proposes to provide that a research program experimental radio license will not authorize any experiment that would require additional, specialized filings beyond the standard application requirements for an experimental radio license. Researchers proposing these types of experiments must apply for a conventional experimental radio license to obtain the necessary authorization for their tests. The Commission seeks comment on this proposal. In addition, are there other types of tests in addition to those discussed that require additional filings and, therefore, should not be authorized under a research program experimental radio license?

13. While the Commission does not believe that it is necessary to impose overly prescriptive methods to control the potential for interference from experiments conducted under the broad authority of a research program experimental radio license, it emphasizes that all experiments must be conducted on a non-interference basis to primary and secondary licensees, and that the licensee must take all necessary technical and operational steps to avoid harmful interference to authorized services. Before conducting tests, a licensee must evaluate the propagation characteristics of the frequencies to be used in individual experiments, the operational nature of the services normally operating on those and nearby frequencies, and the specific operations listed within the Commission’s licensing databases. On-line tools, such as the Commission’s General Menu Reports system (GenMen), which allows users to search many different FCC licensing databases from one place, will facilitate these tasks. Experiments must be designed to use the minimum power necessary and be restricted to the smallest practicable area needed to accomplish the experiment’s goals. Researchers may also decide to reduce the frequencies used in the experiment,

restrict the time of use, limit the duration of tests, or employ other means to address potential interference concerns. The Commission further proposes to require that all experiments must comply with our existing experimental rules involving matters such as protected areas and antenna structure placement, but that these issues will not be routinely evaluated during the grant of the research license. In addition, the Commission notes that our existing experimental licensing rules require a licensee to transmit its assigned call sign unless it has been specifically exempted by the terms of its station authorization. The Commission believes that this requirement is important in that it makes it easier to identify signals from experiments, but it also recognizes that not all experimentation lends itself to easy over-the-air station identification. The Commission proposes to require that tests conducted under the authority of a research license either transmit station identification as part of the broadcast or provide detailed testing information (such as starting time and duration) via a web-based reporting portal. Because of the nature of the research license, the Commission proposes to require the communication of information that is sufficient to identify the license holder and the geographic coordinates of the station. The Commission is especially interested in comments regarding how it would structure the web-based reporting, and whether there are other notification methods that it should allow that do not require use of the actual experimental radio broadcast. The Commission seeks comment on these proposals.

14. Prior to a new spectrum user's commencement of operations, notification is generally conducted to ensure that harmful interference concerns can be identified and corrected. In many cases under our existing experimental licensing procedures, the Commission issue grants that are conditioned on notifying or successfully coordinating with existing licensees. The Commission's diverse policies and procedures reflect the different operational, business, and engineering concerns posed by the many sharing scenarios of the multitude of spectrum uses possible under our rules. Under the research program experimental radio license concept, the Commission envisions that the nature and scope of individual tests will vary greatly. Some experiments will be conducted with the support of and in conjunction with existing licensees as part of research to improve existing

network devices and system designs. For others, experimenters may opt to use short-term leasing or other secondary market mechanisms to secure access to spectrum bands on which they want to experiment. Many experiments may be confined to laboratory settings, or be conducted in shielded environments, such as Faraday cages, where the interference environment is tightly controlled. Because the appropriate level of notification to and coordination with incumbent licensees will necessarily vary for each of these experiments, we are not proposing to establish a specific coordination requirement for research program experimental radio licenses.

15. The Commission nevertheless believes that it must make provisions for licensed users whose operations are geographically and/or spectrally near ongoing experiments. First, the Commission proposes to require that prior to commencement of any experiment or test, certain information be made publicly available via a Commission developed web-based registration. The Commission proposes that such registrations contain contact information for the researcher in charge who can address concerns raised prior to testing as well as act as a "stop buzzer" in the event that a licensee reports an unanticipated interference incident during the actual testing phase. In addition, the Commission proposes that these registrations contain the frequencies or frequency bands under test, the maximum effective isotropically radiated power (EIRP) or effective radiated power (ERP) under consideration (as applicable to the proposed experiment) and a description of the geographic area in which the test will be conducted. Should other information also be collected? The Commission proposes that these registrations be completed at least seven calendar days prior to commencement of any test or experiment to ensure that interested parties have sufficient time to assess whether they believe harmful interference may occur to their systems. Unlike our existing rules, however, experimenters would not have to await specific approval or authorization to conduct the test once the seven days has elapsed. Before conducting the experiment, the experimenter must evaluate and account for interference concerns raised by interested parties, and it must obey any instructions from the Commission to delay, modify, or abandon the experiment. Specifically, if any licensee of an authorized service raises interference concerns, the Commission proposes that the service

licensee must contact the research program experimental radio license responsible party and the service licensee must post its concerns along with supporting documentation to the web registration page. The Commission proposes that the experiment not be permitted to commence until the parties resolve the issue. The Commission further proposes that the service licensee will bear 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. In making this proposal, the Commission seeks to balance the interests of incumbent spectrum users with the ability to conduct tests in a timely manner. Is seven days a sufficient timeframe? Or is it too long such that it may constrain testers from being able to adjust on-the-fly as they analyze current test results? Will the proposed method for resolving interference concerns prior to experimentation result in an efficient and fair process for identifying and addressing such concerns? Should the Commission require a specific dispute resolution process? At what point would it expect parties to raise their concerns directly with us?

16. The Commission also notes that, under its existing rules, experiments must avoid use of public safety frequencies except when a compelling showing can be made that such use is in the public interest. Operation on public safety frequencies must also be coordinated. Should these provisions continue to apply to tests conducted under a research license? Will these requirements, in conjunction with the seven-day notice requirement we propose, be sufficient to protect public safety interests while encouraging important research and experimentation in this area? The Commission seeks comment on these proposals.

17. Additionally, the Commission believes that the web-based registration can capture two reporting requirements that are currently part of our application process for conventional experimental radio licenses. In cases where the experiment is to be used for the purpose of fulfilling requirements of a contract with an agency of the United States government, or if the experiment is to be used for the sole purpose of developing equipment for exportation to be employed by stations under the jurisdiction of a foreign government, the Commission proposes that the registration contain the information currently required under § 5.63(b) and

(c) of its rules. The Commission seeks comment on this proposal.

18. The Commission proposes to implement additional measures that will make it easier for incumbent licensees and other interested parties to become aware of pending tests and make experimenters aware of their concerns, and seek comment on what those measures should be. Should the Commission develop an automated process for distributing such information by RSS feeds or other means? If so, should it further categorize this information by frequency band, geographic location, or other means? Would the Commission's Tower Construction Notification System (TCNS) serve as a useful model? TCNS allows companies to voluntarily submit notifications of proposed tower constructions to the FCC which in turn provides this information to federally-recognized Indian Tribes, Native Hawaiian Organizations (NHOs), and State Historic Preservation Officers (SHPOs) who can then respond directly to the companies if they have concerns about a proposed construction. The Commission seeks comment on this proposal.

19. The Commission further believes that it must make special provisions to prevent harmful interference on the frequency bands that are commonly used in a campus setting and that are vital for public safety purposes or are used for campus security operations. For example, experiments on bands assigned to mobile service providers (e.g. the Cellular Radiotelephone Service, broadband PCS, AWS, 700 MHz) could have the potential to disrupt mobile telephone use on campus—at a minimum inconveniencing one of the most active and engaged mobile device user communities, and at worst, impeding the ability to reach 911 or receive campus-wide emergency text alerts. Television and radio broadcast bands are used in support of the Emergency Alert System (EAS). In recognition of these vital interests, the Commission proposes to require that, for tests that affect bands used for the provision of commercial mobile services, emergency notifications, or public safety purposes on the institution's grounds, the licensee first develop a specific plan that avoids interference to these bands. The plan would: (1) Provide notice to those who might be affected by the test; (2) allow for the quick identification and elimination of any harm the experiment is causing users, and (3) in the case of vital public safety functions, provide an alternate means for accomplishing such tasks during the duration of the

experiment. The Commission further proposes to require that the holder of the research program experimental radio license submit this plan to the Commission in conjunction with the registration it submits at least seven days prior to commencement of any test or experiment, as described above. The Commission would routinely make the entire submission publicly available. Should it also require that a licensee be required to specifically notify the commercial carrier(s) or other entit(ies) listed as the licensee for the affected band(s) in all of these situations, or only in situations where specified conditions are met (such as when the experiment will be conducted outside of buildings or away from controlled venues where access can be restricted, such as laboratories)? If so, should the Commission require the licensee's concurrence prior to the test? Ultimately, it wants to establish a process which delivers the benefits of experiments conducted at universities and research institutions, but that also prevents interference to users of wireless services and frequencies used for emergency and public safety purposes. The Commission seeks comment on these proposals.

20. The Commission seeks comment on how it should address noncompliance with our rules and procedures, including the failure of a holder of a research program experimental radio license to address and resolve cases of harmful interference within a reasonable amount of time. The Commission proposes to modify the cancellation provisions of our rules to make it clear that it can both deny permission to conduct specific tests under a research program experimental radio license and that we can revoke the research program experimental radio license at any time. As an ultimate safeguard, the Commission will not hesitate to revoke a research program experimental radio license in cases where we find that an institution has not properly managed the expanded privileges associated with the license.

21. The Commission notes that many institutions have offices that conduct administrative functions and provide coordination and support on a campus-wide scale. The Commission proposes to require each institution to identify a single point of contact who will be ultimately responsible for all experiments conducted under the research license—including that the reporting requirements it establishes for this type of authorization are met and all applicable rules are observed. This 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. The Commission proposes to require a licensee to identify this 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, and to keep this information current. The Commission seeks comment on other requirements, such as whether this designated individual should be required to respond to inquiries within a set time period, or possess the ability to halt experiments within a certain period of time? The Commission seeks comment on these matters, as well as the overall concept of requiring a single point of contact with this level of responsibility.

22. The Commission believes that in addition to the registration process described, there should be a reporting requirement associated with the research program experimental radio license. The Commission tentatively concludes that it should be as minimally burdensome as possible and should be narrowly tailored to ensure that experiments conducted under the license comply with the Commission's rules and procedures and to build a public record of active innovation in the field of radio communications that can be used to encourage and inspire further technological advancements. Are there additional objectives the Commission has overlooked? How can it meet these objectives? The Commission proposes to require that after completion of an experiment, the license holder file a brief narrative statement describing the results of the test, including any interference incidents and steps taken to resolve them. What should constitute a "test" and at what point has a test evolved sufficiently to require a supplemental filing? Should the holder of a research program experimental radio license be required to file periodic reports (e.g., a yearly report) updating the status of ongoing tests, or summarizing the activity conducted under a research license? The Commission seeks comment on these matters.

23. The Commission seeks comment on the duration, terms, and scope of a research license. While such a license is intended to afford qualified institutions greater flexibility in how they conduct experiments, it intends to ensure that all other rules and limitations of our existing experimental procedures will continue to apply. For example, holders of a research license cannot deploy permanent facilities or offer services for

sale. Similarly, the Commission proposes to issue these licenses for a limited, five-year duration, which is consistent with the longest experimental license term our rules currently allow. The Commission would permit license renewals. Is this an appropriate timeframe? In this context, would it make sense to issue initial research licenses for a lesser period and subsequently, upon sufficient showing of compliance with the rules the Commission adopts, issue renewals for five-year periods? It also asks how research licenses should govern experiments conducted by multiple institutions conducted across different campuses. The Commission proposes to require that each participating institution hold a research license (or obtain an individual license that would authorize the experiment), but that only one institution would be required to fulfill the reporting requirements associated with the research conducted across different campuses and that that institution be charged with identifying and making available the single point of contact with authority over the experiment. The Commission also seeks comment on how it should address specific licensing issues involving individual institutions. For example, if an institution has multiple campuses, should it issue one research program experimental radio license per institution that encompasses all campuses, or should it issue a separate license for each campus? Are situations where it should routinely issue more than one research program experimental radio license for a single campus, and if so, what are they? The Commission expects to direct applicants for research licenses to use FCC Form 442 and attach a supplemental narrative that sets forth the information it needs to assess the application (e.g. a showing that the applicant is a qualified institution, a description of the campus the license will cover, etc.). As the Commission transitions to a new Consolidated Licensing System (CLS), it will assess whether there is a more effective way to collect the information it needs to evaluate a research license application. The Commission seeks comment on these proposals.

24. The Commission also asks whether it would be appropriate to initiate the research license concept in the context of a pilot program, by which it would choose a limited number of institutions to which it would grant licenses and under which it would evaluate the program before expanding its scope. The Commission recognizes that while the research license concept

holds great promise for promoting research investment and fostering wireless innovation, it also needs to be sensitive to questions and concerns that commenters may raise in how to deploy this concept. Would a pilot program be an appropriate way to balance our interests in promoting innovation and flexibility while protecting against harmful or unanticipated interference? If so, would ten institutions be an appropriate number, and what criteria should be used to select them? Are there other provisions we should adopt that would make such a pilot program more successful? The Commission seeks comment on all of these proposals.

25. Finally, the Commission notes that the experimental licensing rules currently have a provision for school and student authorizations. These rules, last updated in 1998, are generally intended for use by students through high school for purposes such as science fairs, school projects, and participation in radio clubs. The rules provide for an informal application by letter and allow transmissions in limited frequency bands at low power levels. Given the changes in both technology and the Commission's processes over the last twelve years including those proposed herein, the Commission questions whether these rules are still necessary. First, it is not aware that these rules have seen widespread use. In addition, the Commission notes that all applications are now required to be filed electronically and that students may want to experiment in more bands than those provided for in this rule. Thus, it proposes to eliminate this rule and require that students desiring to experiment obtain a conventional experimental radio license using the electronic filing process. If there is a good reason to keep these special provisions for students, how can we provide for a streamlined process? Advocates for such a process should provide specific suggestions regarding how such streamlining should be implemented. Alternatively, the Commission asks if these provisions should be maintained, but moved to part 15 to allow for student use of approved equipment on an unlicensed basis. Advocates for such an action should also address whether certain safeguards need to be added to the rule to ensure proper radio usage.

26. The second proposed program license type—the innovation zone program experimental radio license—would give innovators greater flexibility to conduct and modify the terms of their experiments without having to secure the additional approvals that the traditional experimental authorization

rules would require. Licensees nevertheless would still be bound by the general limitations that come with an experimental license and would be expected to limit individual experiments conducted under the license to the minimum scope and size necessary to accomplish the test's goals. The Commission envisions that innovation zones, which could include isolated or protected areas, could become havens for enterprise and innovation because it would permit experimenters to explore a variety of technologies with reduced barriers to entry.

27. Innovation zone program experimental radio licenses would be structured similar to the research program experimental radio license model discussed above, and would have the same types of application and reporting requirements, except where described differently in the NPRM and accompanying proposed rules. Also, the eligibility and use restrictions would be different from those used for the research program experimental radio license program. Specifically, the Commission proposes that each licensee must hold appropriate technical credentials demonstrating advanced technical competence in radio engineering, but emphasize that applicants will not necessarily have to be associated with a college, university, or non-profit research organization to be eligible for an innovation zone program experimental radio license. The Commission envisions that innovation zones would permit operations over large areas, and would not be appropriate for use by a single entity at its exclusive-use facility (such as within a large manufacturer's plant grounds). Innovation zones would, however, be ideal for universities and research institutions that wish to conduct research in off-campus settings. The Commission seeks comment on this proposal generally, and whether there are additional technical qualifications that it should require of these licensees.

28. The Commission seeks comment on what criteria it should use to identify areas that are sufficiently isolated or protected to serve as innovation zones. What propagation, geographic or other wireless engineering characteristics should it look for? To be effective, the authorization for innovation zones must allow for access to the largest range of frequencies practical. The Commission proposes that the innovation zone program experimental radio license broadly permit experiments on any frequency that is not specifically listed in § 15.205(a) of its rules, except that experiments could use frequencies

above 38.6 GHz so long as they are not listed in footnote US246 of the Table of Frequency Allocations. The Commission recognizes that in geographically remote areas it may not be necessary to impose limitations on the use of the restricted frequency bands. The Commission seeks comment on when and how it should impose restrictions on individual licenses and/or in particular innovation zones that are located in remote areas. The Commission recognizes that certain geographic areas offer great potential as innovation zones, but their use would raise additional considerations. For example, how should the Commission treat geographic areas and frequencies that it considers, here, to be in the Commission's inventory because they are not licensed? These large areas could provide an excellent opportunity for researchers to experiment on a wide scale with different network topologies and advanced communications systems without fear of encroaching on existing spectrum use. However, such areas could be subject to re-auction, limiting long-term research opportunities. The Commission proposes to permit such areas to be licensed as innovation zones, but to emphasize that experimental use is subject to discontinuance if the bands are re-auctioned prior to the end of the innovation zone license term. Similarly, should the Commission tie the availability of an innovation zone to specific frequency bands in the Commission's inventory? The Commission seeks comment on these matters.

29. The Commission seeks comment on what requirements are necessary to allow for proper oversight of innovation zone program experimental radio licenses. The Commission proposes to delegate to the Office of Engineering and Technology the responsibility for establishing, maintaining, and routinely updating the list of available innovation zones. What additional provisions should it adopt? Should the Commission first identify geographic areas that are suitable innovation zones and promote their use among researchers, or are there different ways to build the innovation zone inventory? Should it limit the number of applicants for a specific zone or otherwise manage the use of this resource among different parties? Should it provide a single license with a requirement to provide and manage access to all parties seeking to conduct an experiment at fair and reasonable terms? For example, a single licensee could assign different experiments to different areas within the larger geographic area or provide a

means for time-sharing equipment or could manage a database providing access on an as-needed basis to parties. Would this be a better approach than issuing multiple licenses within an innovation zone? The Commission points out that in the single licensee case there would be a single responsible party that could be contacted for gaining access or in instances where interference may be occurring. The Commission asks that advocates of the single licensee model provide comment on criteria it could use to select such a licensee.

30. The Commission proposes to require the responsible party to file an application that describes the requested geographic area of operation, the frequencies to be used for testing, the maximum power levels associated with planned operations, and any other relevant technical characteristics pertaining to test equipment, antennas, etc., that would be necessary to identify and mitigate potential interference. An innovation zone licensee would then be permitted, under the terms of its license, to design and conduct any test that meets these criteria. The licensee would, however, be required to provide the Commission on a timely basis and through a web-based reporting system, an up-to-date list of the testing that is being conducted with at least a seven-day lead time before the tests are performed. It would also have to report the conclusion of individual tests. Should the holder of an innovation zone program experimental radio license be required to file periodic reports (e.g., a yearly report) updating the status of ongoing tests, or summarizing the activity conducted under its license? Are additional notification or coordination procedures warranted for experiments conducted in certain bands, such as those used for public safety or EAS purposes? If so, should the Commission apply the same pre-test notice process that it is proposing for the research licensee? The Commission tentatively concludes that innovation zone program experimental radio licenses should be granted for the same five-year duration it proposes for research experimental licenses to encourage robust levels of experimentation by minimizing administrative burdens, and that the Commission permit license renewals. The Commission also proposes to require the licensee to identify a single point of contact who has authority to stop any tests being conducted in the innovation zone, and to apply the same dispute resolution procedures it adopts for research program experimental radio

licenses. The Commission seeks comment on these proposals.

31. The third type of proposed program license is the medical program experimental radio license. This license would be available to hospitals and other health care institutions, and would facilitate the creation of cutting-edge test-bed facilities where manufacturers and developers could try out new wireless medical technologies and assess operational readiness. A medical experimental authorization would allow for the testing and operation of new medical devices that use wireless telecommunications technology for therapeutic, monitoring, or diagnostic purposes that have not yet been submitted for equipment certification, or for devices that use RF for ablation, so long as the equipment is designed to meet the FCC's technical rules. The FDA's investigational device exemption (IDE) may be applicable when these experiments involve patients. In this regard, the Commission notes that the FDA in consultation with the FCC is exploring approaches to streamline IDEs for wireless medical devices, when an IDE is required.

32. The medical experimental license program would be supervised by the FCC in consultation with the FDA to determine the applicability and approval of the license to ensure that patient safety is considered. This program is not intended to replace the FDA's existing oversight and review programs.

33. It is important that the Commission limit eligibility of medical program experimental radio licenses to the right institutions. Should it restrict licensing to entities that meet specific criteria, such as accreditation by a particular certification body—or should it instead require an entity, as part of its submission, to make an affirmative showing that it is engaged in the health care field and that it has sufficient resources and expertise to oversee tests conducted under the authority of a blanket license? How might the Commission include federal medical institutions such as those operated by the Department of Veterans Affairs or military services in this program, where the facility itself is under the jurisdiction of the Executive Branch and authorizations would ordinarily be granted by the NTIA, but certain tests might be conducted by non-federal entities? How could the Commission structure the coordination process between these governmental entities to balance the interests of military services while at the same time expediting the development of new medical devices? The Commission seeks comment on this

matter. The Commission proposes to require that, in all cases, facilities that seek a medical program experimental radio license demonstrate that they possess basic expertise in radio management. The Commission seeks comment on whether it should require baseline qualifications for demonstrating this expertise, or if it will be sufficient for applicants to make an affirmative showing that they hold these skills. For example, the Commission believes it is important to have the ability to identify and correct RF related problems. In this regard, it recognizes that some institutions may not be well versed in the FCC rules or spectrum management issues and may have to collaborate with an industry partner to develop new devices once a specific need is identified. In these instances, can the requirement for basic expertise in radio management be satisfied by the industry partner or should it reside with the host institution? Alternatively, could a third party be used to manage spectrum under the medical experimental authorization? For example, the American Society for Healthcare Engineering (ASHE) was designated by the Commission to manage the use of medical wireless telemetry equipment in health care settings. The Commission seeks comment on whether such an approach can work for medical research activities.

34. The Commission tentatively concludes that the medical program experimental radio license should be granted to the institution that creates and manages the test bed environment in which the specific research activities will be conducted, as opposed to the manufacturers and experimenters who may be conducting the actual tests. The Commission believes that this approach strikes the right balance between our goal of promoting robust radio experimentation and the necessity of providing safeguards against harmful interference, because institutions can establish a single point of contact with knowledge of and control over all testing that is being conducted, and because such institutions should have ultimate control over their facilities. To the extent that the Commission permits the requirement for basic expertise in radio management to be satisfied an industry partner or third-party manager, how should it structure the licensing process? Should the Commission, for example, issue multiple licenses but require one party to identify itself as the responsible party?

35. As with the research program experimental radio license and innovation zone program experimental radio license proposals, above, the

Commission proposes that a medical program experimental radio license will offer broad authority under which individual tests will be conducted, but that such tests should be limited in scope to what is necessary to meet a particular test's goals. For example, the tests conducted under a medical program experimental radio license will provide researchers an opportunity to assess the susceptibility of new devices to interference as well as whether they might cause interference to other devices. Such tests can be conducted in a controlled environment so that any electromagnetic interference issues can be identified and remedied prior to devices being distributed to the public. The Commission proposes the same limitation on use of frequencies for medical program experimental radio licenses as it does for research program experimental radio and innovation zone program experimental radio licenses. That is, researchers may use any frequency so long as it is not listed in § 15.205(a), except that frequencies above 38.6 GHz may be used so long as they are not listed in footnote US242 of the Table of Frequency Allocations.

36. The Commission seeks comment on what information it should require of an applicant, in addition to a demonstration of its qualifications to hold a license. The Commission proposes to follow the same general application procedures as those to be established for the other program experimental radio license types. The Commission tentatively concludes that a licensee must specify the rule parts, frequencies, and geographic areas in which it plans to conduct tests. Is there additional information that it should require at the application stage? The Commission proposes that the license term be set for an initial five-year period, and that we permit license renewals. What other provisions should be incorporated into our rules?

37. How should the Commission define the scope of permissible operations under a medical program experimental radio license? The Commission tentatively concludes that experiments conducted under the medical experimental authorization should be limited to investigations and tests involving therapeutic, monitoring, and diagnostic medical equipment and that the institution be given broad leeway to choose the frequency band(s) and technical characteristics appropriate to each experiment without having to seek specific prior FCC approval. The Commission also takes a fresh look at its existing experimental authorization rules as applied to medical equipment. Are there any rules

that it should relax or modify due to the unique nature of or the importance of promoting advancements in the medical device field? As an initial matter, the Commission proposes that tests conducted under a medical experimental authorization not be subject to our traditional station identification rules. Our past experience in the medical device field suggests that such requirements are impractical for many of the devices it expects to be tested under the proposed new authorization, and that the typical power level and deployment environment for such devices will serve to reduce the potential for unanticipated interference that cannot be readily identified and resolved. Although the Commission proposes to require that operations must be tailored to comply with applicable FCC technical rules, should it also establish a method by which innovators can test devices that may not completely conform to the rules provided they have performed a risk assessment that includes an evaluation of how to protect the existing base of devices already in use in the medical facility? Are there any standards for risk assessment that should be used in this regard? The Commission asks because the test beds it hope to foster through medical experimental authorizations appear to be ideal venues to conduct empirical testing to support assertions that devices and systems will operate successfully in real-world settings. Should operations conducted under a medical experimental authorization be limited to a specific geographic area—such as the licensee's medical campus—or will the other proposed limitations on eligibility and operations provide sufficient protection against unanticipated consequences? More specifically can testing under a medical program experimental radio license be expanded to include body worn or implanted devices that travel with the patient, or should these types of tests be governed by the conventional experimental radio license? The Commission seeks comment on all of these matters.

38. The Commission also seeks comment on what reporting requirements it should impose under a medical program experimental radio license. In exchange for the flexibility to conduct these tests, it believes that a license-holding institution should bear an obligation to prepare and submit a report detailing the results of its findings for review by the FCC and for dissemination to the medical community at large. Thus, just as teaching hospitals provide a venue

where new techniques can be developed and the knowledge shared, the medical experimental authorization would offer medical innovators fertile ground in which they could nurture and develop their ideas in a real-world setting, and where ideas and advancements can readily propagate throughout the medical community. The Commission proposes to require that the licensee submit, through the same Web site used for project registration, a report within 30 days after conclusion of the test that briefly summarizes its findings, and that the licensee also file a yearly report to the experimental licensing system of the activity that has been performed under the license. The Commission's intent with these reporting requirements is not to make public proprietary or company confidential information, but to provide a venue for sharing information that researchers would find beneficial in the goal of patient care. It also proposes that the licensee must provide the Commission on a timely basis an up-to-date list of the testing that is being conducted with at least a seven calendar day lead time before the tests are performed, and include such basic information as the frequencies and rule parts under which the medical device is intended to operate, the number of units that may be employed, the duration of the study, and the geographic scope of the experiment. Such information would make it easier to identify and remedy any unanticipated interference that may occur during the test. The Commission also proposes to apply the same dispute resolution procedures it adopts for research program experimental radio licenses. As with our other program experimental radio license proposals, the Commission anticipates that reports would be filed via a Commission web page, and that filings would be posted in a public and easily accessible manner. Because one of our objectives is to make available findings for review and dissemination to the medical community at large, the Commission specifically seeks comment on whether these proposed reporting requirements are sufficient to meet our goals. Specifically, are there other recognized reporting policies or protocols that are used within the medical community that we should be aware of? Are there ways for us to align elements of our reporting requirements with those policies?

39. The Commission believes that the medical experimental authorization will create a new path for bringing innovative broadband and wireless-enabled medical devices to market, and will foster tangible advancements in the

vital area of health care. By restricting licenses to qualified health care entities and for therapeutic, monitoring, and diagnostic medical equipment will provide protection against unanticipated harmful interference to other medical devices and existing radio services. As a practical matter, the Commission observes that many medical devices typically operate on a shared, non-exclusive secondary basis and at low power levels. Moreover, because of the coordination of this program with the FDA, as well as with that agency's overall regulatory oversight of medical devices, we believe that the testing of new and innovative devices under medical experimental authorizations can be accomplished in a way that protects patient safety and health. The Commission seeks comment on its proposal, and encourages commenters to help us craft this concept into rules that will create test-beds for the rapid and robust development of new medical devices.

40. The Commission also proposes to modify the rules and procedures in order to bring more clarity to its rules regarding operating and marketing of RF devices prior to equipment approval and also to relax the conditions under which market trials can be conducted. The existing rules generally prohibit devices from being marketed or operated prior to receiving a grant of equipment authorization. However, exceptions do exist. Section 2.803 of the rules allows for conditional sales, advertising and display, and outright sales to certain businesses of equipment not yet certified so long as proper notice is provided to the prospective buyer. That rule section also provides for a manufacturer to operate its product for demonstration or evaluation purposes under the authority of a local FCC-licensed service provider. Additionally, § 5.3(j) of our rules permits licensees operating under experimental radio authorizations to conduct "limited market studies." Such studies are not defined in part 5, but § 5.93 of our rules restrict equipment ownership to the licensee, require notice to participants that the operation is temporary, and stipulate that the size and scope of the experiment be subject to the limitations that the Commission establishes on a case-by-case basis.

41. Section 2.803 of our rules describes when radio frequency devices may be marketed or operated prior to equipment authorization and typically would apply during the later stages of product development and pre-production. The Commission proposes to split this rule into two separate rules for marketing and for operating such

devices. Our goal is to maintain the general requirement that devices may not be marketed or operated prior to equipment authorization, but to clarify and simplify the existing exceptions to this rule. Marketing of devices prior to equipment authorization is permitted limited purposes, such as making conditional sales contracts or in conjunction with trade show displays. Operation of devices prior to equipment authorization is conducted under the authority of a service license or a grant of special temporary authority, or under the rules for unlicensed devices in parts 15, 18 or 95. Additionally, both operation and marketing of radio frequency devices prior to equipment authorization is permitted pursuant to trials conducted under the authority of a part 5 experimental radio service authorization. The Commission proposes to clearly state this as an exception to our general part 2 rules.

42. The Commission proposes to cross-reference the definition of "marketing" as it is used in § 2.803(e)(4) of our rules in the revised part 5 market trial rules we ultimately adopt. Under § 2.803(e)(4), marketing is defined to include sale or lease of equipment, or offering for sale or lease, including advertising for sale or lease, or importation, shipment, or distribution for the purpose of selling or leasing or offering for sale or lease. The Commission seeks comment on whether this definition meets the needs of parties interested in conducting market trials and ask if there alternative definitions or additional categories that should be added. The Commission will use the proposed definition as the basis for the remainder of our proposals, and make appropriate changes based on the record should the Commission move to adopt different market trial rules. Thus, the Commission asks that commenters who propose to expand the existing definition of "marketing" also provide detailed information on how other related rules need to be similarly modified.

43. The Commission proposes to expand upon the existing concept of "limited market studies" as currently codified in our part 5 rules. Specifically, the Commission proposes to adopt a new subpart that contains provisions for two types of trials—product development trials and market trials. A product development trial would be defined as an experimental program designed to evaluate product performance in the conceptual, developmental, and design stages, and that typically requires testing under expected use conditions. A market trial would be defined as a program designed

to evaluate product performance and customer acceptability prior to the production stage, and that typically requires testing under expected use conditions to evaluate actual performance and effectiveness. These trials would be conducted under the authority of a part 5 license and, because they would typically involve equipment that has not yet been authorized, would operate as an exception to our part 2 rules.

44. The Commission's proposed rules for product development trials are designed to generally track the existing rules for limited market studies. The Commission proposes to explicitly prohibit the marketing of devices operated as part of a product development trial and retain the restrictions on ownership to the licensee and notification to users that are part of the existing limited market study rule. The Commission seeks comment on the proposed product development trial rules.

45. A wide range of entities would be eligible to obtain an experimental authorization to conduct market trials, and we would grant multiple licenses in situations where more than one entity will be responsible for conducting the same market trial—such as when a manufacturer, system integrator, and service provider are testing consumer acceptance of a new device. Under the existing rules, a manufacturer may offer equipment for sale prior to certification but the prospective buyer is not authorized to operate the equipment; similarly, a manufacturer is authorized to operate the equipment at the prospective buyer's facilities but the licensee remains the responsible party. The Commission's proposed part 5 rules would provide a simpler means for manufacturers and prospective buyers to conduct market trials. Additionally, because these rules are specifically designed to provide for expanded marketing opportunities to consumers and other third parties, we propose that when a market trial involves a device that has not yet been authorized, that the device must 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. The Commission seeks comment on these proposals.

46. The Commission recognizes that a market trial often involves the offer for sale or lease of a device operated pursuant to a license so that manufacturers and service providers can evaluate customer demand for new capabilities or services and at what

price. The proposed rules would permit us to issue part 5 licenses to more than one party conducting a market trial together (e.g., a manufacturer working in conjunction with a service provider) and allow licensees to sell equipment to each other. Licensees would retain ownership of equipment and only be permitted to lease equipment to trial participants, such as consumer end users, for purposes of the trial. Licensees would have to ensure that trial devices are either rendered inoperable or are retrieved at the end of the trial. Thus, the Commission does not propose to allow sales to consumers of equipment that has not yet been certified. While the benefits of allowing direct sales are clear from a marketing perspective, such a provision would put the ownership of uncertified equipment directly with consumers and complicate the Commission's efforts to enforce its rules. To the extent commenters discuss options that would provide for direct sales to consumers, they should provide detailed information regarding how such rules would be envisioned to function to enable valuable marketing information to be obtained, while ensuring that uncertified products do not flood the market without proper controls or create widespread interference. Specifically, what controls would need to be placed on such sales or on the operation of the devices marketed in this manner? Would it be feasible to transmit unique manufacturer codes to facilitate the resolution of interference issues? In the case of devices designed to be authorized under parts 15, 19 or 95 of our rules, and which would not normally require a license prior to operation, the Commission proposes to require that when these devices are to be included in a market trial that they be authorized under a part 5 license as would any other RF device. This approach would ensure that we have a licensee identified as the responsible party for conducting the market trial. The Commission seeks comment on this proposal.

47. In many instances, developers and system integrators seek to obtain evaluation kits from manufacturers to test and evaluate a component that the manufacturer intends to offer for sale to facilitate the purchaser's development of hardware and software for use with that component. These kits typically consist of a component the manufacturer intends to offer for sale, mounted on a board, with or without an enclosure, in configurations that provide connections to a power supply, easy access to terminals, and sometimes

supporting devices or other hardware. Under current rules, sales of these kits are not permitted before equipment authorization is granted for the component. This restriction delays the ability of manufacturers and system integrators to develop hardware and software for use with the component. To remedy this situation, the Commission proposes to modify § 2.803 of the rules to allow the sale of these evaluation kits so long as notice stating that the component has not yet been certified is provided to any buyer. The Commission seeks comment on this proposal. Does our description of evaluation kits meet the needs of manufacturers or is too restrictive or not restrictive enough? Should the Commission restrict such sales to developers and system integrators? If so, how should it define these entities? Should such sales be limited in number? For example, should it only allow a manufacturer to sell 1000 kits for a specific component per twelve month period? Are there any other considerations for which we need to account?

48. The Commission also seeks comment on compliance testing under our rules. Section 2.803 of our rules provides for the operation of radio frequency devices for purposes of compliance testing, but does not eliminate the requirement to obtain a station license for products that normally require a license to operate. How should laboratories engaged in the testing of equipment, but that are not themselves manufacturers or licensed service providers, be authorized to conduct their work? Should the Commission make specific provisions in our part 5 experimental radio service rules to issue licenses to laboratories accredited by accreditation bodies that it recognizes for RF product testing and consistent with their approved competencies? If so, should they be patterned after the program license model discussed, or in a different manner? What would be an appropriate license term and renewal process for such a license? Is there a different way to authorize these entities to perform compliance testing? The Commission seeks comment on this matter.

49. An additional issue related to the ability to conduct effective market trials implicates our part 2 rules that limit equipment importation for devices that have not yet been certified. Section 2.1204(a)(3) of our rules permits radio frequency devices to be imported in limited quantities "for testing and evaluation to determine \* \* \* suitability for marketing," but limits quantities to 2000 units for products designed solely for operation within a

radio service which requires an operating license and 200 units for all other purposes (e.g., part 15 unlicensed devices, part 18 Industrial, Scientific and Medical equipment, and part 95 equipment that is licensed by rule). Recognizing that the majority of equipment and devices today are manufactured in other countries, the Commission believes that the current import restrictions may unduly constrain innovators from having the ability to conduct meaningful market studies and related tests. Practical experience, as measured by a steady stream of requests for waivers of this rule submitted to staff in our Office of Engineering and Technology, supports this observation.

50. In response to a solicitation for comments for the 2006 biennial review of the telecommunication regulations pursuant to Section 11 of the Communications Act (2006 Biennial Review), Hewlett-Packard (HP) submitted comments recommending that the 200 device limit for RF devices that do not require an individual station license be amended to allow the importation of up to 1200 units for product development purposes. In addition, HP recommends that the importer be required to comply with rigorous reporting requirements, reflected in a quarterly report to the Commission, for importations greater than 200 units. The Information Technology Industry Council (ITI) supports HP's recommendations, believing that they would reduce the burden on companies that have product development programs within the United States, but that utilize prototypes assembled outside of the United States. In a Staff Report, the Office of Engineering and Technology concurred with HP's recommendation to raise the import limit and recommended that the Commission issue a Notice of Proposed Rulemaking to modify § 2.1204 of the rules. The Commission believes that the time is ripe to increase the importation limit for devices that will not require an individual station license from 200 units to the 1200 units recommended by HP. This will better reflect current manufacturing, design, and marketing techniques and also decrease the administrative burden on both industry and the Commission. Is 1200 the correct ceiling? Should the limit be set higher to provide for more extensive market studies? Would a lower limit achieve an appropriate balance between easing the manufacturing process and our interest in maintaining appropriate controls on the importation of RF devices? Similar to our proposal above regarding the size

of a market trial, the Commission tentatively concludes here that it would treat devices that contain both licensed and unlicensed transmitters under the more liberal 2000 unit limit applicable for licensed devices. The Commission seeks comment on this proposal. The Commission declines to propose HP's recommendation to implement a quarterly reporting system. The Commission believes that the same benefit can be achieved in a less burdensome way by requiring importers to maintain records of their imports under these provisions, allowing the Commission to request this information if needed. The Commission also proposes to clarify that RF devices may be imported not only for testing and evaluation purposes, but also for product development purposes. The Commission requests comment on these proposals.

51. Finally, the Commission discusses the parties who should be held responsible for market trials. In the case of a manufacturer, the responsible party is readily apparent as the entity that built the device is conducting the study. However, in other instances, it is not always so apparent. For example, if a commercial carrier were to conduct a study using a new, not yet certified handset built by a third party is the carrier or the manufacturer the most logical responsible party? Similarly, manufacturers are increasingly incorporating one or more radio modules into devices. These modules can be manufactured by different entities and may be different than the final product assembler. Accordingly, the Commission has structured its proposed part 5 market trial rules to specify that, in cases where separate licenses are issued because more than one entity is involved in conducting the same market trial, one party must be designated as the responsible party for the trial. The Commission seeks comment on this proposal. The Commission also invites comment on how and when to hold parties that are not designated as the responsible party for the trial liable for any rule violations.

52. The Commission proposes to consolidate all experimental licensing rules under part 5 of the rules and to update the title of part 5 to remove the distinction between broadcast and all other experimental licenses. The Commission believes that there are enough similarities between the various Commission rules that allow for experimentation that the developmental licensing rules can be subsumed by the experimental licensing rules. Accordingly, the Commission proposes

to eliminate the developmental rules and evaluate all future applications seeking any form of experimental or developmental authority under our part 5 experimental authorization rules. The Commission believes this will provide clear and consistent guidelines to all parties seeking to experiment and innovate. In addition, because the part 5 rules are generally more flexible than the various developmental rules, the Commission believes that this will only increase opportunities for experimentation as it removes several barriers that currently exist under its rules. We also point out that the Commission has announced its intention to develop a consolidated licensing system as a long-term initiative to combine the functions of our current licensing and applications systems. The purpose of this initiative is to develop a consolidated licensing system that is transparent, easy to use for the public and Commission staff, consistent with the FCC's data driven and fact-based rulemaking strategies, adaptable to evolving requirements, efficient, cost-effective and green. The Commission believes that its proposals here will also advance the Commission's stated system development goals in this endeavor. The Commission seeks comment on its proposal to remove these developmental rules from the various service rule parts, and our observation that the types of operations permitted under developmental licenses can also be granted under our current part 5 experimental rules.

53. The Commission recognizes that the developmental rules are not exact duplicates of our part 5 rules, and asks if are there any particular requirements under the various developmental rule sections that we must migrate to our part 5? For example, the rules for private radio meteor burst communications in § 90.250 require that new authorizations be issued subject to the developmental grant procedure and that an application for issuance of a permanent authorization is to be filed prior to the expiration of the developmental authorization. The Commission proposes to retain the current structure of this rule when we move it to part 5, but to replace the existing requirement that an entity must first obtain a developmental authorization with the requirement that it must obtain an experimental license. The Commission seeks comment on this proposal and, more generally, whether the "pre-license" concept embodied in the rule is even necessary. With respect to all of our existing developmental

rules. Commenters should specifically identify the rules they believe must be retained, and describe why the Commission's part 5 rules are inadequate by themselves.

54. The proposal observes that there are currently ten active developmental licenses (four with pending renewal applications), and asks how to treat these existing developmental licenses. The Commission proposes to reissue these authorizations as experimental licenses under our part 5 rules, but seek comment on alternate approaches, such as allowing them to run to term and reapply for an experimental license or cancelling them outright and requiring licensees to reapply for an experimental license.

55. The Broadcast services have their own set of rules delineating experimentation in parts 73 and 74 of our rules apart and separate from the more general part 5 rules. Experiments in the Broadcasting services rely heavily on broadcasting-specific engineering and licensing knowledge, and are typically designed to support the operations of existing broadcasters. Accordingly, the Commission does not propose to alter the process for conducting broadcast experiments under these rules, the ways these applications are filed or evaluated by the Media Bureau, or otherwise disturb existing practice. The Commission believes, however, that there is value in providing a single place within our rules where an applicant can see the entire breadth of what is permitted on an experimental basis. Thus, the Commission proposes to create a new subpart within part 5 into which it would move the relevant portions of the existing rules that are now in parts 73 and 74; where possible, the Commission would take advantage of any similarities between existing part 5 rules and those currently in parts 73 and 74 to ensure the removal of duplicative or unneeded rules. One benefit of this unified approach is that the Commission could provide clearer guidance than is available today regarding when an applicant should file for a broadcast experimental license as opposed to a more general experimental license, while retaining the necessary distinctions for broadcast-specific experimentation. The Commission seeks comment on this proposal and suggestions for any additional changes to these rules or other modifications necessary to accomplish our goals. Finally, by consolidating these regulations into part 5 the Commission does not intend to propose any change to the section 106 historic preservation review applicable to broadcast

experimental radio stations authorized by the Commission. The Commission seeks comment on new § 5.205(c), governing the licensing of such stations, that would clarify that such stations do not qualify for the exclusion applicable generally to experimental authorizations simply because such authorizations are now issued under part 5 of the rules.

56. The last topic addressed by the NPRM pertains to whether there are specific changes to the experimental rules and procedures that can be implemented to open new opportunities for experimentation and remove barriers that may have prevented timely and productive testing. The Commission also seeks comment on whether there are additional rules that it should modify or clarify in order to promote the overall goals of this proceeding. Should the Commission modify its rules to permit operation of radio frequency devices that are not yet certified without the need for an experimental license, so long as the devices are operated as part of a trade show demonstration and at or below the maximum power level permitted for unlicensed devices under our part 15 rules? For example, the Commission believes that it would be beneficial to permit a land mobile radio that has been modified to not operate in excess of the part 15 power limits to be demonstrated without requiring an experimental authorization, given that our current rules allow demonstrations of devices designed to operate under the part 15 rules. Under such an approach, are there necessary limitations—such as restricting use to indoor environments or excluding the use of devices while in motion—that we need to consider? The Commission seeks comment. The Commission also finds that there are several part 5 rules that warrant additional review. For example, by eliminating the developmental rules, it can also delete § 5.51(b) which directs potential applicants eligible for a service specific license seeking to develop an improvement in that service to apply for a developmental license rather than an experimental license. The Commission notes that § 5.51(a) limits prospective applicants to persons qualified to conduct experimentation utilizing radio waves. Does this technical fitness test discourage potential innovators who wish to explore new ideas from seeking approval to conduct experiments and, if so, how could the Commission modify or restate this requirement? The Commission also seeks comment on whether other provisions of its rules serve to create unnecessarily burdensome checks on robust experimentation. Does § 5.125, which

restricts communications to other experimental stations authorized under part 5, stifle the potential for innovative technical solutions between experimental and developmental stages of product developments?

57. The current experimental licensing rules do not address operation within an anechoic chamber or Faraday cage. This has led to many questions over the years regarding licensing requirements when operating RF equipment within either of these spaces. In addressing this situation, Commission staff has generally informed entities that for operations within anechoic chambers or Faraday cages, an experimental license was not needed because the potential for interfering with other radio services was practically non-existent. The Commission now seeks to codify this policy in the rules. Specifically, the Commission proposes to permit RF tests and experiments that are fully contained within an anechoic chamber or a Faraday cage to occur without the need for obtaining an experimental license. The Commission seeks comment on this proposal. Also, the Commission asks commenters to address the following questions. Should it specify a minimum standard for the shielding effectiveness of the chamber? Is there an industry standard that it can reference in setting forth such qualifications? If so, should one be specified within our rules?

58. RF devices must meet certain technical requirements before they may be legally operated within the United States. Compliance with these requirements is ensured through the Commission's equipment authorization process which includes provisions for certification, verification and declaration of conformity. Often the equipment approval process requires testing at an open area test site (OATS). An OATS is typically located outside in areas free of reflective objects. Under our current rules, an experimental license is required for radiation emissions testing in conjunction with regulatory approval. How should entity's engaged in open area testing, but that are not themselves manufacturers or licensed service providers, be authorized to conduct their work? Should the Commission make specific provisions in its part 5 experimental radio service rules to issue licenses to these entities? If so, should the licenses be patterned after the program license model discussed, or in a different manner? What would be an appropriate license term and renewal process for such a license? Is there a different way to authorize these entities to perform testing? Are there any

limitations that the Commission should place on outdoor open area test sites? The Commission seeks comment on this matter.

59. The Commission seeks comment on the proposals as discussed both within in this NPRM and in the accompanying appendix that sets forth our proposed rules, and on any related matter that is raised in this context. Commenters proposing a different course than the Commission has proposed in either this text or the accompanying rules should provide specific information detailing how their proposals fit into our overall goals of providing more flexibility for innovation and providing clear, concise experimental guidelines to the public.

#### Initial Regulatory Flexibility Analysis

60. As required by the Regulatory Flexibility Act of 1980, as amended (RFA),<sup>1</sup> 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 Rulemaking (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 document. The Commission will send a copy of this NPRM, including this IRFA, to the Chief Counsel for Advocacy of the Small Business Administration (SBA).<sup>2</sup>

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

61. 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.

62. 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

63. 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

64. 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.<sup>3</sup> The RFA generally defines the term “small entity” as having the same meaning as the terms “small business,” “small organization,” and “small governmental jurisdiction.”<sup>4</sup> In addition, the term “small business” has the same meaning as the term “small business concern” under the Small Business Act.<sup>5</sup> 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

<sup>3</sup> See 5 U.S.C. 603(b)(3), 604(a)(3).

<sup>4</sup> *Id.*, 601(6).

<sup>5</sup> 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.**”

established by the Small Business Administration (SBA).<sup>6</sup>

65. Nationwide, there are a total of approximately 29.6 million small businesses, according to the SBA.<sup>7</sup> A “small organization” is generally “any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.”<sup>8</sup> Nationwide, as of 2002, there were approximately 1.6 million small organizations.<sup>9</sup> 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.”<sup>10</sup> Census Bureau data for 2002 indicate that there were 87,525 local governmental jurisdictions in the United States.<sup>11</sup> We estimate that, of this total, 84,377 entities were “small governmental jurisdictions.”<sup>12</sup> Thus, we estimate that most governmental jurisdictions are small.

66. 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.<sup>13</sup> 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).

67. *Wireless Telecommunications Carriers (except Satellite).* Since 2007, the Census Bureau has placed wireless firms within this new, broad, economic

<sup>6</sup> See 15 U.S.C. 632.

<sup>7</sup> See SBA, Office of Advocacy, “Frequently Asked Questions,” <http://web.sba.gov/faqs/faqindex.cfm?areaID=24> (revised Sept. 2009).

<sup>8</sup> See 5 U.S.C. 601(4).

<sup>9</sup> Independent Sector, *The New Nonprofit Almanac & Desk Reference* (2002).

<sup>10</sup> See 5 U.S.C. 601(5).

<sup>11</sup> U.S. Census Bureau, *Statistical Abstract of the United States: 2006*, Section 8, page 272, Table 415.

<sup>12</sup> 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.*

<sup>13</sup> 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://fjallfoss.fcc.gov/oetcf/els/reports/GenericSearch.cfm>.

<sup>1</sup> See 5 U.S.C. 603. The RFA, see 5 U.S.C. 601 through 612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996, (SBREFA) Public Law 104–121, Title II, 110 Stat. 857 (1996).

<sup>2</sup> See 5 U.S.C. 603(a).

census category.<sup>14</sup> Prior to that time, such firms were within the now-superseded categories of “Paging” and “Cellular and Other Wireless Telecommunications.”<sup>15</sup> Under the present and prior categories, the SBA has deemed a wireless business to be small if it has 1,500 or fewer employees.<sup>16</sup> Because Census Bureau data are not yet available for the new category, we will estimate small business prevalence using the prior categories and associated data. For the category of Paging, data for 2002 show that there were 807 firms that operated for the entire year.<sup>17</sup> Of this total, 804 firms had employment of 999 or fewer employees, and three firms had employment of 1,000 employees or more.<sup>18</sup> For the category of Cellular and Other Wireless Telecommunications, data for 2002 show that there were 1,397 firms that operated for the entire year.<sup>19</sup> Of this total, 1,378 firms had employment of 999 or fewer employees, and 19 firms had employment of 1,000 employees or more.<sup>20</sup> Thus, we estimate that the majority of wireless firms are small.

68. *Fixed Microwave Services.* Fixed microwave services include common carrier,<sup>21</sup> private operational-fixed,<sup>22</sup>

and broadcast auxiliary radio services.<sup>23</sup> At present, there are approximately 22,015 common carrier fixed licensees and 61,670 private operational-fixed licensees and broadcast auxiliary radio licensees in the microwave services. The Commission has not created a size standard for a small business specifically with respect to fixed microwave services. For purposes of this analysis, the Commission uses the SBA small business size standard for the category Wireless Telecommunications Carriers (except Satellite), which is 1,500 or fewer employees.<sup>24</sup> The Commission does not have data specifying the number of these licensees that have no more than 1,500 employees, and thus are unable at this time to estimate with greater precision the number of fixed microwave service licensees that would qualify as small business concerns under the SBA’s small business size standard. Consequently, the Commission estimates that there are 22,015 or fewer common carrier fixed licensees and 61,670 or fewer private operational-fixed licensees and broadcast auxiliary radio licensees in the microwave services that may be small and may be affected by the rules and policies proposed herein. We note, however, that the common carrier microwave fixed licensee category includes some large entities.

69. *Unlicensed Personal Communications Services.* As its name indicates, UPCS is not a licensed service. UPCS consists of intentional radiators operating in the frequency bands 1920–1930 MHz and 2390–2400 MHz that provide a wide array of mobile and ancillary fixed communication services to individuals and businesses. The NPRM potentially affects UPCS operations in the 1920–1930 MHz band; operations in those frequencies are given flexibility to deploy both voice and data-based services. There is no accurate source for the number of operators in the UPCS. Since 2007, the Census Bureau has placed wireless firms within the new, broad, economic census category Wireless Telecommunications Carriers (except

Satellite).<sup>25</sup> Prior to that time, such firms were within the now-superseded category of “Paging” and “Cellular and Other Wireless Telecommunications.”<sup>26</sup> Under the present and prior categories, the SBA has deemed a wireless business to be small if it has 1,500 or fewer employees.<sup>27</sup> Because Census Bureau data are not yet available for the new category, we will estimate small business prevalence using the prior categories and associated data. For the category of Paging, data for 2002 show that there were 807 firms that operated for the entire year.<sup>28</sup> Of this total, 804 firms had employment of 999 or fewer employees, and three firms had employment of 1,000 employees or more.<sup>29</sup> For the category of Cellular and Other Wireless Telecommunications, data for 2002 show that there were 1,397 firms that operated for the entire year.<sup>30</sup> Of this total, 1,378 firms had employment of 999 or fewer employees, and 19 firms had employment of 1,000 employees or more.<sup>31</sup> Thus, we estimate that the majority of wireless firms are small.

70. *Aviation and Marine Radio Services.* There are approximately 26,162 aviation, 34,555 marine (ship), and 3,296 marine (coast) licensees.<sup>32</sup> The Commission has not developed a small business size standard specifically

<sup>14</sup> U.S. Census Bureau, 2007 NAICS Definitions, “517210 Wireless Telecommunications Categories (Except Satellite)”; <http://www.census.gov/naics/2007/def/ND517210.HTM#N517210>.

<sup>15</sup> U.S. Census Bureau, 2002 NAICS Definitions, “517211 Paging”; <http://www.census.gov/epcd/naics02/def/NDEF517.HTM>; U.S. Census Bureau, 2002 NAICS Definitions, “517212 Cellular and Other Wireless Telecommunications”; <http://www.census.gov/epcd/naics02/def/NDEF517.HTM>.

<sup>16</sup> See 13 CFR 121.201, NAICS code 517210 (2007 NAICS). The now-superseded, pre-2007 CFR citations were 13 CFR 121.201, NAICS codes 517211 and 517212 (referring to the 2002 NAICS).

<sup>17</sup> U.S. Census Bureau, 2002 Economic Census, Subject Series: Information, “Establishment and Firm Size (Including Legal Form of Organization),” Table 5, NAICS code 517211 (issued Nov. 2005).

<sup>18</sup> *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 for firms with “1,000 employees or more.”

<sup>19</sup> U.S. Census Bureau, 2002 Economic Census, Subject Series: Information, “Establishment and Firm Size (Including Legal Form of Organization),” Table 5, NAICS code 517212 (issued Nov. 2005).

<sup>20</sup> *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 for firms with “1,000 employees or more.”

<sup>21</sup> See 47 CFR 101 *et seq.* for common carrier fixed microwave services (except Multipoint Distribution Service).

<sup>22</sup> 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.

<sup>23</sup> Auxiliary Microwave Service is governed by part 74 of Title 47 of the Commission’s rules. See 47 CFR part 74. This service is available to licensees of broadcast stations and to broadcast and cable network entities. Broadcast auxiliary microwave stations are used for relaying broadcast television signals from the studio to the transmitter, or between two points such as a main studio and an auxiliary studio. The service also includes mobile television pickups, which relay signals from a remote location back to the studio.

<sup>24</sup> See 13 CFR 121.201, NAICS code 517210.

<sup>25</sup> U.S. Census Bureau, 2007 NAICS Definitions, “517210 Wireless Telecommunications Categories (Except Satellite)”; <http://www.census.gov/naics/2007/def/ND517210.HTM#N517210>.

<sup>26</sup> U.S. Census Bureau, 2002 NAICS Definitions, “517211 Paging”; <http://www.census.gov/epcd/naics02/def/NDEF517.HTM>; U.S. Census Bureau, 2002 NAICS Definitions, “517212 Cellular and Other Wireless Telecommunications”; <http://www.census.gov/epcd/naics02/def/NDEF517.HTM>.

<sup>27</sup> See 13 CFR 121.201, NAICS code 517210 (2007 NAICS). The now-superseded, pre-2007 CFR citations were 13 CFR 121.201, NAICS codes 517211 and 517212 (referring to the 2002 NAICS).

<sup>28</sup> U.S. Census Bureau, 2002 Economic Census, Subject Series: Information, “Establishment and Firm Size (Including Legal Form of Organization),” Table 5, NAICS code 517211 (issued Nov. 2005).

<sup>29</sup> *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 for firms with “1,000 employees or more.”

<sup>30</sup> U.S. Census Bureau, 2002 Economic Census, Subject Series: Information, “Establishment and Firm Size (Including Legal Form of Organization),” Table 5, NAICS code 517212 (issued Nov. 2005).

<sup>31</sup> *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 for firms with “1,000 employees or more.”

<sup>32</sup> Vessels that are not required by law to carry a radio and do not make international voyages or communications are not required to obtain an individual license. See Amendment of Parts 80 and 87 of the Commission’s Rules To Permit Operation of Certain Domestic Ship and Aircraft Radio Stations Without Individual Licenses, *Report and Order*, WT Docket No. 96–82, 11 FCC Rcd 14849 (1996).

applicable to all licensees. For purposes of this analysis, we will use the SBA small business size standard for the category Wireless Telecommunications Carriers (except Satellite), which is 1,500 or fewer employees.<sup>33</sup> We are unable to determine how many of those licensed fall under this standard. For purposes of our evaluations in this analysis, we estimate that there are up to approximately 62,969 licensees that are small businesses under the SBA standard.<sup>34</sup> In 1998, the Commission held an auction of 42 VHF Public Coast licenses in the 157.1875–157.4500 MHz (ship transmit) and 161.775–162.0125 MHz (coast transmit) bands. For this auction, the Commission defined a “small” business as an entity that, together with controlling interests and affiliates, has average gross revenues for the preceding three years not to exceed \$15 million dollars. In addition, a “very small” business is one that, together with controlling interests and affiliates, has average gross revenues for the preceding three years not to exceed \$3 million dollars.<sup>35</sup> Further, the Commission made available Automated Maritime Telecommunications System (“AMTS”) licenses in Auctions 57 and 61.<sup>36</sup> Winning bidders could claim status as a very small business or a small business. A very small business for this service is defined as an entity with attributed average annual gross revenues that do not exceed \$3 million for the preceding three years, and a small business is defined as an entity with attributed average annual gross revenues of more than \$3 million but less than \$15 million for the preceding three years.<sup>37</sup> Three of the winning bidders in Auction 57 qualified as small or very small businesses, while three winning entities in Auction 61 qualified as very small businesses.

71. *Public Safety Radio Services.* Public Safety radio services include police, fire, local government, forestry

conservation, highway maintenance, and emergency medical services.<sup>38</sup> There are a total of approximately 127,540 licensees in these services. Governmental entities<sup>39</sup> as well as private businesses comprise the licensees for these services. All governmental entities with populations of less than 50,000 fall within the definition of a small entity.<sup>40</sup> The small private businesses fall within the “wireless” category described *supra*.

*D. Description of Projected Reporting, Recordkeeping and Other Compliance Requirement for Small Entities*

72. The Notice of Proposed Rulemaking proposes to create a new type of experimental radio license, the program experimental radio license, which will permit qualified institutions to conduct an ongoing program of research and experimentation that would otherwise require the issuance of multiple individual experimental radio license authorizations under our existing rules. We have proposed new license application rules for these licenses, and program experimental radio licensees would have new requirements to file notification of planned experiments to be conducted under the license, resolve interference concerns that are raised by other licensees, and file post-experiment

<sup>38</sup> With the exception of the special emergency service, these services are governed by Subpart B of part 90 of the Commission’s rules, 47 CFR 90.15 through 90.27. The police service includes approximately 27,000 licensees that serve state, county, and municipal enforcement through telephony (voice), telegraphy (code) and teletype and facsimile (printed material). The fire radio service includes approximately 23,000 licensees comprised of private volunteer or professional fire companies as well as units under governmental control. The local government service that is presently comprised of approximately 41,000 licensees that are state, county, or municipal entities that use the radio for official purposes not covered by other public safety services. There are approximately 7,000 licensees within the forestry service which is comprised of licensees from state departments of conservation and private forest organizations who set up communications networks among fire lookout towers and ground crews. The approximately 9,000 state and local governments are licensed to highway maintenance service provide emergency and routine communications to aid other public safety services to keep main roads safe for vehicular traffic. The approximately 1,000 licensees in the Emergency Medical Radio Service (“EMRS”) use the 39 channels allocated to this service for emergency medical service communications related to the delivery of emergency medical treatment. 47 CFR 90.15 through 90.27. The approximately 20,000 licensees in the special emergency service include medical services, rescue organizations, veterinarians, handicapped persons, disaster relief organizations, school buses, beach patrols, establishments in isolated areas, communications standby facilities, and emergency repair of public communications facilities. 47 CFR 90.33 through 90.55.

<sup>39</sup> See 47 CFR 1.1162.

<sup>40</sup> See 5 U.S.C. 601(5).

reports with the Commission. The Notice of Proposed Rulemaking also proposes to consolidate, clarify and streamline existing rules to facilitate experimentation in the radio spectrum. These proposed rules will, for example, permit entities to engage in additional marketing activities, but will more clearly specify when and how such marketing may take place, and what authorization is needed to operate radiofrequency equipment in conjunction with marketing activities. We project that by creating a new license type and by revising our existing rules, the proposed rules will serve to reduce the reporting, recordkeeping and other compliance requirements associated with the issuance of an experimental radio license.

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

73. 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.<sup>41</sup>

74. We encourage comment regarding the possible alternatives to the approaches proposed, including any cost estimates. For instance, we note that we have considered and tentatively declined HP’s recommendation to implement a quarterly tracking system.<sup>42</sup> Comments with proposed alternatives will assist in reaching the best outcomes.

*F. Federal Rules That Might Duplicate, Overlap, or Conflict With the Proposed Rules*

75. None.

**Ordering Clauses**

76. Pursuant to sections 4(i), 301, and 303 of the Communications Act of 1934, as amended, 47 U.S.C. 154(i), 301, and 303, this Notice of Proposed Rulemaking *is adopted*.

77. The Commission’s Consumer and Governmental Affairs Bureau, Reference

<sup>41</sup> See 5 U.S.C. 603(c).

<sup>42</sup> See Notice of Proposed Rulemaking at paragraph 71.

<sup>33</sup> See 13 CFR 121.201, NAICS code 517210.

<sup>34</sup> A licensee may have a license in more than one category.

<sup>35</sup> *Amendment of the Commission’s Rules Concerning Maritime Communications*, PR Docket No. 92–257, Third Report and Order and Memorandum Opinion and Order, 13 FCC Rcd 19853 (1998).

<sup>36</sup> See “*Automated Maritime Telecommunications System Spectrum Auction Scheduled for September 15, 2004, Notice and Filing Requirements, Minimum Opening Bids, Upfront Payments and Other Auction Procedures*,” Public Notice, 19 FCC Rcd 9518 (WTB 2004); “*Auction of Automated Maritime Telecommunications System Licenses Scheduled for August 3, 2005, Notice and Filing Requirements, Minimum Opening Bids, Upfront Payments and Other Auction Procedures for Auction No. 61*,” Public Notice, 20 FCC Rcd 7811 (WTB 2005).

<sup>37</sup> See 47 CFR 80.1252.

Information Center, shall send a copy of this Notice of Proposed Rule Making, including the Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

List of Subjects in 47 CFR

Part 0

Organization and functions (Government agencies).

Part 1

Administrative practice and procedures, Reporting and recordkeeping requirements.

Parts 2 and 74

Communications equipment, Radio, Reporting and recordkeeping requirements.

Part 5

Radio, Reporting and recordkeeping requirements. Parts 22, 73, 80, 87, 90 and 101 Communications equipment, Reporting and recordkeeping requirements.

Federal Communications Commission.

Marlene H. Dortch,

Secretary.

Proposed Rules

For the reasons set forth in the preamble the Federal Communications Commission proposes to amend 47 CFR parts 0, 1, 2, 5, 22, 73, 74, 80, 87, 90 and 101 to read as follows:

PART 0—COMMISSION ORGANIZATION

1. The authority citation for part 0 continues to read as follows:

Authority: Sec. 5, 48 Stat. 1068, as amended; 47 U.S.C. 155, 225, unless otherwise noted.

2. Section 0.406 is amended by revising paragraph (b)(4) to read as follows:

§ 0.406 The rules and regulations.

\* \* \* \* \*

(b) \* \* \*

(4) Part 5, experimental radio service (including market trials). Part 5 deals with the temporary use of radio frequencies for research in the radio art, for communications involving other research projects, for the development of equipment, data, or techniques, and for the conduct of equipment product development or market trials.

\* \* \* \* \*

PART 1—PRACTICE AND PROCEDURE

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

Authority: 15 U.S.C. 79 et seq.; 47 U.S.C. 151, 154(i), 154(j), 155, 157, 225, 303(r), and 309.

4. Section 1.77 is amended by revising paragraph (d) to read as follows:

§ 1.77 Detailed application procedures; cross references.

\* \* \* \* \*

(d) Rules governing applications for authorizations in the Experimental Radio Service (including market trials) are set forth in part 5 of this chapter.

\* \* \* \* \*

5. Section 1.544 is revised to read as follows:

§ 1.544 Application for broadcast station to conduct field strength measurements and for experimental operation.

See §§ 5.59 and 5.203 of this chapter.

6. Section 1.913 is amended by revising paragraph (a)(1) to read as follows:

§ 1.913 Application and notification forms; electronic and manual filing.

(a) \* \* \*

(1) FCC Form 601, Application for Authorization in the Wireless Radio Services. FCC Form 601 and associated schedules are used to apply for initial authorizations, modifications to existing authorizations, amendments to pending applications, renewals of station authorizations, special temporary authority, notifications, requests for extension of time, and administrative updates.

\* \* \* \* \*

7. Section 1.981 is revised to read as follows:

§ 1.981 Reports, annual and semiannual.

Where required by the particular service rules, licensees who have entered into agreements with other persons for the cooperative use of radio station facilities must submit annually an audited financial statement reflecting the nonprofit cost-sharing nature of the arrangement to the Commission's offices in Washington, DC or alternatively may be sent to the Commission electronically via the ULS, no later than three months after the close of the licensee's fiscal year.

8. Section 1.1307(b)(1) is amended by revising the entry "Experimental Radio, Auxiliary, Special Broadcast and Other Program Distributional Services (part 74)" to Table 1, to read as follows:

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

\* \* \* \* \*

(b) \* \* \*

(1) \* \* \*

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

Table with 2 columns: Service (title 47 CFR rule part) and Evaluation required if:
Row 1: Auxiliary and Special Broadcast and Other Program Distributional Services (part 74) ..... Subparts G and L: power > 100 W ERP.

\* \* \* \* \*

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

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

§ 2.102 [Amended]

9. The authority citation for part 2 continues to read as follows:

10. In § 2.102, remove and reserve paragraph (b)(2).

11. Section 2.803 is revised to read as follows:

**§ 2.803 Marketing of radio frequency devices prior to equipment authorization.**

(a) Marketing, as used in this section, includes sale or lease, or offering for sale or lease, including advertising for sale or lease, or importation, shipment, or distribution for the purpose of selling or leasing or offering for sale or lease.

(b) *General rule.* No person may market a radio frequency device unless:

(1) For devices subject to certification, the device has been authorized by the Commission in accordance with the rules in this chapter and is properly identified and labeled as required by § 2.925 and other relevant sections in this chapter; or

(2) For devices subject to authorization under verification or Declaration of Conformity, the device complies with all applicable, technical, labeling, identification and administrative requirements; or

(3) For devices that do not require a grant of equipment authorization issued by the Commission, but which must comply with the specified technical standards prior to use, the device complies with all applicable, technical, labeling, identification and administrative requirements.

(c) *Exceptions.* The following marketing activities are permitted prior to equipment authorization:

(1) Activities under product development and market trials conducted pursuant to subpart F of this chapter.

(2) Limited marketing for devices that could be authorized under the current rules; could be authorized under waivers of such rules that are in effect at the time of marketing; or could be authorized under rules that have been adopted by the Commission but that have not yet become effective. These devices may not be operated unless permitted by § 2.805.

(i) Conditional sales contracts (including agreements to produce new products manufactured in accordance with designated specifications) are permitted between manufacturers and wholesalers or retailers provided that delivery is made contingent upon compliance with the applicable equipment authorization and technical requirements.

(ii) A radio frequency device that is in the conceptual, developmental, design or pre-production stage may be offered for sale solely to business, commercial, industrial, scientific or medical users (but not an offer for sale to other parties or to end users located in a residential environment) if the prospective buyer is

advised in writing at the time of the offer for sale that the equipment is subject to the FCC rules and that the equipment will comply with the appropriate rules before delivery to the buyer or to centers of distribution.

(iii) Labeling requirements.

(A) A radio frequency device may be advertised or displayed, (e.g., at a trade show or exhibition) if accompanied by a conspicuous notice containing this language:

This device has not been authorized as required by the rules of the Federal Communications Commission. This device is not, and may not be, offered for sale or lease, or sold or leased, until authorization is obtained.

(B) If the product being displayed is a prototype of a product that has been properly authorized and the prototype, itself, is not authorized due to differences between the prototype and the authorized product, this language may be used instead:

Prototype. Not for sale.

(d) Importation. The provisions of subpart K of this part continue to apply to imported radio frequency devices.

12. Section 2.805 is added to read as follows:

**§ 2.805 Operation of radio frequency devices prior to equipment authorization.**

(a) *General rule.* A radio frequency device may not be operated prior to equipment authorization.

(b) *Exceptions.* Operation prior to equipment authorization is permitted under the authority of an experimental radio service authorization issued under part 5 of this chapter or in accordance with the following provisions; however, except as provided elsewhere in this chapter, radio frequency devices operated under these provisions may not be marketed (as defined in § 2.803(a)):

(1) The radio frequency 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; and

(2) Operation is conducted under the authority of a service license or a grant of special temporary authority, or the radio frequency device is designed to operate under parts 15, 18, or 95 of this chapter; and

(3) The radio frequency device will be operated for at least one of these purposes:

(i) Conducting compliance testing;

(ii) Demonstrations at a trade show provided a notice containing the wording specified in § 2.803(c)(1)(iii) is displayed in a conspicuous location on, or immediately adjacent to, the device;

(iii) Demonstrations at an exhibition conducted at a business, commercial, industrial, scientific, or medical location, but excluding locations in a residential environment, provided a notice containing the wording specified § 2.803(c)(1)(iii) is displayed in a conspicuous location on, or immediately adjacent to, the device or all prospective buyers at the exhibition are advised in writing that the equipment is subject to the FCC rules and that the equipment will comply with the appropriate rules before delivery to the buyer or to centers of distribution; or

(iv) Evaluation of product performance and determination of customer acceptability, during developmental, design, or pre-production states provided such operation takes place at a business, commercial, industrial, scientific, or medical location, but excluding locations in a residential environment. If the product is not operated at the manufacturer's facilities, it must be labeled with the wording specified in § 2.803(c)(1)(iii).

(c) A manufacturer may operate its product for demonstration or evaluation purposes under the authority of a licensed service provider, provided that the licensee grants permission the manufacturer to operate in this manner and the licensee continues to remain responsible for complying with all of the operating conditions and requirements associated with its license.

(d) *Importation.* The provisions of subpart K of this part continue to apply to imported radio frequency devices.

13. Section 2.1204 is amended by revising (a)(3) to read as follows:

**§ 2.1204 Import conditions.**

(a) \* \* \*

(3) The radio frequency device is being imported in limited quantities for testing and evaluation to determine compliance with the FCC Rules and Regulations, product development, or suitability for marketing. The devices will not be offered for sale or marketed. The phrase "limited quantities," in this context means:

(i) 2000 or fewer units, provided the product is designed, at least in part, for operation within one of the Commission's authorized radio services for which an operating license is required to be issued by the Commission; or

(ii) 1,200 or fewer units for all other products.

\* \* \* \* \*

14. Revise part 5 to read as follows:

## PART 5—EXPERIMENTAL RADIO SERVICE (INCLUDING MARKET TRIALS)

### Subpart A—General

- Sec.  
5.1 Basis and purpose.  
5.3 Scope of service.  
5.5 Definition of terms.

### Subpart B—Applications and Licenses

#### Licenses Requirements

- 5.51 Eligibility of license.  
5.53 Station authorization required.  
5.54 Types of authorizations available.

#### General Filing Requirements

- 5.55 Filing of applications.  
5.57 Who may sign applications.  
5.59 Forms to be used.  
5.61 Procedure for obtaining a special temporary authorization.  
5.63 Supplemental statements required.  
5.64 Special provisions for satellite systems.  
5.65 Defective applications.  
5.67 Amendment or dismissal of applications.  
5.69 License grants that differ from applications.  
5.71 License period.  
5.73 Experimental report.  
5.77 Change in equipment and emission characteristics.  
5.79 Transfer and assignment of station authorization for conventional experimental radio licenses.  
5.81 Discontinuance of station operation.  
5.83 Cancellation provisions.  
5.84 Non-interference basis.  
5.85 Frequencies and policy governing their assignment.  
5.91 Notification of the National Radio Astronomy Observatory.  
5.95 Informal objections.

### Subpart C—Technical Standards and Operating Requirements

- 5.101 Frequency stability.  
5.103 Types of emission.  
5.105 Authorized bandwidth.  
5.107 Transmitter control requirements.  
5.109 Inspection and maintenance of antenna structure marking and associated control equipment.  
5.110 Power limitations.  
5.111 Limitations on use.  
5.115 Station identification.  
5.121 Station record requirements.  
5.123 Inspection of stations.  
5.125 Authorized points of communication.

### Subpart D—Broadcast Experimental Licenses

- 5.201 Applicable rules.  
5.203 Experimental authorizations for licensed broadcast stations.  
5.205 Licensing requirements, necessary showing.  
5.207 Supplemental reports with application for renewal of license.

### Technical Operation and Operators

- 5.211 Frequency monitors and measurements.

- 5.213 Time of operation.  
5.215 Program service and charges.  
5.217 Rebroadcasts.  
5.219 Broadcasting emergency information.

### Subpart E—Program Experimental Licenses

#### Requirements for all Program Experimental Radio Licenses

- 5.301 Requirements in other subparts.  
5.303 Frequencies.  
5.305 Program license not permitted.  
5.307 Responsible party.  
5.309 Notification requirements.  
5.311 Additional requirements related to safety of the public.

#### Requirements Specific to Research Program Experimental Radio Licenses

- 5.321 Eligibility.  
5.323 Area of operations.

#### Requirements Specific to Innovation Zone Program Experimental Radio Licenses

- 5.331 Eligibility.  
5.333 Area of operations.

#### Requirements Specific to Medical Program Experimental Radio Licenses

- 5.341 Eligibility.  
5.343 Additional requirements.

### Subpart F—Product Development and Market Trials

- 5.401 Product Development Trials.  
5.403 Market Trials.

**Authority:** Secs. 4, 302, 303, 307, 336 48 Stat. 1066, 1082, as amended; 47 U.S.C. 154, 302, 303, 307, 336. Interpret or apply sec. 301, 48 Stat. 1081, as amended; 47 U.S.C. 301.

### Subpart A—General

#### § 5.1 Basis and purpose.

(a) The rules following in this part are promulgated pursuant to the provisions of Title III of the Communications Act of 1934, as amended, which vests authority in the Federal Communications Commission to regulate radio transmissions and to issue licenses for radio stations.

(b) This part prescribes the manner in which parts of the radio frequency spectrum may be made available for experimentation as defined and provided for in this part.

(c) This part prescribes the manner for conducting product development and market trials.

#### § 5.3 Scope of service.

Stations operating in the Experimental Radio Service will be permitted to conduct the following type of operations:

(a) Experimentations in scientific or technical radio research.

(b) Experimentations in the broadcast services.

(c) Experimentations under contractual agreement with the United

States Government, or for export purposes.

(d) Communications essential to a research project.

(e) Technical demonstrations of equipment or techniques.

(f) Field strength surveys.

(g) Demonstration of equipment to prospective purchasers by persons engaged in the business of selling radio equipment.

(h) Testing of equipment in connection with production or regulatory approval of such equipment.

(i) Development of radio technique, equipment, operational data or engineering data, including field or factory testing or calibration of equipment, related to an existing or proposed radio service.

(j) Product development and market trials.

(k) Types of experiments that are not specifically covered under paragraphs (a) through (j) of this section will be considered upon demonstration of need for such additional types of experiments.

#### § 5.5 Definition of terms.

For the purpose of this part, the following definitions shall be applicable. For other definitions, refer to part 2 of this chapter (Frequency Allocations and Radio Treaty Matters; General Rules and Regulations).

**Authorized frequency.** The frequency assigned to a station by the Commission and specified in the instrument of authorization.

**Authorized power.** The power assigned to a radio station by the Commission and specified in the instrument of authorization.

**Experimental radio service.** A service in which radio waves are employed for purposes of experimentation in the radio art or for purposes of providing essential communications for research projects that could not be conducted without the benefit of such communications.

**Experimental station.** A station utilizing radio waves in experiments with a view to the development of science or technique.

**Fixed service.** A radiocommunication service between specified fixed points.

**Fixed station.** A station in the fixed service.

**Harmful interference.** Any radiation or induction that endangers the functioning of a radionavigation or safety service, or obstructs or repeatedly interrupts a radio service operating in accordance with the Table of Frequency Allocations and other provisions of part 2 of this chapter.

**Landing area.** As defined by 49 U.S.C. 40102(a)(28), any locality, either of land

or water, including airdromes and intermediate landing fields, that is used, or intended to be used, for the landing and take-off of aircraft, whether or not facilities are provided for the shelter, servicing, or repair of aircraft, or for receiving or discharging passengers or cargo.

*Land station.* A station in the mobile service not intended for operation while in motion.

*Market trials.* A program designed to evaluate product performance and customer acceptability prior to the production stage, and typically requires testing a specific device under expected use conditions to evaluate actual performance and effectiveness.

*Mobile service.* A radiocommunication service between mobile and land stations, or between mobile stations.

*Mobile station.* A station in a mobile service intended to be used while in motion or during halts at unspecified points.

*Person.* An individual, partnership, association, joint stock company, trust, or corporation.

*Product development trials.* An experimental program designed to evaluate product performance in the conceptual, developmental, and design stages, and typically requires testing under expected use conditions.

*Public correspondence.* Any telecommunication that offices and stations, by reason of their being at the disposal of the public, must accept for transmission.

*Radio service.* An administrative subdivision of the field of radiocommunication. In an engineering sense, the subdivisions may be made according to the method of operation, as, for example, mobile service and fixed service. In a regulatory sense, the subdivisions may be descriptive of particular groups of licensees, as, for example, the groups of persons licensed under this part.

*Station authorization.* Any license or special temporary authorization issued by the Commission.

## Subpart B—Applications and Licenses Requirements

### § 5.51 Eligibility of license.

(a) Authorizations for stations in the Experimental Radio Service will be issued only to persons qualified to conduct experimentation (including product development and market trials) using radio waves in a manner not provided by existing rules.

(b) A station license shall not be granted to or held by a foreign government or a representative thereof.

### § 5.53 Station authorization required.

No radio transmitter shall be operated in the Experimental Radio Service except under and in accordance with a proper station authorization granted by the Commission.

### § 5.54 Types of authorizations available.

The Commission will issue the following types of experimental licenses:

(a)(1) *Conventional experimental radio license.* A conventional experimental radio license will be issued for the conduct of a specific or series of related research or experimentation projects related to the development and advancement of new radio technologies and techniques or a product development trial or a market trial. Widely divergent and unrelated experiments must be conducted under separate licenses.

(2) *Special temporary authorization.* When an experimental program is expected to last no more than six months, its operation shall be considered temporary and the special temporary authorization procedure outlined in § 5.61 shall apply.

(b) *Broadcast experimental radio license.* A broadcast experimental radio license will be issued for the purposes of carrying on research and experimentation for the development and advancement of new broadcast technology, equipment, systems or services. This is limited to stations intended for reception and use by the general public.

(c) *Program experimental radio license.* A program experimental radio license will be issued to qualified institutions and carry broad authority to conduct an ongoing program of research and experimentation under a single experimental authorization subject to the requirements of subpart E of this part. Three types of program experimental radio licenses are available.

(1) *Research institutions.* These experimental licenses are available to qualified colleges, universities, and non-profit research organizations.

(2) *Innovation zones.* These experimental licenses are available to entities with technical credentials demonstrating competence in radio engineering for experimentation within Commission defined geographic areas.

(3) *Medical research.* These experimental licenses are available to hospital and health care institutions that demonstrate basic expertise in radio management for the testing and operation of new medical devices that use wireless telecommunications technology for therapeutic and

diagnostic purposes or patient monitoring functions.

## General Filing Requirements

### § 5.55 Filing of applications.

(a) To assure that necessary information is supplied in a consistent manner by all persons, standard forms are prescribed for use in connection with applications, except for applications for special temporary authority (STA), and reports submitted for Commission consideration. Standard numbered forms applicable to the Experimental Radio Service are discussed in § 5.59.

(b) Applications requiring fees as set forth in part 1, subpart G of this chapter must be filed in accordance with § 0.401(b) of this chapter.

(c) Each application for station authorization shall be specific and complete with regard to station location, proposed equipment, power, antenna height, and operating frequency; and other information required by the application form and this part.

(d) For conventional and program experimental radio licenses:

(1) Applications for radio station authorization shall be submitted electronically through the Office of Engineering and Technology Web site <http://www.fcc.gov/els>.

(2) Applications for special temporary authority shall be filed in accordance with the procedures of § 5.61.

(3) Any correspondence relating thereto that cannot be submitted electronically shall instead be submitted to the Commission's Office of Engineering and Technology, Washington, DC 20554.

(e) For broadcast experimental radio licenses, applications for radio station authorization shall be filed in accordance with the provisions of § 5.59.

### § 5.57 Who may sign applications.

(a) Except as provided in paragraph (b) of this section, applications, amendments thereto, and related statements of fact required by the Commission shall be personally signed by the applicant, if the applicant is an individual; by one of the partners, if the applicant is a partnership; by an officer or duly authorized employee, if the applicant is a corporation; or by a member who is an officer, if the applicant is an unincorporated association. Applications, amendments, and related statements of fact filed on behalf of eligible government entities, such as states and territories of the United States and political subdivisions thereof, the District of Columbia, and units of local government, including

incorporated municipalities, shall be signed by such duly elected or appointed officials as may be competent to do so under the laws of the applicable jurisdiction.

(b) Applications, amendments thereto, and related statements of fact required by the Commission may be signed by the applicant's attorney in case of the applicant's physical disability or of his/her absence from the United States. The attorney shall in that event separately set forth the reason why the application is not signed by the applicant. In addition, if any matter is stated on the basis of the attorney's belief only (rather than his/her knowledge), he/she shall separately set forth reasons for believing that such statements are true.

(c) Only the original of applications, amendments, or related statements of fact need be signed; copies may be conformed.

(d) Applications, amendments, and related statements of fact need not be submitted under oath. Willful false statements made therein, however, are punishable by fine and imprisonment, U.S. Code, title 18, Sec. 1001, and by appropriate administrative sanctions, including revocation of station license pursuant to section 312(a)(1) of the Communications Act of 1934, as amended.

(e) "Signed," as used in this section, means an original handwritten signature; however, the Office of Engineering and Technology may allow signature by any symbol executed or adopted by the applicant with the intent that such symbol be a signature, including symbols formed by computer-generated electronic impulses.

#### **§ 5.59 Forms to be used.**

(a) *Application for conventional and program experimental radio licenses.*

(1) *Application for new or modification.* Entities must submit FCC Form 442.

(2) *Application for renewal of experimental authorization.* Application for renewal of station license shall be submitted on FCC Form 405. Unless otherwise directed by the Commission, each application for renewal of license shall be filed at least 60 days prior to the expiration date of the license to be renewed.

(3) *Application for consent to assign an experimental authorization.* Application for consent to assign shall be submitted on FCC Form 702 when the legal right to control the use and operation of a station is to be transferred as a result of a voluntary act (contract or other agreement) or an involuntary act (death or legal disability) of the grantee of a station authorization or by

involuntary assignment of the physical property constituting the station under a court decree in bankruptcy proceedings, or other court order, or by operation of law in any other manner.

(4) *Application for consent to transfer control of Corporation holding experimental authorization.* Application for consent to transfer control shall be submitted on FCC Form 703 whenever it is proposed to change the control of a corporation holding a station authorization.

(5) *Application for product development and market trials.* Application for product development and market trials shall be submitted on FCC Form 442.

(b) *Applications for broadcast experimental radio license.*

(1) *Application for new or modification.* An application for a construction permit for a new broadcast experimental station or modification of an existing broadcast experimental station must be submitted on FCC Form 309.

(2) *Application for a license.* An application for a license to cover a construction permit for a broadcast experimental station must be submitted on FCC Form 310.

(3) *Application for renewal of license.* An application for renewal of station license for a broadcast experimental station must be submitted on FCC Form 311. Unless otherwise directed by the Commission, each application for renewal of license shall be filed at least 60 days prior to the expiration date of the license to be renewed.

#### **§ 5.61 Procedure for obtaining a special temporary authorization.**

(a)(1) An applicant may request STA not to exceed 6 months for operation of a conventional experimental radio service station.

(2) Applications for STA must be filed at least 10 days prior to the proposed operation. Applications filed less than 10 days prior to the proposed operation date will be accepted only upon a showing of good cause.

(3) In special situations defined in § 1.915(b)(1) of this chapter, a request for STA may be made by telephone or telegraph provided a properly signed application is filed within 10 days of such request.

(b) An application for special temporary authorization shall contain the following information:

(1) Name, address, phone number (also e-mail address and facsimile number, if available) of the applicant.

(2) Description of why an STA is needed.

(3) Description of the operation to be conducted and its purpose.

(4) Time and dates of proposed operation.

(5) Class(es) of station (fixed, mobile, fixed and mobile) and call sign of station (if applicable).

(6) Description of the location(s) and, if applicable, geographical coordinates of the proposed operation.

(7) Equipment to be used, including name of manufacturer, model and number of units.

(8) Frequency(ies) desired.

(9) Maximum effective radiated power (ERP) or equivalent isotropically radiated power (EIRP).

(10) Emission designator (*see* § 2.201 of this chapter) or describe emission (bandwidth, modulation, etc.)

(11) Overall height of antenna structure above the ground (if greater than 6 meters above the ground or an existing structure, *see* part 17 of this chapter concerning notification to the FAA).

(c) Extensions of a special temporary authorization will be granted provided that an application for a regular experimental license that is consistent with the terms and conditions of that temporary authority has been filed at least 15 days prior to the expiration of the licensee's temporary authority. When such an application is timely filed, operations may continue in accordance with the other terms and conditions of the temporary authority pending disposition of the application, unless the applicant is notified otherwise by the Commission.

#### **§ 5.63 Supplemental statements required.**

Applicants must provide the information set forth on the applicable form as specified in § 5.59. In addition, applicants must provide supplemental information as described below:

(a) If installation and/or operation of the equipment may significantly impact the environment (*see* § 1.1307 of this chapter) an environmental assessment as defined in § 1.1311 of this chapter must be submitted with the application.

(b) If an applicant requests non-disclosure of proprietary information, requests shall follow the procedures for submission set forth in § 0.459 of this chapter.

(c) For conventional and broadcast experimental radio licenses, each application must include:

(1) A narrative statement describing in detail the program of research and experimentation proposed, the specific objectives sought to be accomplished; and how the program of experimentation has a reasonable promise of contribution to the development, extension, or expansion, or use of the radio art, or is along lines not already investigated.

(2) If the authorization is to be used for the purpose of fulfilling the requirements of a contract with an agency of the United States Government, a narrative statement describing the project, the name of the contracting agency, and the contract number.

(3) If the authorization is to be used for the sole purpose of developing equipment for exportation to be employed by stations under the jurisdiction of a foreign government, a narrative statement describing the project, any associated contract number, and the name of the foreign government concerned.

(4) If the authorization is to be used with a satellite system, a narrative statement containing the information required in § 5.64.

(d) For program experimental radio licenses, each application must include a narrative statement describing how the applicant meets the eligibility criteria set forth in subpart E of this part.

#### **§ 5.64 Special provisions for satellite systems.**

(a) Construction of proposed experimental satellite facilities may begin prior to Commission grant of an authorization. Such construction will be entirely at the applicant's risk and will not entitle the applicant to any assurances that its proposed experiment will be subsequently approved or regular services subsequently authorized. The applicant must notify the Commission's Office of Engineering and Technology in writing that it plans to begin construction at its own risk.

(b) Except where the satellite system has already been authorized by the FCC, applicants for an experimental authorization involving a satellite system must submit a description of the design and operational strategies the satellite system will use to mitigate orbital debris, including the following information:

(1) A statement that the space station operator has assessed and limited the amount of debris released in a planned manner during normal operations, and has assessed and limited the probability of the space station becoming a source of debris by collisions with small debris or meteoroids that could cause loss of control and prevent post-mission disposal;

(2) A statement that the space station operator has assessed and limited the probability of accidental explosions during and after completion of mission operations. This statement must include a demonstration that debris generation will not result from the conversion of energy sources on board the spacecraft

into energy that fragments the spacecraft. Energy sources include chemical, pressure, and kinetic energy. This demonstration shall address whether stored energy will be removed at the spacecraft's end of life, by depleting residual fuel and leaving all fuel line valves open, venting any pressurized system, leaving all batteries in a permanent discharge state, and removing any remaining source of stored energy, or through other equivalent procedures specifically disclosed in the application;

(3) A statement that the space station operator has assessed and limited the probability of the space station becoming a source of debris by collisions with large debris or other operational space stations. Where a space station will be launched into a low-Earth orbit that is identical, or very similar, to an orbit used by other space stations, the statement must include an analysis of the potential risk of collision and a description of what measures the space station operator plans to take to avoid in-orbit collisions. If the space station operator is relying on coordination with another system, the statement shall indicate what steps have been taken to contact, and ascertain the likelihood of successful coordination of physical operations with, the other system. The statement must disclose the accuracy—if any—with which orbital parameters of non-geostationary satellite orbit space stations will be maintained, including apogee, perigee, inclination, and the right ascension of the ascending node(s). In the event that a system is not able to maintain orbital tolerances, i.e., it lacks a propulsion system for orbital maintenance, that fact shall be included in the debris mitigation disclosure. Such systems shall also indicate the anticipated evolution over time of the orbit of the proposed satellite or satellites. Where a space station requests the assignment of a geostationary-Earth orbit location, it shall assess whether there are any known satellites located at, or reasonably expected to be located at, the requested orbital location, or assigned in the vicinity of that location, such that the station keeping volumes of the respective satellites might overlap. If so, the statement shall identify those parties and the measures that will be taken to prevent collisions;

(4) A statement detailing the post-mission disposal plans for the space station at end of life, including the quantity of fuel—if any—that will be reserved for post-mission disposal maneuvers. For geostationary-Earth orbit space stations, the statement shall disclose the altitude 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, 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, 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/m<sup>2</sup> power flux density assuming a free space characteristic impedance of  $120\pi$  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) 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; and

(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 1,000 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) and (f)(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, a 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 Requirements in other subparts.**

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) of this chapter.

**§ 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); or

(b) An orbital debris mitigation plan must be filed with the Commission as required by § 5.64; 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; 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 to be provided in the final rules.

(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, 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 have 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 to be provided in the final rules. 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 to be provided in the final rules 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:

(1) An Accreditation Board for Engineering and Technology (ABET) accredited college or university with a graduate research program or existing industry partnership or

(2) 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 of this chapter) 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) are subject to the following conditions:

(a) Marketing of devices (as defined in § 2.803 of this chapter) 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 of this chapter.

(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 citation for 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.

\* \* \* \* \*

**§ 22.377 [Amended]**

17. Remove and reserve paragraph (b) of § 22.377.

**Subpart D—[Removed and Reserved]**

18. Remove and reserve Subpart D.

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 § 22.599 (c) and (d).

\* \* \* \* \*

\* \* \* \* \*

20. Section 22.599 is amended by revising paragraph (b) and adding 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 citation for part 73 continues to read as follows:

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

**§ 73.1510 [Removed]**

22. Remove § 73.1510.

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

23. The authority citation for part 74 continues to read as follows:

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

24. 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 of this part.

25. 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:

\* \* \* \* \*

26. 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.

\* \* \* \* \*

27. 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 there under 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 way affect or limit the action of the Commission with respect to any pending application or proceeding.

28. 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.

**Subpart A—[Removed and Reserved]**

29. Remove and reserve Subpart A.

30. Section 74.780 is amended by adding the entry “Part 5—Experimental Radio Service (including market trials) immediately following the introductory text, and removing the entry of “Section 73.1510—Experimental authorizations;” to read as follows:

**§ 74.780 Broadcast regulations applicable to translators, low power, and booster stations.**

\* \* \* \* \*

Part 5—Experimental Radio Service (including market trials).

\* \* \* \* \*

**PART 80—STATIONS IN THE MARITIME SERVICES**

31. The authority citation for 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.

§ 80.25 [Amended]

32. Remove paragraph (c) of § 80.25.

§ 80.33 [Removed]

33. Remove § 80.33.

§ 80.203 [Amended]

34. Remove and reserve paragraph (j) of § 80.203.

§ 80.25 [Amended]

35. Remove paragraph (g) of § 80.211.

36. Section 80.377 is revised 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).

§ 80.391 [Removed]

37. Remove § 80.391 and the undesignated center heading preceding the section.

PART 87—AVIATION SERVICES

38. The authority citation for part 87 continues to read as follows:

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

39. Section 87.27 is revised 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.

§ 87.37 [Removed]

40. Remove § 87.37.

PART 90—PRIVATE LAND MOBILE RADIO SERVICES

41. The authority citation for 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).

§ 90.7 [Amended]

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

§ 90.20 [Amended]

43. Remove and reserve paragraph (e)(3) of § 90.20.

§ 90.35 [Amended]

44. Amend § 90.35 as follows:
a. Remove the entry for “8,400 to 8,500” from the table in paragraph (b)(3).
b. Remove and reserve paragraphs (c)(75), (d)(6) and (e)(2) of § 90.35.

§ 90.129 [Amended]

45. Remove and reserve paragraph (f) of § 90.129.

§ 90.149 [Amended]

46. Remove paragraph (c) of § 90.149.

§ 90.175 [Amended]

47. Remove and reserve paragraph (j)(4) of § 90.175.

§ 90.203 [Amended]

48. Remove and reserve paragraph (b)(1) of § 90.203.

§ 90.241 [Amended]

49. Remove paragraph (e) of § 90.241.
50. 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.

Subpart Q—[Removed and Reserved]

51. Remove and reserve Subpart Q.

PART 101—FIXED MICROWAVE SERVICES

52. The authority citation for part 101 continues to read as follows:

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

§ 101.21 [Amended]

53. Remove and reserve paragraph (b) of § 101.21.

54. Section 101.129 is 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.
\* \* \* \* \*

Subpart F—[Removed and Reserved]

55. Remove and reserve Subpart F of part 101.

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