
# FEDERAL REGISTER

Vol. 78 Monday,
No. 82 April 29, 2013

Part II

## Federal Communications Commission

47 CFR Parts 0, 1, 2, et al.
Radio Experimentation and Market Trials—Streamlining Rules; Final Rule

## FEDERAL COMMUNICATIONS COMMISSION

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

**[ET Docket No. 10–236 and 06–155; FCC 13–15]**

### Radio Experimentation and Market Trials—Streamlining Rules

**AGENCY:** Federal Communications Commission.

**ACTION:** Final rule.

**SUMMARY:** This document revises and streamlines the Commission rules to modernize the Experimental Radio Service (ERS). The rules adopted in the Report and Order updates the ERS to a more flexible framework to keep pace with the speed of modern technological change while continuing to provide an environment where creativity can thrive. To accomplish this transition, the Commission created three new types of ERS licenses—the program license, the medical testing license, and the compliance testing license—to benefit the development of new technologies, expedite their introduction to the marketplace, and unleash the full power of innovators to keep the United States at the forefront of the communications industry. The Commission's actions also modify the market trial rules to eliminate confusion and more clearly articulate its policies with respect to marketing products prior to equipment certification. The Commission believes that these actions will remove regulatory barriers to experimentation, thereby permitting institutions to move from concept to experimentation to finished product more rapidly and to more quickly implement creative problem-solving methodologies.

**DATES:** Effective May 29, 2013, except §§ 2.803(c)(2), 5.59, 5.61, 5.63, 5.64, 5.65, 5.73, 5.79, 5.81, 5.107, 5.115, 5.121, 5.123, 5.205, 5.207, 5.217(b), 5.307, 5.308, 5.309, 5.311, 5.404, 5.405, 5.406, 5.504, and 5.602. These rules contain new or modified information collection requirements that require approval by the Office of Management and Budget (OMB) under the Paperwork Reduction Act (PRA), *and will become effective* after the Commission publishes a document in the **Federal Register** announcing the approval and effective date.

**FOR FURTHER INFORMATION CONTACT:** Rodney Small, Office of Engineering and Technology, 202–418–2452, *Rodney.Small@fcc.gov*.

**SUPPLEMENTARY INFORMATION:** This is a summary of the Commission's Report and Order, ET Docket No. 10–236 and 06–155, FCC 13–15, adopted January 31, 2013, and released January 31, 2013. 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: *www.fcc.gov*. People with Disabilities: To request materials in accessible formats for people with disabilities (braille, large print, electronic files, audio format), send an email to *fcc504@fcc.gov* or call the Consumer & Governmental Affairs Bureau at 202–418–0530 (voice), 202–418–0432 (tty).

**Summary of Report and Order**

1. In November 2010, the Commission adopted a *Notice of Proposed Rulemaking* (*NPRM*) in this proceeding to implement Recommendations 5.14 and 7.7 of the *National Broadband Plan.* In that *NPRM,* the Commission also sought comment on several proposed changes to the Experimental Radio Service rules to provide additional flexibility to innovators, so that they can more quickly transform their ideas to fully functional new products and services that meet consumer needs. Specifically, the Commission proposed to create a new program experimental license to provide greater flexibility than the conventional experimental license to allow experimenters to alter the course of their tests, if needed, without having to request specific permission from the Commission. It targeted this proposal at specific sectors of the communications ecosystem, including universities and non-profit research organizations and medical institutions. It also proposed to eliminate the almost unused developmental license, consolidate all experimental rules including broadcast experimental rules in parts 73 and 74 into part 5, clarify the market trial rules, and make targeted rule changes aimed at providing additional flexibility and clarity of its rules.

2. In the Report and Order (R&O) the Commission revises and streamlines its rules to modernize the ERS. The rules adopted in the R&O update the ERS to a more flexible framework to keep pace with the speed of modern technological change while continuing to provide an environment where creativity can thrive. To accomplish this transition, the Commission creates three new types of ERS licenses—the program license, the medical testing license, and the compliance testing license—to benefit the development of new technologies, expedite their introduction to the marketplace, and unleash the full power of innovators to keep the United States at the forefront of the communications industry. The Commission's actions also modify the market trial rules to eliminate confusion and more clearly articulate its policies with respect to marketing products prior to equipment certification. The Commission believes that these actions will remove regulatory barriers to experimentation, thereby permitting institutions to move from concept to experimentation to finished product more rapidly and to more quickly implement creative problem-solving methodologies.

3. The Report and Order takes the following actions:

- Consolidates rules for broadcasting experiments into a new subpart within part 5 and eliminates developmental licensing rules in several Commission rules parts so that all experimental authority will be under the part 5 ERS Rules, providing clear and consistent guidelines to applicants for all types of experimentation.
- Establishes program experimental licenses for colleges and universities with an accredited graduate research program in engineering, research laboratories, manufacturers of radio frequency (RF) equipment, manufacturers that integrate radio frequency equipment into their end products and health care institutions to allow broad experimental authority under a single license.
- Creates a Commission Web site where program licensees will register individual experiments to be conducted under a program license at least ten days prior to commencing the experiment.
- Requires that each program licensee post on the Commission Web site a report for each individual experiment completed, including a description of its results.
- Establishes a compliance testing license, which will be available to Commission-recognized testing laboratories that test radio frequency devices for certification purposes.
- Establishes a medical testing license to permit health care facilities to undertake clinical trials of cutting-edge wireless medical technologies.
- Establishes a process whereby the Commission can specify innovation zones where program licensees may operate in addition to their authorized area of operations.

• Broadens opportunities for market trials by adopting a new subpart within the ERS rules that contains provisions for product developmental trials, as well as market trials, and modifies the rules to clarify when operation or marketing of radio frequency devices is permitted prior to equipment certification, including the number of devices that can be imported for such purposes.

• Makes other targeted changes to the Commission's experimental rules and procedures.

*A. Streamlining the Commission's Rules for Experimentation*

4. In the *NPRM,* the Commission noted that one goal of this proceeding was to examine the experimental rules, as well as associated developmental rules in various services, to reduce duplicative and confusing requirements. To that end, the Commission observed that licenses suitable for performing experimentation and development of new innovative products and services are scattered among various rule sections. Most notably, the Commission observed that it offers options for obtaining either an experimental license or a developmental license for entities that are developing new technology or promoting advances in existing technology. It further observed that the developmental licensing rules appear to be largely duplicative of the ERS rules, and that the vast majority of applicants apply for experimental licenses under part 5, rather than for developmental licenses under other rule parts. In addition, the *NPRM* noted that experimental licenses are available not only under part 5, but also under parts 73 and 74, in cases in which the experiment involves broadcast technology. The Commission observed that many of the rules covering broadcast and non-broadcast experimental licenses, as well as developmental licenses, are duplicative and often lead to confusion among would-be innovators. It envisioned a single ''one stop shop'' in part 5 of its rules to make its experimental processes easier to understand, allow it to eliminate duplicative provisions, and ultimately encourage greater experimentation.

5. To achieve these goals, the Commission proposed to eliminate the developmental rules and evaluate all future applications seeking any form of experimental or developmental authority under a consolidated part 5, with the relevant portions of the existing experimental broadcasting rules that are now in parts 73 and 74 moved to part 5. In short, the Commission proposed a new framework wherein all experimental applications would be evaluated under either broadcast experimental rules or non-broadcast experimental rules. It stated its belief that eliminating developmental licenses in favor of experimental licenses would have little or no impact, as experimental rules are either similar or less burdensome. It also observed that there are very few currently active developmental licenses. The Commission concluded that its proposals would provide clear and consistent guidelines to all parties seeking to experiment and innovate, leading to increased opportunities for experimentation.

6. In addition to the broad proposals, the Commission made proposals regarding three specific developmental licensing issues. First, because broadcast experiments pursuant to parts 73 and 74 of its rules rely heavily on broadcasting-specific engineering and licensing knowledge, and are typically designed to support the operations of existing broadcasters, it did not propose to alter these processes, the ways these applications are filed or evaluated by the Commission's Media Bureau, or otherwise disturb existing practice. Instead, the Commission simply proposed 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. It noted that this consolidation would remove duplicative or unneeded language and provide clearer guidance than is available today regarding when an applicant should file for a broadcast experimental license—as opposed to a more general ERS license—while retaining the necessary distinctions for broadcast-specific experimentation. Further, the Commission noted that, in consolidating the parts 73 and 74 rules into part 5, it did not intend to propose any change to the Section 106 historic preservation review applicable to broadcast experimental radio stations authorized by the Commission. Additionally, the Commission proposed to cancel all existing developmental licenses and reissue them as experimental licenses under the part 5 rules. Finally, the Commission noted that 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 must be filed prior to the expiration of the developmental authorization. Therefore, it proposed to retain the existing rule, simply substituting the developmental license requirement with a requirement to instead obtain an experimental license to satisfy the existing ''pre-license'' requirement.

7. *Decision.* The Commission's proposal to consolidate all of its experimental and developmental rules into part 5 received widespread support, and the Commission finds that adopting that proposal will promote greater experimentation and efficiency, thus providing a significant benefit at little or no cost to the public. The current rule structure involves experimental and developmental operations scattered across ten rule parts with varying policies and eligibility requirements. To remove the confusion among license applicants caused by the varying rules, the Commission consolidates its developmental rules from various rule parts and its experimental rules from parts 5, 73, and 74 into a consolidated part 5. The Commission is retaining all necessary distinctions for broadcast-specific experimentation in the revised rules.

8. The Commission also adopts the *NPRM*'s proposal to convert the few existing developmental licenses to experimental licenses. It will cancel developmental licenses and reissue them as part 5 experimental licenses with the same technical parameters that they currently enjoy. In addition, these licenses will be freed from the specific developmental rules to which they must now adhere, and instead will follow the ERS Rules. Further, because the Commission did not receive any comments opposing the proposal for handling meteor burst communication systems under § 90.250 and it is in the public interest to do so, it adopts the *NPRM*'s proposal to require applicants for these systems to first obtain and operate under an experimental license prior to applying for a permanent meteor burst communication system under part 90 licensing requirements.

9. Regarding CTIA's recommendation that the Commission provides streamlined processing for transfers of control and assignment applications involving experimental licenses, the Commission observes that these transactions already generally occur on an expeditious basis and it sees no reason to alter its existing processes. In cases where there may be a long lag time between application filing and grant of a transfer of control, the Commission notes that many of these experimental transactions are components in a much larger transaction such as a merger involving licenses from many Commission licensing systems. In these cases, the experimental license transfer of control cannot be granted until the

Commission issues a decision on the larger transaction. Once that occurs, the experimental license transfer of control generally occurs very quickly, often within one day. The Commission will continue to handle these types of transactions on a case-by-case basis.

10. Similarly, regarding Lockheed Martin's recommendation that the Commission removes experimental licensing requirements in areas where there is negligible risk of harmful interference and omit unnecessary restrictions on experimental license operations, the Commission believes that the actions in the R&O providing for new program experimental licenses will serve Lockheed Martin's stated recommendation to streamline the Commission's rules. In addition, the Commission takes many additional actions in the R&O based on specific comments to further streamline, simplify, and clarify the experimental licensing process.

*B. Program Experimental Radio Licenses*

11. In the *NPRM,* the Commission noted that research institutions already use its experimental licensing program to deliver impressive results, but that its existing experimental rules are not always nimble enough to account for the speed of today's technological development. Currently, the rules allow for an experimenter to apply for a conventional experimental license to cover a single or several closely related experiments for 2–5-year periods with options for renewals for up to 5 years. Any qualified company or individual, including students, may apply for a license, and experiments cannot begin until the Commission grants the license. These conventional experimental licenses are characterized by a narrowly defined purpose and specific limitations on frequencies, emissions, and power levels. If, during the course of experimentation, a licensee determines that it would be better served by conducting experiments using parameters that would differ from what was authorized, the licensee must often request a modified or new license before exploring a new line of experimentation. This process can delay the introduction of new technologies into the marketplace and may prevent the American public from expeditiously taking advantage of technological advances.

12. In pursuit of a process that could keep pace with innovation, the Commission proposed in the *NPRM* to establish a new type of experimental license—a program license—under which qualified institutions would be permitted to conduct an ongoing program of research and experimentation under a single experimental authorization for a five-year period on a non-interference basis without having to obtain prior authorization for each distinct experiment or series of unrelated experiments. The Commission's intent was to allow experimentation with limited constraints, and it proposed few requirements for these program licenses beyond a provision for public notice prior to each experiment and an obligation to report results at the conclusion of each experiment. Its proposal was designed to establish a balance that allows organizations the greatest level of flexibility to experiment—particularly in high-value frequency 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.

13. In the *NPRM,* the Commission proposed to establish three different types of program licenses and further proposed that eligibility for each would require applicants to demonstrate basic expertise in radio management. First, it proposed a research program experimental radio license under which colleges, universities, and non-profit research organizations would be permitted to use a broad range of radio frequencies for research and experimentation. It proposed to restrict the research program experimental license to Accreditation Board for Engineering and Technology (ABET) colleges or universities with graduate research programs or existing industry partnerships and a defined geographic location, or to nationally recognized non-profit research laboratories with a defined geographic location. The Commission reasoned that these institutions typically have a record of generating the types of innovations and technological breakthroughs that it seeks to foster, and argued that this new license option would provide more flexibility to accelerate the rate of these innovations. It proposed to restrict all research experiments to the grounds of the license holder's location and to require that licensees have institutional processes to monitor and effectively manage a wide variety of research projects.

14. Second, the Commission proposed to establish a medical program experimental radio license, available to hospitals and other health care institutions, to expedite the process by which medical equipment is approved under its equipment authorization procedures, eliminate the need to obtain multiple experimental licenses, and encourage the creation of test-beds for medical device innovation. It proposed that this license would be limited to experiments for therapeutic and diagnostic medical equipment designed to comply with the Commission's Rules for such equipment. It noted that the Food and Drug Administration's (FDA) investigational device exemption (IDE) may be applicable when these experiments involve patients. In this regard, the Commission noted that the FDA in consultation with the Commission is exploring approaches to streamline IDEs for wireless medical devices, when an IDE is required. The Commission proposed that the medical program experimental license be supervised by it, in consultation with the FDA, to ensure that patient safety is considered, and noted that the new program is not intended to replace the FDA's existing oversight and review programs.

15. Finally, the Commission proposed an innovation zone experimental radio license to provide greater opportunities for testing and experimentation in specified geographic locations with pre-authorized boundary conditions. It envisioned that such zones, which could include isolated or protected areas, could become havens for enterprise and innovation because they would permit experimenters to explore a variety of technologies with reduced barriers to entry. Its proposal to establish an innovation zone program license was intended to complement its research program license proposal by making a carefully restricted set of locations available to foster robust wireless engineering experimentation and development, but with different eligibility and use restrictions. Specifically, the Commission's proposal stated that innovation zone licensees did not necessarily have to be associated with a college, university, or nonprofit research organization. The Commission further proposed to permit operations over large areas that are available for use by multiple parties, and proposed to prohibit use by a single entity at an exclusive-use facility (such as within the grounds of a large manufacturer's plant).

16. *Decision.* The Commission finds that adding rules for a program experimental license will augment the existing experimental radio license program by affording new options for experimentation that will reduce regulatory delay and uncertainty and promote innovation. The Commission will continue to issue conventional

experimental licenses under existing rules, but it also will have the ability to authorize ongoing experimentation and research for qualified applicants under a program license.

17. The Commission adopts rules for program licenses that differ somewhat from the proposals in the *NPRM* based on comments to the *NPRM* and our further evaluation. As an initial matter, the Commission reduces the categories of program licenses from research, medical, and innovation zones to a single category encompassing all program experimental radio licenses. The rules that it adopts incorporate, to a large extent, the proposals for research and medical program licenses, but not the proposal for the innovation zone program license. The Commission believes, upon further reflection, that distinguishing separate licenses for general research and medical research is unnecessary. Instead, the Commission creates a single program experimental license to encompass all basic research and experimentation. Thus, basic medical research and experimentation conducted by a hospital or health care institution that does not involve ''clinical trials'' will be covered by the program experimental license, and the Commission creates a separate medical testing license for those experiments that do involve clinical trials. Mayo Clinic's comments highlight the fact that there are two types of medical experiments—those involving basic research and those involving real-world patient testing. Moreover, medical experiments that involve patient testing generally require FDA participation. Thus, the Commission finds it more logical and administratively convenient to treat basic medical device research experiments under the program experimental license. The Commission does not believe that the issuance of further guidelines about the Commission's and FDA's respective roles in the application, review, and approval processes should serve as a precondition to or otherwise keep us from adopting the proposed rules. The Commission has an ongoing coordination process in place with FDA regarding medical radiocommunication device matters, and will continue its practice of releasing advice and information as it becomes available. Licensees seeking to test medical devices who have specific questions about the respective roles of the Commission and FDA regarding a planned course of experimentation should continue to raise these matters directly with staff at the respective agencies.

18. The basic framework for a program license differs from a conventional license in several significant ways. A program license will permit innovators to conduct any number of unrelated experiments at defined geographic locations under the licensee's control. Licensees will be able to conduct experiments within a broad range of frequencies, emissions and power levels to support ongoing research. These licenses will be issued for a 5-year term and may be renewed for additional 5-year periods. Eligibility will be limited to certain categories of researchers. Licensees will be required to provide public notice of individual experiments before they are initiated and the results of those experiments after they are concluded. With limited exceptions, experimentation will not be permitted in restricted frequency bands. The Commission discusses all of the requirements for program licenses in detail in the R&O.

19. The Commission believes that a program license will provide a more efficient way for many qualified institutions to conduct cutting-edge research and experimentation and accelerate innovation in RF technology to more quickly transform ideas into important new consumer products and services. The new license will offer experimenters a wide range of flexibility to design their experiments and to change course with respect to frequencies, emissions, and power—subject to certain limitations—as experimenters conduct their research. The Commission believes that establishing such a license will more closely align its rules with the iterative nature of the learning and discovery process that occurs in laboratories today. Further, the Commission notes that this addition to its experimental licensing program will more closely align it with other licensing regimes within the Commission that have moved to a more flexible structure. Experimenters taking advantage of this new option will now be free to follow their research wherever it leads (subject to the basic tenets of the overall experimental license framework, such as not causing harmful interference and operating within the scope of the authorization). This should substantially reduce how often they need to engage the Commission to seek permission to make changes to a preconceived course of experimentation.

20. The Commission emphasizes that this new license will build on its existing experimental license structure, rather than replace it. As with existing experimental licenses, the Commission may, at its discretion, place special conditions on program experimental licenses to ensure that a licensee conducts it experimental program in a manner that ensures that no harmful interference is caused to existing licensees and Federal Government operations as authorized by the National Telecommunications and Information Administration (NTIA). The Commission could, for example, require that experiments be restricted to a specified portion of the program licensee's research campus or conducted during specified hours; require additional coordination for experiments that exceed a certain power level, operate outdoors, or operate on a specific frequency band; or impose additional notification requirements for the first set of experiments that a new licensee conducts under its program experimental license. The Commission emphasizes that such conditions, when imposed, will be narrowly tailored to address specific potential concerns it identifies and that a program experimental licensee will be afforded the freedom to design and conduct a wide range of experiments under the terms of its license.

21. Individuals and institutions that do not qualify for our new program experimental licenses may still apply for conventional experimental licenses. Additionally, institutions that do qualify may nonetheless choose to apply for conventional experimental licenses in certain instances—such as when the particular experiment that they wish to undertake is not permitted under the program experimental license rules. The Commission finds that by providing both conventional experimental license and program experimental license opportunities, it will provide greater flexibility to experimenters and promote greater levels of experimentation that will serve the public interest by spurring innovation, creating new products and services, and ultimately leading to the creation of new jobs. Further, the Commission finds that under the program license, licensees conducting consecutive experiments will accrue cost savings by filing fewer applications and having the ability to begin their experiments in a timelier manner. Thus, the Commission finds that for these licensees the program license will be more efficient than obtaining multiple conventional licenses. These efficiencies should also result in faster service for the remaining conventional license applicants. Accordingly creating a new program experimental license provides significant public benefits at little or no

cost, and so the Commission adopts that proposal, as modified. As proposed, the rules for this new license will be contained in a new subpart E within part 5 of the Commission's rules.

22. Under the rules the Commission adopts, conventional experimental licenses and program experimental licenses will co-exist under its general experimental licensing framework. The Commission observes that experimental radio licenses do not convey any exclusive spectrum rights, and often different conventional experimental licensees have conducted experiments in the same general area on a non-interference basis. If an interference problem is anticipated between an existing conventional experimental licensee and a new program experimental licensee, the Commission sees no reason why this cannot be resolved by the parties, just as is the case at present between two conventional experimental licensees.

23. Research institutions have made important discoveries via the Commission's existing experimental licensing program, and it foresees even greater potential under our new license. The Commission concludes that a research program experimental license has significant potential to advance the state-of-the-art in communications research and applied development, including medical research, thus enhancing economic and social welfare. However, upon consideration of the record in this proceeding and further reflection regarding the fundamental nature of the research program license, the Commission makes certain modifications to the proposal to better align the final rules to expand eligibility and the types of experimentation that will be encompassed.

1. Eligibility

24. Based on the record and the Commission's decision to define a program license as one that supports all types of basic RF research, including medical research, the Commission concludes that it is appropriate to expand the scope of eligibility for program experimental licenses beyond what was proposed in the *NPRM.* Thus, program experimental licenses may be granted to the following qualified entities: A college or university with a graduate research program in engineering that is accredited by ABET; a research laboratory; a hospital or health care institution; a manufacturer of radio frequency equipment; or a manufacturer that integrates RF equipment into its end products. This expanded eligibility will permit enhanced public benefits by significantly expanding the scope of RF research with no public costs.

25. The Commission emphasizes that under the eligibility rules it is adopting, it will limit program experimental licensees to those entities that have demonstrated experience with RF technology (or have partnered with an entity possessing the requisite expertise) and have defined geographic areas. By so doing, program experiments will be unlikely to cause harmful interference to incumbent spectrum licensees, but if that should inadvertently occur, the experimenter will be able to quickly remedy it. To ensure that this condition is met, the Commission will require each applicant for a program license to accompany its application with an explanation of how its staff possesses the expertise with RF technology and to so certify in its application.

26. The Commission finds it unnecessary to require a pilot program before making experimental program licenses widely available. The certification requirements that it is imposing are an appropriate method for ensuring that program licensees do not cause harmful interference to service licensees. The Commission has used similar application certifications in the past to ensure compliance with certain requirements, and it concludes that this approach is suitable here. In this regard, the Commission notes that the Communications Act provides for the Commission to impose penalties, including fines, license revocation, and preclusion from obtaining future Commission licenses on applicants who willfully provide false statements on application forms.

27. Applicants for program experimental licenses must apply on FCC Form 442 (''Application For New or Modified Radio Station Authorization Under part 5 Of FCC Rules—Experimental Radio Service (Other Than Broadcast)''). The Commission is revising this form to include not only conventional experimental licenses, but also program experimental licenses, medical testing experimental licenses, and compliance testing experimental licenses. Each applicant for a program experimental license must specify how it meets the eligibility requirements for such a license, a certification of RF expertise or partnership with another entity possessing such expertise, the purpose of its proposed experimental program, and whether its research program includes federal frequencies, Commercial Mobile Radio Service (CMRS) frequencies, public safety frequencies, or medical testing. The Commission notes that program experimental licenses may not be transferred without its approval. Additionally, applications must specify, and the Commission will grant authorizations for, a geographic area that is inclusive of an institution's real-property facilities where the experimentation will be conducted and that is under the applicant's control. If an applicant needs to conduct experiments in more than one defined geographic area, it must apply for a license for each location. The Commission concludes that because interference issues are unique to each area, the limitation on the geographic scope of a program experimental license provides an appropriate way for the Commission to take these factors into account within the licensing process.

28. The Commission believes that this approach is well tailored for the experimental program license concept. Unlike a conventional experimental license application, which can be filed by any party and is subject to case-by-case analysis, a test planned under the authority of a program license will be conducted by a licensee whose qualifications have already been reviewed by the Commission. This entity will have already committed to design and conduct experimental testing in a way that will not cause harmful interference.

2. General License Requirements

29. In the *NPRM,* the Commission made a number of proposals relating to operating parameters of program experimental licenses. Many of those proposals followed directly from requirements already in place for conventional experimental licenses. First, the Commission proposed that: (1) Program licenses be granted for five year, renewable terms; (2) the Commission has the authority to prohibit or require modification of specific experiments at any time without notice or hearing, if in its discretion the need for such action arises; and (3) 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. Commenters strongly supported all of these proposals, and the Commission adopts them.

30. Additionally, the Commission proposed that within 30 days after completion of each experiment, the licensee must file a narrative statement describing its results, including any interference incidents and steps taken to resolve them. It further proposed that, 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. The Commission noted that online tools, such as its General Menu Reports system, which allows users to search many different Commission licensing databases from one place, could facilitate these tasks. Moreover, it proposed that experiments be designed to use the minimum power necessary and be restricted to the smallest practicable area needed to accomplish the experiment's goals, *e.g.,* an individual laboratory, specific building, or designated portion of a campus. The Commission observed that experimenters may also choose to reduce the frequencies used, restrict the time of use, limit the duration of tests, or employ other means to address potential interference concerns. Finally, the Commission proposed to require that all experiments comply with its existing experimental rules involving matters such as protected geographic areas and antenna structure placement. All of these proposals found support in the record, and the Commission also adopts them.

31. In the *NPRM,* the Commission noted that its existing experimental licensing rules require a licensee to transmit the licensee's assigned call sign unless that call sign has been specifically exempted by the terms of the licensee's station authorization. The Commission therefore proposed 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, and proposed to require the communication of information that is sufficient to identify the license holder and the geographic coordinates of the station. As stated in the *NPRM,* this requirement is important for mitigating interference, should an authorized service licensee receive any. Regarding this proposal, commenters expressed concern only regarding patient confidentiality for experiments involving medical equipment and patients. The Commission concludes that the proposal to require station identification or testing disclosure is sufficiently flexible to accommodate patient confidentiality. In most cases, the testing information that must be disclosed—parameters like starting time and duration—would not implicate patient confidential information, and geographic information would likely identify a healthcare facility's campus broadly as opposed to a specific individual's location. As such, the Commission adopts its proposal 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 on the Commission's program experimental registration Web site. To the extent that a research program licensee believes that a particular test scenario creates a conflict between the requirement to provide detailed testing information and the necessity to protect patient confidential information, the Commission encourages the licensee to first discuss the matter with Commission staff and the U.S. Department of Health and Human Services. If the licensee concludes that the information it must disclose would jeopardize the confidentiality of patient information, the licensee should then consider pursuing that particular test under the Commission's conventional experimental licensing procedures. The Commission finds that its general program experimental rules will provide a public benefit at minimal cost by ensuring that program experiments can be undertaken on a non-interference basis to incumbent operations, while protecting the confidentiality of medical information.

3. Operating Frequencies and Additional Requirements Related to Safety of the Public

32. In the *NPRM,* the Commission proposed that program experimental licensees be permitted to operate in any frequency band, except in bands exclusively allocated to passive services (as are conventional experimental licensees) or in certain restricted bands. More specifically, it proposed that program licensees—unlike conventional experimental licensees—would not be permitted to operate on the restricted band frequencies that are listed in § 15.205(a) of the Commission's rules, except that they would be permitted to operate in frequency bands above 38.6 GHz unless they are listed in footnote US246 of the Table of Frequency Allocations. Except for these restrictions, the Commission proposed that program licensees be permitted to conduct experiments on all other frequencies, as are conventional licensees, and thus have access to the largest range of frequencies practical to enable a broad range of experimentation. However, for experiments that may affect bands used for the provision of commercial mobile services, emergency notifications, or public safety purposes, the Commission proposed that the program experimental radio licensee develop a specific plan to avoid interference to these bands, prior to commencing operation, including providing:

(a) Notice to parties, including other Commission licensees and end users, who might be affected by the experiment;

(b) provisions for the quick identification and elimination of any harm the experiment may cause; and

(c) an alternate means for accomplishing potentially affected vital public safety functions during the experiment.

33. The Commissions proposed applying these provisions to all experiments that implicate these critical service bands (i.e. bands used for the provision of commercial mobile services, emergency notifications, or public safety purposes), and that they would be in addition to the notification requirements that apply to all program experimental licenses.

34. *Decision.* As proposed, the rules that the Commission adopted will provide authority for program licensees to operate on most bands, but not on specific public safety and passive frequency bands. Parties interested in conducting experiments on these restricted frequency bands must apply for a traditional conventional experimental license and provide the required showing.

35. Regarding appeals for additional flexibility by allowing experiments in the restricted bands at very low power with proper site selection, the Commission does not believe that such a deviation from our proposal is warranted nor is there sufficient evidence to support allowing such experimentation under a program license at this time. Many of the operations in these bands are Federal and must be coordinated with NTIA through its Interdepartment Radio Advisory Committee. The Commission notes that it is not foreclosing experiments of the nature suggested, rather they can be accomplished using the current process of obtaining a conventional experimental license.

36. Regarding operation on other frequencies, including the bands used for critical services described in the *NPRM,* the Commission concurs that in general, program experiments can safely be performed in these bands, provided that a specific plan is developed to ensure no disruption to those services. The Commission appreciates the concern expressed by various licensees, but reiterates that harmful interference

caused by program license experiments to any licensed services is unacceptable and will not be countenanced.

37. For program license experiments that may affect critical service bands (*i.e.* bands used for the provision of commercial mobile services, emergency notifications, or public safety purposes), the Commission adopts its proposal that the program licensee must develop a specific plan to avoid harmful interference to operations in these bands. For purposes of this requirement, the Commission notes that there are many current bands, as well as bands that may be designated in the future used for the provision of various commercial mobile services (including broadband) including, for example—the Cellular Radio Service, Specialized Mobile Radio (SMR) service, broadband Personal Communications Service (PCS), Advanced Wireless Service (AWS), 700 MHz band, Broadband Radio Service (BRS)/Educational Broadband Service (EBS), and Wireless Communications Service in the 2.3 GHz band. That plan must be developed by the program licensee prior to commencing an experiment, and provide notice to licensees and, as appropriate, to end users of the critical service bands who could potentially be affected by the experiment describing how the program licensee intends to quickly identify and eliminate any harm that the experiment may cause. If the experiment may potentially impact safety of the public, the program licensee must specify how potentially affected public safety functions will be provided during the duration of the experiment. The Commission is also requiring that, for these experiments, licensees supplement their web-based notifications described in Section III.B.4., of the R&O, to include a list of the critical service licensees that operate in the affected bands in the geographic vicinity of the planned experiment. Doing so will serve as an effective check that the program experimental licensee has conducted sufficient research to meet the requirement that it has contacted all critical service licensees who might be affected by the experiment, and will aid us in evaluating whether the licensee is conducting its activities with the high level of rigor and diligence that the Commission demands under the program experimental license program.

38. The Commission also concludes that it is not in the public interest to categorically prohibit or restrict experimentation in commercial mobile service bands. The Commission believes that it is desirable to support experimentation in all bands where it is practical, and observes that successful innovation in the commercial mobile service space has the potential to directly and immediately improve some of the most widespread and ubiquitous consumer services. Many entities are engaged in designing products specifically for the these bands that are intended to work with various operators' systems, and eliminating the ability to experiment in this spectrum would remove one of the avenues available for such development. The Commission also notes that experimenters may often work with network providers to develop equipment, and adopting rules limiting such operations would not be to either party's benefit. The Commission also notes that these bands are not restricted bands under part 15, and experimenters in these bands can already test new designs and prototypes on that spectrum. The rules stipulate that all experimentation is on a non-interference basis and that it is incumbent on all experimenters to ensure that they do not cause interference to service licensees' operations or risk fines and the possibility of license forfeiture. Moreover, while many experiments will be fixed, devices often are built for mobility, and the Commission does not find it in the public interest to limit the ability of experimenters to fully test their devices.

39. The Commission adopts its proposed rules to permit program experimental licensees to operate in any frequency band, except for frequency bands exclusively designated as restricted in § 15.205(a) of the Commission's rules, with the additional exception that program licensees would be permitted to operate in frequency bands above 38.6 GHz, unless these bands are listed in footnote US246 of the Table of Frequency Allocations. Additionally, for experiments that may affect bands used for the provision of commercial mobile services, emergency notifications, or public safety purposes, program experimental radio licensees must develop a specific plan to avoid interference to these bands prior to commencing operation. As part of this plan, licensees must provide notice to critical service license and, as appropriate, end users who might be affected by the experiment; provide for the quick identification and elimination of any harm the experiment may cause; and provide an alternate means for accomplishing potentially affected vital public safety functions during the experiment. The Commission emphasizes that the burden is on program licensees to contact any and all commercial mobile service, emergency notification, or public safety licensees who might be affected by a program experiment, even if the probability of harmful interference as the result of that program experiment is thought to be relatively low. The proposed rules were crafted to ensure that harmful interference from program experiments would not occur to any service licensee, and the Commission believes that those rules, together with additional rules adopted, will provide a significant public benefit at minimal cost by creating an environment ripe for experimentation and innovation, while protecting incumbent operations.

4. Responsible Party and Notification Requirements

40. The Commission proposed that each program licensee register its experiments on a newly-created Commission program experimental registration Web site at least seven calendar days prior to the commencement of each experiment. This seven-day period was intended to provide interested parties with sufficient time to assess whether they believe harmful interference may occur to their systems. To ensure that such analysis could be done, the Commission proposed that registrations include the following information:

(1) A narrative statement describing the experiment;

(2) Contact information for the researcher in charge;

(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, if necessary; and

(vii) For medical program experimental radio licenses, the rule part for which the experimental device is intended.

The Commission proposed that, once this seven-day notification period elapsed, an experiment under a program license would be permitted to commence without further approval or additional authorization from the Commission; however, if any licensee of an authorized service raised interference concerns, it would have to contact the program licensee and post its complaint on the Commission's program

experimental registration Web site. In the event that a complaint is lodged, the Commission proposed that the experiment would be placed on hold pending resolution of the complaint. Specifically, it proposed that before conducting an experiment, the program licensee evaluate and account for interference concerns raised by interested parties, and that it would have to obey any instructions from the Commission to delay, modify, or abandon the experiment. Additionally, it proposed that the experiment not be permitted to commence until the parties had resolved the issue. Moreover, it proposed that the complainant bear the burden of proof that the proposed experiment would cause harmful interference, and that the parties work in good faith to resolve the complaint. Finally, the Commission proposed to implement measures, such as adding a Real Simple Syndication (RSS) feed, to make it easier for incumbent licensees and other interested parties to become aware of pending tests and make experimenters aware of their concerns. The *NPRM* sought comment on what those measures should be.

41. *Decision.* The Commission's overriding goal is to ensure that program experiments can proceed in an efficient and expeditious manner, without impairing or causing harmful interference to incumbent operations. The Commission concludes that, based on the comments, some modifications to the *NPRM*'s proposed procedures will provide a better, more equitable way to move forward with program licenses and protect incumbent users. As a baseline, the Commission adopts web-based notification procedure with the information requirements proposed in the *NPRM.* The Commission is also expanding a program experimental licensee's obligations and responsibilities in several significant ways.

42. First, the Commission notes that commenters ask that the Commission explicitly collect contact information for a ''stop buzzer'' point of contact who can immediately shut down an experiment if harmful interference occurs to services entitled under the rules to protection. The Commission's intent with the proposed criteria was that collecting information for the researcher-in-charge would fill this need. However, because this contact could be different than the person actually conducting the experiment, the Commission is explicitly adding a ''stop buzzer'' point of contact to the list of required information in § 5.307 of the rules. It also is adding a new § 5.308 to the rules requiring the ''stop buzzer'' point of contact to be available at all times during operation of each experiment conducted under a program license.

43. Second, while the *NPRM* proposed that program licensees report the specifics of their proposed experiments to the Commission's program experimental registration Web site at least seven calendar days prior to commencement of the experiment, upon reflection the Commission finds ten calendar days to be a more appropriate period. The Commission notes that, in some instances, holidays and weekends would shorten the number of business days in a seven calendar-day period. Increasing the notification period to ten calendar days, will better ensure that licensees, if so interested, have adequate time to examine and respond to an experimental posting in a timely manner. Additionally, the *NPRM* proposed that the incumbent licensee would have the burden of identifying interference concerns, but commenters have convinced the Commission that the proposed procedures would unduly shift the burden of proof regarding interference from experimenters to incumbent users. The Commission finds that it would be better to modify this proposal to better reflect the balance of license rights and interference protection afforded under the existing rules and to be consistent with our policies for conventional experimental licenses. Under the Commission's traditional conventional experimental license program, applicants file with the Commission all relevant information, and the Commission makes a determination as to whether the proposed experiment is: (a) Acceptable as proposed, due to a minimal risk of harmful interference, or (b) unacceptable as proposed, due to a significant risk of harmful interference. The Commission may also impose certain requirements on granted licenses. Based on a re-evaluation of the *NPRM*'s proposal, the Commission agrees with commenters that it should not shift the burden regarding interference analysis onto incumbent licensees. Therefore, the Commission adopts rules that more closely adhere to current policy and procedure for conventional experimental licenses in this regard.

44. First, the Commission is requiring that at the time of application for a program license, applicants indicate whether they intend to operate on CMRS or public safety frequencies. This will provide a simple means for interested CMRS and public safety licensees to determine if they need to seek further information on a program licensee's specific experiments from the web-based registration system. If the Commission becomes aware of an applicant who fails to specify in its application that it will be experimenting on CMRS or public safety frequencies, but once licensed either reports its intent for such use or actually initiates such use, the Commission will take disciplinary action including, but not limited to loss of license and/or fines. If an experimenter alters plans after the initial application to subsequently include CMRS spectrum or public safety frequencies, it must file an application to amend its license. The Commission believes that this procedure, along with the web-based registration of specific experiments, will adequately protect critical operations from harmful interference from tests conducted under program experimental license while still providing for experiment flexibility for program licensees.

45. Second, the Commission adopts a requirement that each web posting include a document describing the planned experiment and explaining the measures being taken to avoid causing harmful interference to any incumbent service licensee. The Commission does not find that describing their experiments in web postings will be excessively burdensome to program licensees, as it can expect them to have already undertaken internal analyses regarding the interference potential of their experiments. Thus, this requirement is intended to provide an open and transparent method for potentially affected service licensees and other interested parties not only to become aware of planned experiments, but also to have assurance that adequate planning that has gone into such experiments.

46. The Commission views this analysis as an essential requirement for program licensees and cautions prospective licensees that this analysis should not be taken lightly. It expects that in exchange for the flexibility the Commission is providing through the program license, program licensees will do a thorough analysis to ensure that incumbent licensees are protected from harmful interference. The Commission notes, that in many instances, this explanation could be brief, such as in cases in which experiments are proposed to be conducted indoors, outdoors at low power, at remote locations, or on unused frequencies. In other instances, where the interference risk is greater, the explanation may need more detail, such as detailed link budgets and propagation and interference analyses.

47. The Commission believes that the requirement for program experimental licensees to post their interference analysis to the Commission's program experimental registration Web site will generally obviate the need for incumbent licensees to perform their own detailed analyses to ensure protection from interference. In this manner, the Commission believes that the burdens associated with preventing harmful interference remain the same as at present—on the potential interferer.

48. The Commission disagrees with commenters that advocate a consent requirement on program licensees that plan to experiment in commercial mobile service spectrum. Implementing a rule requiring consent could slow the ability for innovation without providing any substantial benefits in interference protection to the licensee in return. The Commission also believes that a formal pre-filing coordination requirement is generally unnecessary. The Commission believes that there may be certain circumstances where there may be additional concerns about how a proposed experiment conducted under a program experimental license could potentially affect a commercial mobile service provider's network. The Commission has discretion to place coordination conditions on any experimental license. The Commission will continue to use its discretion to place appropriate conditions on experimental licenses in general and experiments conducted under a program license in particular. The Commission is especially concerned about experiments involving commercial mobile service spectrum in scenarios where it determines there may be an increased risk of causing interference to commercial mobile service licensees—for instance, in public spaces—and may require prior notification or coordination, as necessary. As the Commission gains experience with this new licensing approach, it will be better able to tailor notification and coordination requirements as necessary to apply only those that are most appropriate for the specific circumstances. The Commission also observes that new § 5.311 imposes additional requirements for experiments conducted in critical safety bands, including bands used for the provision of commercial mobile services. In reviewing the Web site posting of the planned experiment, Commission staff could determine that other conditions are necessary; alternately, a licensee who is concerned about a posted experiment plan and who has been unable to resolve its concerns with the experimental licensee could seek assistance from us.

49. The Commission concludes that the approach it implemented for program experimental licenses is both consistent with the current rules and offers additional opportunities for licensees to identify and resolve potential interference concerns. Neither coordination nor consent is required under the current rules. Rather, the Commission examines all applications for conventional experimental licenses and determines whether the proposed operations are acceptable due to the risk of harmful interference. If the Commission determines that an experimental licensee should coordinate with an incumbent licensee to reduce the risk of interference, it may condition the experimental licensee accordingly.

50. The Commission will not require coordination between program licensees and incumbent commercial mobile service providers. It recognizes that there could be situations in which it determines that there would be an increased possibility that a planned program experiment could have a greater potential to cause harmful interference to a commercial mobile service licensee, and the Commission will impose additional requirements in the program licensee—or it may even prohibit the experiment in its entirety. Further, the Commission emphasizes that if it becomes aware that a program licensee is not providing adequate analysis of the interference environment as required by the rules, it may place a coordination requirement on a particular course of experimentation, or even on all future experiments, that are conducted under that license. In addition, if a violation is particularly egregious or if there are instances of repeat violations, the Commission has the authority to cancel that license and deny that entity from operating under a program license in the future. In cases in which the Commission does impose a coordination requirement, it expects that all parties will cooperate to work in good faith to expeditiously resolve any concerns.

51. Some commenters requested that the Commission provide as much as 30 days between a program licensee's notification of their experiment to the web-based registration system and when they could commence their experiment. Those comments were predicated on the *NPRM*'s proposal, which would have placed the burden of proof for claims of harmful interference on the incumbent licensees. Now, with the modified rule which places that burden on the program licensee, the Commission has relieved incumbent licensees of much, if not all, of this task. Nonetheless, the Commission increased the notification period by three days. It believes that this 10-day notification period is a reasonable timeframe to allow incumbents to examine, if they so choose, any filing of interest, while not creating long delays in experimentation. In addition, the Commission notes that all license applications already require contact information to be provided, and it is setting forth specific requirements for program experimental licensees. Service licensees who have questions about a proposed experiment or its accompanying interference analysis will have a ready point of contact.

52. To recap, while a program license will be granted for a series of experiments, each individual experiment must be preceded by a web posting containing information required by the rules. The Commission emphasizes that incumbent licensees may object to a particular experiment, and they may contact the program licensee to try and work out any objections. However, only the Commission has the authority to prevent a program licensee from beginning operations or to order the cessation of operations. The Commission is not adopting the proposal that an experiment automatically not be permitted to commence until the parties resolve all outstanding interference objections. The added requirement that a program experimental licensee must submit an interference analyses in conjunction with its notice of proposed experimentation reduces any benefit from this proposed provision (which the Commission also recognizes could be used to block or delay important experimental work). If an incumbent licensee believes that it will suffer interference and does not informally resolve the matter with the experimental licensee, the incumbent licensee would have to bring its concerns to the Commission for action. In such an event, the Commission would examine the evidence and decide whether the experiment should proceed as planned, should not be permitted to proceed, or if specific notification or coordination requirements should be imposed. The Commission's Office of Engineering and Technology (OET) will issue such a public notice with instructions regarding the complaint procedure.

53. In the R&O, the Commission also addresses the process that will be used for experiments that propose to use exclusive Federal spectrum or shared Federal/non-Federal spectrum. As an initial matter, it notes that under a Memorandum of Understanding (MOU)

between the Commission and NTIA, the Commission will coordinate all such applications for Commission operating licenses with NTIA, which is afforded 15 days to reply to the Commission. Under its application procedures for program licenses, however, the Commission will not be collecting specific frequency information, but rather only location information with the initial application. As described, frequency information will be prior-reported by the licensee to the Commission's Web site before any experimentation may begin. To satisfy its obligation to prior coordinate experiments that will be using either Federal exclusive or Federal shared spectrum, the Commission will add a question to the application form where applicants for a program license can indicate if they are planning on using any spectrum that is allocated to the Federal government on a shared or exclusive basis and, thus, is subject to coordination under the MOU. An affirmative answer will trigger a location-specific coordination with NTIA and based on the outcome of that coordination the Commission may place special conditions on the license which could include a list of frequencies or frequency bands on which the applicant would be restricted from operating on at the proposed location. Applicants who plan on using such spectrum should plan to ensure they apply with sufficient time to complete this coordination prior to the time they intend to begin transmitting as the Commission will not grant authority to operate until the conclusion of the coordination process. The Commission, at that time, will take any action if it deems that any is warranted. As with the similar requirement that it is implementing for experiments on CMRS spectrum, the Commission notes that if it becomes aware of an applicant indicating in its application that it will not be experimenting on frequencies that are part of a Federal spectrum allocation, but once licensed either report its intent for such use or actually initiates such use, the Commission will take disciplinary action including, but not limited to loss of license and/or fines. If an experimenter alters plans after the initial application to subsequently include Federal spectrum, it must file an application to amend its license. The Commission believes that this procedure will adequately protect Federal operations from harmful interference from tests conducted under program experimental license while still providing for experiment flexibility for program licensees.

54. The Commission believes that its amended approach for prior notification of experiments in which the licensee provides a description of how it will avoid interference will result in more carefully planned program experiments, while not imposing an undue burden on experimenters. Further, in developing the Commission's new program experimental registration Web site, it will emphasize the importance of implementing additional measures to make it easier for incumbent licensees and other interested parties to become aware of program experiments, such as by developing an automated process for distributing information regarding program experiments by RSS feeds or other appropriate means. The Commission finds that its overall approach balances the needs of both program licensees and service incumbents, providing a public benefit significantly outweighing its cost.

5. Use Prohibitions

55. In the *NPRM,* the Commission proposed that experiments could not be conducted under a program experimental license when the applicant requires non-disclosure of proprietary information. Several commenters expressed disagreement with that proposal. The *NPRM* also proposed that experiments could not be conducted under a program experimental license when an environmental assessment or orbital debris mitigation plan must be filed with the Commission. There is little or no objection to this aspect of the *NPRM.*

56. *Decision.* Commenters generally request that they be permitted to maintain confidentiality of proprietary information and still take advantage of the flexibility the Commission is affording through the program experimental license. As the Commission has stated throughout this proceeding, its goal is to enable more robust experimentation. With that principle in mind and based on the comments and an examination of our current process, the Commission is modifying the proposal related to the treatment of confidential and proprietary information.

57. The Commission believes that program licensees can describe their experiments under the prior notification procedures and report on the results of their experiments on the Commission's Web site in general terms that do not disclose any proprietary or confidential information. The Commission will require public disclosure of frequency, power, location, emission designators and contact information. The Commission observes that this information, with the exception of power and emission designators, is required for public disclosure today for conventional experimental licenses. The Commission also finds that requiring public disclosure of power and emission designators is necessary so that potentially affected service licensees can assess the program licensee's analysis of interference avoidance and mitigation, given the reduced level of Commission review that may occur prior to specific experiments under the program license. Moreover, the Commission may request that a program licensee provide information in addition to that required by the rules, which could include proprietary or confidential information. For example, such information requests may be necessary to resolve an interference complaint, to gain a better understanding of new technology development, or to audit the program to ensure that parties are conducting actual experiments. If confidential or proprietary information must be disclosed due to Commission request for additional information, it will entertain requests to keep such information from the public, consistent with the current rules for treating confidential information set forth in § 0.459. Failure to comply with a Commission request for additional information or, if review of such information reveals that a licensee is not conducting a program of actual experimentation, could result in forfeiture of the program license and loss of privilege of obtaining such a license in the future. The Commission modifies its rules accordingly. Finally, the Commission reiterates that if entities believe that they need to disclose confidential or proprietary information as part of the justification for their license, they can forego the program experimental license and instead obtain a conventional experimental license.

58. Additionally, the Commission adopts the *NPRM's* proposal to prohibit program experimental licenses when an environmental assessment or orbital debris mitigation plan must be filed with the Commission. It finds that these prohibitions are necessary due to the required Commission review and approval of these filings prior to the onset of operation. The Commission's overall approach to use prohibitions balances the need to reduce the costs of regulatory burdens on experimental licensees and the benefits of protecting the public from harmful interference to existing radio services.

6. Innovation Zones

59. Many commenters are skeptical of the *NPRM's* proposal to create a discrete

innovation zone program license, and the Commission is not doing so in the R&O. Nevertheless, it believes that there is a place for designating specific areas where licensees can operate experimental devices to assess real world performance in the presence of other similar or dissimilar devices, differing terrain, and changing atmospheric conditions. The Commission believes that, if properly structured, such zones can provide equipment developers valuable insight to ensure that their products perform as intended when they become available to the public. Therefore, the Commission establishes a mechanism by which it can create innovation zones—designated geographic areas and frequency ranges—in which program licensees will be afforded additional opportunities to design and conduct experimentation.

60. Commenters observe that establishing an innovation zone under the *NPRM*'s proposed rules would have been a complex undertaking whose risks would have been difficult to evaluate without any experience with other types of program experimental licenses. Further, because the Commission did not propose any restrictions on who could hold an innovation zone license, organizations and individuals not as well-versed in RF spectrum management as research licensees could potentially have obtained such licenses, thereby increasing the interference risk to licensed services. While the Commission has considered restricting eligibility for innovation zone licenses in the same fashion that was proposed in the *NPRM* for research and medical licenses, it declines such an approach, as that could severely limit the utility the Commission envisions for such zones.

61. The Commission concludes that there is a better way to enable the type of widespread experimentation that it envisioned under the *NPRM*'s innovation zone proposal. Accordingly, the Commission adopts rules that allow it—on its own motion or in response to a public request—to designate a defined geographic area and frequency range(s) as an innovation zone for specific types of experiments. An innovation zone designation will not confer operating authority on the entity that owns or manages the designated site. Instead, under the rules that the Commission adopts, it will permit research program experimental licensees to operate in innovation zones within guidelines that will be establish on a case-by-case basis. These zones may include geographic areas beyond a program licensee's authorized area. Thus, the Commission will effectively provide in some circumstances an extension of a research program license, without the licensee being required to modify that license to cover a new location. By modifying the *NPRM*'s proposal in this manner to limit operational authority within an innovation zone to program licensees, the Commission can better manage the potential for harmful interference from individual experiments, while still providing opportunities to test potentially innovative wireless devices in real world operating environments.

62. The Commission recognizes that there must be some limits and constraints to minimize the potential of harmful interference due to operation under this expanded flexibility. First, it reiterates that these innovation zones may be created only by specific Commission action in response to a request, or alternatively, on the Commission's own motion. An innovation zone designation will be conveyed via Public Notice and posted on the Commission's new program experimental registration Web site, detailing the specific geographic area(s) included and the technical parameters, such as frequency bands and power limits, included. In that connection, the Commission observes that OET has delegated authority to generally administer the ERS, which therefore gives it the authority to designate experimental innovation zones and their operational conditions. Second, operation under this authority will not permit a program licensee to abdicate its notification and reporting responsibilities. Prior to operating in an innovation zone, program licensees must provide notification of their intended operations consistent with the procedures adopted in the R&O. It is important that all licensees have full knowledge of operations in an area, so that, if necessary, they can remedy harmful interference. Finally, only program licensees will be permitted to operate in an innovation zone under their existing authorization. Conventional licensees will have to apply for and receive a license modification if they want to expand the scope of their experimentation to an area and frequency band that is part of an innovation zone.

63. Structuring innovation zones in this way will allow targeted experimentation in response to specific industry or regulatory needs. The Commission believes that these innovation zones hold great promise to enable development of robust devices that can withstand the increasingly complex communications environment in which they must operate. Accordingly, the Commission' s revised innovation zone structure can provide a significant public benefit, while reducing substantially the potential interference costs of the *NPRM*'s innovation zone proposal.

*C. Compliance Testing License*

64. The *NPRM* noted that § 2.803 of the Commission's rules provides for the operation of RF devices for compliance testing, but does not eliminate the requirement to obtain a station license for products that normally require a license to operate. The *NPRM* therefore asked how laboratories engaged in the testing of equipment, that are not themselves manufacturers or licensed service providers, should be authorized to conduct their work. It also asked if the Commission should make specific provisions in its part 5 experimental radio service rules to issue licenses to laboratories accredited by accreditation bodies that it recognizes for RF product testing consistent with their approved competencies.

65. In a related issue, the *NPRM* noted that the Commission's equipment approval process often requires testing at an Open Area Test Site (OATS). The *NPRM* observed that the Commission's existing rules require an experimental license for radiation emissions testing in conjunction with regulatory approval and asked how entities engaged in open area testing, but that are not themselves manufacturers or licensed service providers, should be authorized to conduct their work. The *NPRM* sought comment on whether the Commission should make specific provisions in its part 5 experimental radio service rules to issue licenses to these entities patterned after the program license model.

66. *Decision.* The Commission concurs with the commenters' assessment that it is appropriate for the Commission to issue laboratories engaged in the compliance testing of equipment, including those operating an OATS but that are not themselves manufacturers or licensed service providers, licenses with similar terms, conditions, and renewal processes as we are adopting for program experimental licenses. It will therefore create another type of experimental license—a compliance testing experimental license—to account for the work of test labs that conduct compliance testing under the Commission's equipment authorization program. This license will be available both to those test labs that the Commission currently recognizes for RF product testing and to any other test lab that it finds has sufficient expertise

to undertake such testing. Due to the nature of the compliance testing process, the Commission will not impose on them most of the limitations and reporting requirements that it is imposing on program licenses. Specifically, because compliance testing often involves emission measurements in restricted bands, compliance testing licensees will be exempt from the prohibition on operating in the restricted bands listed in § 15.205(a) of the rules and from operating in the bands allocated exclusively to the passive services. In addition, the Commission will not impose the designation of a ''stop buzzer'' point of contact nor the ten- day notification period requirements on these licenses, as it does not believe that any significant interference risk exists for products reaching this stage of development, when operated by a test lab solely for the purposes of certifying equipment for compliance with our rules. Finally, the Commission will not require the filing of a narrative statement detailing the results of the testing done under this license. By its nature, successful testing results in the issuance of an equipment certification grant and an entry in the Commission's Equipment Authorization System. Test labs are already required to include various test reports and other documentation, negating any need to mandate compliance with the more general program license reporting requirement. Compliance testing experimental licensees will also be exempt from the additional requirements in§ 5.311 of our rules that relate to safety of the public.

67. The Commission does find, however, that some restrictions are necessary on these licenses. First, while it received no comment regarding eligibility, it finds that it is important to limit eligibility to Commission-recognized testing laboratories to provide assurance to the public of the competency of the entities that are engaged in compliance testing and operating under this broad authority. However, the Commission does not currently require that Commission-recognized testing laboratories be accredited, and thus the Commission will not limit eligibility to accredited laboratories. Rather, it will grant compliance testing experimental radio licenses to those laboratories recognized by the Commission as being competent to perform measurements of equipment for equipment authorization.

68. In addition, the Commission will limit the authority of compliance testing experimental licenses to only those testing activities necessary for product certification. Accordingly, compliance testing experimental licensees will not be permitted to conduct immunity testing under this license. Such testing often entails high powered emissions over a very broad swath of spectrum, which could pose a significant risk of interference to other systems, including Federal systems. A traditional conventional experimental license will be required for immunity testing to ensure that all necessary coordination is conducted and that all reasonable precautions against interference are taken. Finally, consistent with the new program and medical testing experimental licenses, the Commission will require compliance testing license applicants to apply on revised FCC Form 442, and it will issue compliance testing licenses for five years and prohibit transfers of such licenses. Each applicant must specify how it is eligible to receive a compliance testing experimental license, such as by including a description or other proof of its qualifications. The Commission finds that this structure will provide public benefits by ensuring efficient compliance testing at minimal costs. Rules specific to this license are contained in a new subpart G within part 5 of the Commission's rules.

*D. Medical Testing License*

69. The Commission has established an additional type of license to meet specific needs of the medical community for clinical trials—the medical testing license. While non-clinical trial testing is permitted under our program license, the Commission finds that it can best meet medical RF experimentation needs by providing several different types of authorizations that can support a broad range of medical device research, development and testing, rather than limiting such experimentation to the medical program license concept that was proposed in the *NPRM.*

70. As an initial matter, the Commission notes that the medical program experimental radio license proposed in the *NPRM* was narrowly targeted for hospitals and other health care institutions. The Commission proposed that this license would be limited to 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 Commission's technical rules. As was discussed, ongoing programs of related or unrelated experiments that encompass basic research and experimentation—including medical research and experimentation—logically fall under the broader category of research experiments. Research laboratories and manufacturers, as well as health care institutions, that conduct medical RF experimentation will be eligible for a program license, thus meeting the needs of a broad range of entities. Accordingly, the Commission is not creating a medical-specific program experimental radio license category.

71. *Decision.* The Commission finds that the program license framework may not meet all of the testing needs of the medical device community. For example, licensees that operate under a program license will be required to conduct tests at geographic locations under their control. This will limit the ability of entities doing medical research to conduct clinical trials—particularly those involving patients or devices used for home care.

72. To meet these needs, the Commission establishes the medical testing license. This license will be available to health care facilities as defined in § 95.1103(b) of the rules so they can conduct clinical trials of medical devices that have already passed through the early developmental stage and are ready to be assessed for patient compatibility and use, as well as operational, interference, and RF immunity issues in real world situations. The health care facility itself will be the responsible party for all testing and responsible for proper operation of equipment, as well as being responsible for remedying any interference issues that might arise during the trial. The Commission will scrutinize the qualifications of applicants for medical testing licenses to ensure that they have sufficient expertise in RF management so as not to cause harmful interference to any authorized spectrum user. Similar to the requirement for program experimental licenses, the Commission will require each applicant to submit a statement with its application detailing how it meets eligibility requirement relative to RF expertise.

73. While the Commission will not explicitly condition medical testing licenses on health care facilities obtaining FDA approval to conduct a clinical trial for the RF devices to be tested under a medical testing license, as it can envision some applications where such approval may not be necessary, the Commission cautions that all parties involved in clinical testing must be aware of the FDA's jurisdiction and take all necessary steps to satisfy the requirements of both the FDA and

the Commission prior to testing a device. Thus, medical testing licensees must consider that a license grant by the Commission may not by itself be sufficient to begin testing. Each experimenter must determine whether the device needs specific pre-approval from the FDA, including whether the device meets the criteria for testing under an IDE. The Commission also notes that it and FDA may consult from time to time if questions arise regarding the use of devices under the medical testing license. If the Commission determines that FDA requirements have not been met for a particular device that is the subject of an experiment, it may take action up to and including termination of the experimental license.

74. Because medical testing licenses are primarily designed to address the needs of health care facilities that want to conduct their own clinical trials, they are similar to product development licenses. However, medical testing licenses are targeted to a distinct user community to provide the flexibility needed to conduct clinical trials. Similar to program licenses, the Commission will issue medical testing licenses for five year, renewable terms, and the licensee will be authorized to conduct multiple unrelated experiments under just one license. Although the Commission proposed that medical program licenses be limited to investigations and tests involving therapeutic, monitoring, and diagnostic medical equipment that have not yet been submitted for equipment certification, or for devices that use RF for ablation, the Commission will slightly modify this description to be consistent with the FDA's definition of a medical device. Specifically, it will define a medical device for the purposes of a medical testing license as a device that uses RF wireless technology or communications functions for diagnosis, treatment, or patient monitoring. Under the rules adopted, the Commission will permit medical testing licensees to operate in any frequency band under part 15 (Radio Frequency Devices), part 18 (Industrial, Scientific, and Medical Equipment), or part 95 (Personal Radio Services, Subpart H—Wireless Medical Telemetry Service and Subpart I—Medical Device Radiocommunication Service) of the Commission's rules. The Commission's goal is to speed the process for device development to benefit the public, and it believes that goal is best served by requiring that the device being tested under a medical testing license comply with existing parts 15, 18, or 95 rules, so that additional rulemaking efforts are not necessary. If medical devices do not comply with the technical limits in these rules, they must be tested under a conventional or program experimental license.

75. The Commission notes that harmful interference caused by an experimental licensee to any licensed service is unacceptable, and thus it finds no need to exclude certain Amateur Radio bands from potential use by medical testing licensees. More generally, the Commission does not find the concerns raised regarding medical experimental licenses to be fundamentally different than the concerns raised about research program experimental licenses, which have already been addressed. In particular, any part 5 licensee, including a medical testing licensee, will be responsible for ensuring that harmful interference is not caused to authorized spectrum users. Similarly, medical testing licensees must ensure that their devices are immune to interference affects from authorized services sharing the same bands as their devices. Testing under a medical testing license will allow for such testing. Thus, it will not restrict medical testing licensees from operating in any of the specific bands noted by commenters.

76. To make the medical testing license as useful as possible for clinical trials, the Commission will permit licensees to conduct these trials not only at the facilities (e.g., a hospital) under their control—a requirement for program licensees—but also to conduct product testing in other locations. For example, the Commission will permit licensees to conduct experiments when patients are confined to their homes as they recover from medical procedures or when patients, who are using implanted or body-worn medical devices, are ambulatory. This flexibility is necessary to ensure critical functions for many medical devices—such as remote monitoring, device tolerance to potential interference sources, and patient ability to use devices without the benefit of assistance as critical aspects of experiments conducted outside of medical campuses. Health care facilities will specify their intended area of operation when they apply for a medical testing license, as specified in § 5.404 of our rules. The Commission recognizes that some commenters expressed concerns about the interference potential that could be caused to authorized services if medical experiments are conducted outside a health care facility. The Commission believes that this concern is addressed in several ways. First, a medical testing license will be used primarily for clinical trials, not basic medical research. This means that the basic RF experimentation for the medical device will have already been completed and the device, in many cases, will already have received FDA approval for such testing. In addition, although a health care facility could oversee a clinical trial beyond its facility, it may not want to assume this responsibility in some cases and instead prefer that the device manufacturer or health practitioner, under a conventional or product development trial license, assume responsibility for clinical trials outside the health care facility. The Commission will also require that medical testing licensees follow the same responsible party and designation of ''stop buzzer'' point of contact requirements as program licensees. Finally, the Commission will require that medical testing licensees follow the same notice and reporting requirements as program licensees—*i.e.,* medical testing licensees must provide both prior notification of planned experimentation and a report of experimental results on the Commission's program experimental registration Web site. This public disclosure of medical testing prior to and at the conclusion of each trial will notify authorized users of such testing in their geographic area. The Commission intends to closely monitor medical testing experiments and may revisit these geographic requirements as it gains some experience with this new type of license.

77. In the *NPRM,* the Commission proposed that medical program experimental licensees file yearly reports to the experimental licensing system of the activity that has been performed under their licenses to provide a venue for sharing information that medical researchers would find beneficial in the goal of patient care. No one commented on this proposal. The Commission concludes that a yearly reporting requirement for medical testing licenses will likewise support the sharing of useful information within the medical community, and it adopted such a requirement. These reports will be filed through the same Web site that will be used for registering experiments and will be available to the public. This action will facilitate the dissemination of information obtained in medical testing experiments that may be beneficial in providing improved patient care.

78. Finally, the Commission adopted the *NPRM*'s proposal that tests conducted under a medical experimental authorization not be subject to our traditional station identification rules. As the Commission

observed in the *NPRM,* its past experience in the medical device field suggests that such requirements are impractical for many of the devices expected to be tested under the proposed new authorization, and 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.

79. The Commission also notes that health care facilities that wish to enable medical device testing by program licensees under real-world conditions (including testing with patients) can instead request that they be designated as an innovation zone for such testing. Thus, a health care institution that would like to offer its facilities as a test-bed, but lacks the expertise to oversee such operations itself, can petition the Commission to designate their facility as an innovation zone, so that individual developers and manufacturers with research program licenses can use the facility under their license. This approach may be particularly useful for manufacturers who want to test medical or other types of equipment that will be used in a health care setting while it is in the product development stage, but who will not be eligible for the medical testing license. The Commission notes that under the innovation zone approach, the program licensee that the health care facility permits to experiment on its premises would be the responsible party for the testing and operation of equipment within the innovation zone. This is different from the medical testing license, in which the health care facility is the responsible party.

80. These different licensing options represent a multi-faceted approach to facilitate robust medical RF experimentation that responds to the record developed in this proceeding. The medical testing experimental license complements the types of medical RF experimentation that parties will be able to conduct under either a conventional or program experimental license. This overall approach will provide a significant benefit to the public at no public cost by streamlining the process by which medical equipment is approved under our equipment authorization procedures, thus reducing the time it takes to develop cutting-edge medical devices and systems.

*E. Broadening Opportunities for Market Trials*

81. In the *NPRM,* the Commission noted that market studies and real-world trials, which require operation of equipment prior to authorization, can be vital to the transformation of prototypes to fully functional new products and services that meet consumer needs. This observation continued from the more general examinations of the market study process undertaken by the Commission in the August 2009 *Wireless Innovation NOI* and the March *2010 National Broadband Plan.* The Commission observed in the *NPRM* that its rules generally prohibit marketing or operation of equipment prior to authorization, but that some exceptions exist. Specifically, § 2.803 of the Commission's rules allows for advertising and display, conditional sales to certain businesses, and outright sales of equipment that has not yet been authorized so long as proper notice is provided to the prospective buyer. This rule section also permits a manufacturer to operate its product for demonstration or evaluation purposes under the authority of a local Commission-licensed service provider so long as that equipment operates in the bands licensed to that service provider. Additionally, § 5.3(j) of the rules permits licensees operating non-certified equipment under experimental radio authorizations to conduct ''limited market studies,'' on a case-by-case basis subject to limitations established by the Commission. Because these rules and exceptions are scattered over several rule parts, equipment manufacturers and licensees are often confused as to which particular rules apply to various situations. Thus, the *NPRM* proposed to bring more clarity to the rules regarding the operation and marketing of RF devices prior to equipment approval and also to relax the conditions under which market trials can be conducted to enable more robust market trial activities by a greater number of innovators.

82. As a first step, the *NPRM* proposed to parse the existing rule into separate rule sections—one addressing rules for marketing devices prior to equipment authorization and one addressing operation of devices prior to equipment authorization. These rule sections—§§ 2.803 and 2.805, respectively—would more clearly define the parameters for marketing and operating devices prior to equipment authorization. The Commission adopted the proposed new rule structure, which we find will provide the public benefit of increased clarity at no public cost.

83. The *NPRM* did not propose to alter the substance of the existing rules in § 2.803, but rather proposed only to clarify them so that they would be easier to understand. However, commenters raise an issue with the provision that effectively prohibits operating unauthorized devices in residential areas. Under existing § 2.803(e)(1)(iv) of our rules, RF devices may be operated, but not marketed, for the purposes of ''evaluation of product performance and determination of customer acceptability, provided such operation takes place at the manufacturer's facilities during developmental, design, or pre-production states.''

84. In the case of testing devices in conjunction with a service provider, that provider is the licensee and is ultimately responsible for operations under its license. Moreover, the service provider has a direct interest in not causing interference to its own customers and therefore has a significant incentive to take steps to minimize any risk. The Commission will therefore modify proposed §§ 2.805(b)(3)(iii) and 2.805(b)(3)(iv) of the rules to permit a manufacturer to operate unauthorized equipment in a residential area, so long as it is operated in conjunction with, and under the authority of, a service provider's license. Finally, the rules the Commission adopt requires that licensees in market trials ensure that trial devices are either rendered inoperable or retrieved from trial participants at the conclusion of the trial, and that licensees notify participants in advance of the trial that operation of trial devices is not permitted following the trial. These rules essentially follow existing rules and procedures currently available in the ERS for limited market studies.

85. In consideration of the comments, the Commission will add a provision to the rules in § 2.805(b)(2) to permit general operation of RF devices subject to certification that have not yet been certified without the need for an experimental license, provided that the devices are operated as part of a trade show or exhibition demonstration and at or below the maximum power level permitted for unlicensed devices under its part 15 rules. Current rules provide such an exception only for devices designed to operate under parts 15, 18, or 95, and the Commission is keeping that exception. Expanding this exception to devices designed to operate under any rule part, but capping the power level for demonstration purposes to the part 15 levels, will reduce burdens on manufacturers, as they will no longer need to obtain an experimental license or Special Temporary Authorization (STA), or operate under a third party's service license to conduct such demonstrations. Further, this expansion will increase opportunities for manufacturers to demonstrate their products, with little

potential for increasing interference, as emissions at part 15 levels are currently permitted. The Commission does not find it necessary to restrict such use to indoor only or to preclude in-motion operations. The Commission observes that the current exceptions do not include such restrictions, and it has not received any interference complaints. However, the Commission will not allow RF devices operating under this provision to be used beyond trade shows or exhibitions. Trade show and exhibition schedules and operating hours are known and generally occur in confined areas, and often have their own frequency coordinators, so any instance of harmful interference can be identified and remedied quickly. In contrast, unrestricted use of uncertified devices at any location, even at the part 15 levels, could increase the likelihood of interference to authorized spectrum users without any such ability for quick remediation. Accordingly, the Commission finds that its revised rules strike an appropriate balance between the benefits of enhanced opportunities for manufacturers of RF devices to demonstrate their products and the potential costs of harmful interference to authorized Commission radio services.

1. Product Development and Marketing Trials

86. In the *NPRM,* the Commission proposed to expand upon the existing concept of ''limited market studies'' as currently codified in our part 5 rules. Specifically, it proposed to adopt a new subpart that contains provisions for two types of trials—product development trials and market trials. As an initial matter, because part 5 does not contain a definition of marketing, the Commission proposed to cross-reference the part 2 definition in the revised part 5 market trial rules and sought comment on whether this definition meets the needs of part 5 licensees. It then proposed that a product development trial be defined as an experimental program designed to evaluate product performance in the conceptual, developmental, and design stages, and that a market trial be defined as a program designed to evaluate product performance and customer acceptability prior to the production stage. The Commission proposed that these trials be conducted under the authority of a part 5 license and—because they would typically involve equipment that has not yet been certified—operate as an exception to the general part 2 rule restricting such operation.

87. The *NPRM* envisioned that product development trials could include equipment that would not be able to operate in compliance with existing Commission rules, absent an experimental radio authorization. Thus, the Commission's proposals were designed to generally track the existing rules for limited market studies, in that the *NPRM* proposed to explicitly prohibit the marketing of devices operated as part of a product development trial and retain the requirements that licensees retain ownership of the equipment and they notify users that they are part of a limited market study.

88. Regarding market trials, the Commission recognized that they often involve 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 at various price points. It proposed that under a market trial, licensees would be permitted to lease equipment to trial participants. However, it also proposed to continue the prohibition on sale of equipment that has not yet been certified to market trial participants, such as consumer end users, and require that licensees retain ownership of equipment. To do otherwise, the Commission reasoned, would put the ownership of uncertified equipment directly with consumers and complicate the Commission's efforts to enforce its rules when the trial ends. The Commission also proposed to require that licensees ensure that trial devices are either rendered inoperable or are retrieved at the end of the trial. Additionally, recognizing that two parties may plan to conduct a market trial together (*e.g.,* a manufacturer working in conjunction with a service provider), it proposed rules that would permit it to issue a part 5 license to more than one party, and to allow licensees to sell equipment to each other. In these instances, it proposed that one party must be designated as the responsible party for that trial. Finally, to ensure that it would have a licensee identified as the responsible party for all market trials, the Commission proposed that a part 5 license would be necessary for all market trials, even those for devices designed to be authorized under parts 15, 18, or 95 of its rules.

89. *Decision.* The Commission believes that the proposals will expand the availability of trials, so that manufacturers and service providers can gain valuable insight to the needs of consumers prior to offering new products and services to the broader marketplace. Commenters generally agreed, and the Commission adopts those proposals with only minor modifications. The Commission finds that the changes are in the public interest and will provide a significant benefit at little or no cost.

90. The Commission believes that these rules address the concerns that some commenters expressed regarding the potential for proliferation of unauthorized equipment. The prohibition on the sale of such equipment to consumers has been in place for market studies under part 5 rules for some time, as has a requirement that each experimental licensee inform all participants in a market trial that the operation of the service or device is being conducted under an experimental authorization and is strictly temporary. These rules have worked well in the past and the Commission believes that they will continue to function as designed to ensure that trials do not become proxies for actual product or service offerings.

91. Regarding Mayo's concern that the proposed definition of a product development trial in § 5.5 is too narrow and should be expanded to explicitly include medical devices, the Commission concurs. As the Commission has observed in discussions regarding medical testing licenses, medical devices must not only be evaluated in the conceptual, developmental, and design stages, but also through extensive clinical trials. The Commission envisions that a party developing a medical device might seek authorization for a product development trial when, it has developed equipment that would not be able to be operated in compliance with existing Commission rules, absent an experimental radio authorization. To remove any uncertainty about the potential scope of a product development trial, the Commission modifies the definition of a product development trial to specifically include medical devices being used in clinical trials.

92. The rules that the Commission adopts differentiate between product development trials and market trials, as set forth in § 5.501 and 5.502 of our rules, respectively. In a product development trial, licensees must own all of the equipment, must inform all participants of the nature of the trial, and must not market devices or offer services for hire. Market trials, coming later in the development process, will also have requirements that the licensees retain ownership of all equipment, but the Commission will allow limited marketing of equipment. Specifically, it will permit the sale of equipment between licensees in a market trial, provided that they each have an experimental license

authorizing a market trial. The Commission will also permit the lease of equipment to trial participants. As an example, a manufacturer holding an experimental license for a market trial may sell equipment to a similarly licensed service provider, but neither of those licensees may sell equipment to an unlicensed trial participant—rather, those participants may only lease trial equipment. In addition, the rules require that if more than one licensee is authorized for a market trial, one of those licensees must be designated as the responsible party for the trial. The Commission will designate the responsible party, if the parties themselves do not submit that information to us. Finally, the rules require that licensees in market trials ensure that trial devices are either rendered inoperable or retrieved from trial participants at the conclusion of the trial, and that licensees notify participants in advance of the trial that operation of trial devices is not permitted following the trial. These rules essentially follow existing rules and procedures currently available in the ERS for limited market studies.

93. The Commission finds it logical to require that both product development and market trials be authorized under conventional—rather than a program—experimental licenses. The Commission does so in recognition of the inherent difference between product development and market trials and ''regular'' experimentation and testing—the most prominent difference being the necessity to prevent an experimental licensee from creating a *de facto* service through the experimental licensing process. The Commission does not believe that requiring a conventional license—a continuation of the Commission's existing practice for market trials—will diminish either the ability of experimenters to conduct such trials or the independent value of a program license.

94. The Commission believes that these rules will enhance and build on the rules previously available to part 5 licensees for market studies. They provide additional flexibility for manufacturers and service providers to gain an understanding of the viability of their products in the marketplace. The Commission is confident that experimental licenses will take advantage of them and provide a substantial benefit to the American public at minimal cost.

2. Evaluation Kits

95. Evaluation kits typically consist of a component that a 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. The *NPRM* noted that 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. The *NPRM* pointed out that, under the current rules, sales of these kits are not permitted before equipment authorization is granted for the component, and that this restriction delays the ability of manufacturers and system integrators to develop hardware and software for use with the component. Recognizing that this restriction leads to inefficiency in the device development process, the *NPRM* proposed 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.

96. *Decision.* There was no opposition to the proposal to modify § 2.803 to allow for the sale of evaluation kits, provided that notification to the buyer is provided regarding the authorization status of the component. Accordingly, the Commission adopts that proposal. In doing so, it notes, as pointed out by the Telecommunications Industry Association (TIA) and the Semiconductor Industry Association, that not all sales of evaluation kits are prohibited by the rules. However, the Commission's action here removes any ambiguity that may exist over which kits fell into the prohibited category, thus simplifying our regulations for the benefit of continued innovation. Additionally, the Commission incorporates—with some edits—the changes to § 2.1, 2.803, and 2.805 that were recommended by the Semiconductor Industry Association. In particular, the Commission modifies the Semiconductor Industry Association's proposed definition of evaluation kits to include software, as well as to reference system integrators and product developers, so that the definition would read: ''An assembly of components, subassemblies, or circuitry, including software, created by or for a component maker, system integrator, or product developer for the sole purpose of facilitating: (i) End product developer evaluation of all or some of such components, subassemblies, or circuitry, or (ii) the development of software to be used in an end product.''

3. Importation Limits

97. In the *NPRM,* the Commission also addressed rules that place limits on the quantity of devices that can be imported for testing and evaluation to determine compliance with the rules or suitability for marketing. The current rule in § 2.1204(a)(3) permits RF devices to be imported in quantities up to 2000 units for products designed solely for operation within a radio service that requires an operating license, and up to 200 units for all other devices. The Office of Engineering and Technology proposed in its 2006 Biennial Review Staff Report to increase the importation limit for devices that do not require an individual station license from 200 units to 1200 units, and further proposed to treat devices that contain both licensed and unlicensed transmitters as licensed, and therefore subject to the 2000-unit importation limit applicable to licensed devices. The Commission reiterated that proposal in the *NPRM,* stating that these limits would better reflect current manufacturing, design, and marketing techniques, and would also decrease the administrative burden on both industry and the Commission.

98. *Decision.* The rules limiting the importation of devices that have not yet been authorized are intended to strike a balance between ensuring that manufacturers have a sufficient number of devices available for compliance testing and market studies, while also ensuring that unauthorized devices are not distributed to the general public thereby reducing the risk of harmful interference to authorized devices. Originally, the Commission provided that unauthorized devices could be imported in ''limited quantities.'' That ambiguous designation was later clarified to a limit of 200 devices for testing and evaluation to determine compliance with the Commission's Rules and Regulations or suitability for marketing. Subsequently, in 1998, the Commission adopted the current importation limits of 2000 devices for services in which a license is needed and 200 devices for all other services. Since the Commission last modified its rules, the communications market has undergone significant changes characterized by a proliferation of both licensed and unlicensed devices, as well as highly-sophisticated new devices—such as the latest mobile phones—that contain several licensed and unlicensed transmitters. Such devices are being introduced to the marketplace at ever increasing rates. These changes have led to requirements for extensive testing, as well as significant market research

trials, to ensure that these devices will meet user expectations. Device testing is further augmented by the need for devices sold to multiple telecommunications providers to be tested on each provider's network. Thus, based on our experience—as well as the comments—the current importation limits are no longer adequate to meet the industry's needs. The need for increased device testing, in turn, has put additional pressure on the Commission to issue timely waivers of the existing limits, so that manufacturers and telecommunications providers can meet their deadlines.

99. The Commission therefore adopts the proposal to increase the current importation limits. However, based on the comments and our experience in granting waivers of the current limits, the Commission believes that the proposed increase was too modest to make a significant difference to manufacturers or to Commission staff. In particular, it notes that several commenters—requested that the Commission raise the limits beyond what was proposed and that it apply a common limit for all devices. The Commission agrees with the commenters, and thus is adopting rules that increase the importation limit for all devices—those that require a license and those that do not—to 4000 units. Adopting a single limit for all devices will decrease the administrative burden on both manufacturers and the Commission. Additionally, given the number of devices available that contain a mix of unlicensed transmitters and transmitters that require operation pursuant to a Commission license, it finds that the current distinction among device types is less meaningful. Furthermore, the Commission does not expect that an increase in the limit will increase the risk of interference from devices that are solely unlicensed. Based on its experience, the Commission believes that a new 4000-unit limit—which is one-third larger than the 3000-unit limit suggested by Qualcomm—will be sufficient to meet industry's needs. The Commission finds that a 4000-unit limit strikes the proper balance among ensuring that sufficient devices are available for testing, protecting authorized devices from harmful interference, and freeing up Commission resources from addressing excessive numbers of waiver requests. With respect to adoption of the 8000-unit limit recommended by TIA, the Commission finds a four-fold increase would be excessive. To the extent that a TIA member or other party has a specific need to import more than 4000 units for testing, it will continue its past practice of providing reasonable flexibility on a case-by-case basis, subject to justification for a higher number of imported units. Under this approach, the Commission can still accommodate the interest of parties, such as TIA, that advocated for a larger importation limit. Accordingly, the Commission finds that this balanced approach benefits the public by reducing administrative burdens, while guarding against the costs of harmful interference to authorized Commission devices.

*F. Modifying and Improving Rules and Procedures*

100. *Anechoic Chambers and Faraday Cages.* In the *NPRM,* the Commission proposed to add rules to codify existing practices regarding the treatment of experiments conducted within anechoic chambers and Faraday cages. Specifically, it proposed 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, and inquired whether there should be a minimum standard for the shielding effectiveness of the chamber.

101. Commenters were supportive of the *NPRM*'s proposal to codify the Commission's existing policy of allowing RF tests and experiments that are fully contained within an anechoic chamber or a Faraday cage without the need for obtaining an experimental license. Therefore, the Commission adopted that proposal. In doing so, it observes that all experimenters, even those operating in RF enclosed facilities, are required to comply with the general prohibition against causing harmful interference to other spectrum users. Thus, the Commission expects that experimenters who use these facilities will ensure proper functioning prior to use, including ensuring sufficient isolation of RF energy. Further, the Commission observes it is codifying existing practice that has been in place for quite some time, and that it received no complaints from other spectrum users of harmful interference. Therefore, the Commission does not believe it is necessary to adopt additional standards for emission limits outside these RF enclosures. This approach will reduce administrative burdens and provide cost savings to the public.

102. *Inter and Intra-Agency Coordination Procedures.* The Commission believes that its existing coordination processes and procedures are sufficient. It disagrees with commenters who assert that, once submitted, application status is not readily apparent from checking the on-line experimental licensing system (ELS). In concert with NTIA, the Commission has taken action to provide on-line tools for applicants. First, it notes that applicants can query the ELS for the status of specific applications. Second, at the Commission's recommendation, NTIA has made available on its Web site status information regarding the Commission's applications—including experimental applications—that are being coordinated between the two agencies. Third, applicants may, and often do, call or email OET experimental licensing staff for status updates, and they respond to all inquiries in a timely manner. In that connection, the Commission notes that its experimental licensing staff routinely corresponds with applicants to work out mutually acceptable solutions for all parties. However, the Commission recognizes that parties might find value in having access to more detailed information about the status of their applications and additional methods for interacting with the Commission. The Commission is working on projects to upgrade many of the Commission's electronic filing systems, and it will endeavor to modify the ELS to make more detailed information available. Finally, regarding the timeframe for coordinating with NTIA, the Commission and NTIA have agreed in a Memorandum of Understanding (MOU) to coordination procedures between the two agencies, including a requirement for coordination to be accomplished within 15 working days of such requests. The vast majority of applications are coordinated within this timeframe. In cases where complex concerns are raised, our staff works closely with applicants and NTIA staff to find mutually agreeable solutions. The Commission finds that its current approach reduces administrative burdens and provides cost savings to the public.

103. *Special Temporary Authorization.* In the *NPRM,* the Commission proposed changes to § 5.61, which contains rules for STAs. As an initial matter, BAE Systems points out that it appears that the *NPRM* removed the requirement to file such requests electronically, and recommends that the Commission modify the proposed rule to restore that requirement. The Commission agrees with BAE's recommendation. The proposed removal of this requirement was inadvertent, as the Commission has required electronic filing for quite some time. Accordingly, the Commission is retaining this requirement in § 5.61 of its rules. BAE

also asks that the Commission clarify the rule language in § 5.61(c), which requires an application for a conventional experimental license be ''consistent with the terms and conditions'' of the prior-granted STA in order to obtain an extension of that STA. BAE specifically asks if this means that the application for a conventional license must mirror exactly every technical parameter of the prior-granted STA. Additionally, BAE asks about the situation in which a conventional license is associated with a different government contract than the STA or when it is for internal research and development (IR&D), rather than in support of a contract. The Commission takes this opportunity to state that the parameters of the conventional license application do not need to mirror exactly the parameters of the STA. They may differ so long as any changes do not increase the interference potential of the equipment under test. For example, a change to lower power or antenna height would be permissible, but an increase in those parameters would not. Likewise, a change in location or addition of locations would not be permissible under this rule. Under this guidance, a change in contract number or change to support IR&D rather than a contract would also be acceptable. The Commission will add clarifying language to the rule, which codifies our existing practice and reduces regulatory burdens on some experimental applicants.

104. The Commission observes that a part 5 authorization may be granted for a broad range of research and experimentation, including market trials. Additionally, an ERS applicant must describe the program of research and experimentation proposed and the specific objectives it seeks to accomplish stating ''how the program of experimentation has a reasonable promise of contribution to the development, extension, or expansion, or utilization of the radio art, or is along lines not already investigated.'' The Commission relies on its staff to exercise their expertise and discretion in determining whether particular applications meet the requirements of the part 5 rules and find no need to modify those rules. The Commission finds that the current approach reduces administrative burdens and provides cost savings to the public.

105. *Changes in Equipment and Emission Characteristics.* The *NPRM* proposed to modify § 5.77(a) of the Commission's rules to provide additional flexibility for licensees to make changes to equipment without prior Commission consent provided that certain conditions are met. Specifically, that proposal would require that the power output of the new equipment comply with the license and that the transmitter as a whole or output power rating of the transmitter not be changed. BAE suggests modifying these two conditions to a single one stating that changes can be made to equipment provided that the Effective Radiated Power (ERP) and directivity comply with the license and the regulations governing the license. The Commission agrees that such a change would be beneficial and provide licensees with additional flexibility to alter equipment as necessary without increasing interference potential to authorized services. Therefore, the Commission modified § 5.77 to make this change. BAE also requests that the Commission alter proposed § 5.77(b) to retain language that states that licensees who make changes to their emissions and want such change to become a permanent part of their license may address such changes at the next renewal, rather than adopt the *NPRM's* proposal to require that an application for modification be filed. The Commission disagrees with BAE that any changes are necessary here. The *NPRM's* proposal provides more flexibility than the previous rule, as it allows applicants to file an immediate application for modification to make emission changes permanent. The Commission notes that such a modification can also be made in conjunction with a renewal application as is current practice. Thus, the Commission adopts the *NPRM's* proposed rule change to § 5.77(b).

106. *Recognition of Internal Research and Development.* BAE observes that many applicants for experimental authorization that support homeland security, public safety, and defense priorities require such licenses for IR&D work, in addition to contractual work with various agencies. Accordingly, BAE requests that the Commission explicitly recognize IR&D work on experimental licenses. While the Commission recognizes the value of IR&D in the development of new equipment and techniques, it does not believe that it needs to be explicitly recognized on the experimental license or within the experimental licensing system database. The Commission notes that the vast majority of experimentation is for internal development rather than under a government contract, and so there is no need to track such instances as a separate category. The Commission also notes that it collects government contract information because it is needed in order to grant a non-Federal entity the ability to conduct experiments on a Federal facility's property.

107. *Commercial Off-The-Shelf (COTS) Equipment.* Lockheed Martin observes that both Commission Form 442 and § 5.61 of the Commission's Rules (''Procedure for obtaining a special temporary authorization'') require applicants to identify all equipment to be used in an experiment by supplying the manufacturer name and model number of that equipment. Lockheed Martin argues that this requirement is unnecessary for COTS equipment because § 5.77 of the Commission's rules already permits experimental licensees to make changes to transmitters ''without specific authorization from the Commission provided that the change does not result in operations inconsistent'' (with the terms of the authorization). Lockheed Martin therefore recommends that an experimental applicant or licensee not be required to specify manufacturer identification of any COTS equipment used as part of an experiment. Alternatively, Lockheed Martin recommends that the Commission clarify that COTS equipment can be substituted during the term of the experimental authorization, provided that it otherwise complies with the requirements of the license.

108. The Commission agrees with Lockheed Martin and notes that it has routinely allowed experimental licensees to substitute one piece of COTS equipment for another, provided it does not generally increase the risk of harmful interference to authorized spectrum users. To avoid any confusion on this matter, the Commission is revising the instructions to Form 442 by adding a note stating: ''Provided that commercial off-the-shelf (COTS) equipment used in experiments is operating in accordance with its certification, substituting one piece of COTS equipment for another without notifying the Commission is permitted so long as such equipment substitution will not result in operations inconsistent with the terms of the authorization.'' Licensees should be aware, however, that if they make any modifications to COTS equipment that would invalidate the equipment's certification, they must modify their experimental license accordingly. The Commission believes that this added clarification will reduce regulatory burdens on experimenters by enabling them to more easily choose equipment for conducting their testing, while not increasing the potential for causing

harmful interference to authorized Commission radio services.

109. *Special Grant Conditions.* Lockheed Martin recommends that the Commission change its default practice of issuing special grant conditions that restrict experimentation when an applicant discloses that its experiment supports a U.S. government contract. Lockheed Martin argues that, while there are some instances where coordination requirements in Federal or shared Federal/non-Federal bands will necessitate restricting experimental transmissions only to those necessary to fulfill a government contract, there are other instances where a band can support developers who are working both toward meeting the specific requirements of a contract and on related independent activities designed to advance the state-of-the-art.

110. The Commission is sympathetic to Lockheed Martin's arguments regarding making more efficient use of the spectrum and reducing administrative burdens; however, it declines to make the requested changes, as many special grant procedures are a direct consequence of the type of experiment or location. For example, the Commission does not have the legal authority to allow experimentation at a defense facility without permission of the military. Accordingly, the decision to impose special grant conditions will continue to be made on a case-by-case basis. The Commission notes however, that the use of special grant conditions in some circumstances does not preclude entities from obtaining experimental licenses, either conventional or program, to experiment in most bands for their own internal research and development efforts. The Commission finds that its approach best balances protecting the public from harmful interference to existing radio services and reducing regulatory burdens on experimental applicants.

111. *Permanent Discontinuance of License.* Clearwire contends that it is difficult for a service licensee to determine the source of interference to its operations if it does not know whether experiments have been discontinued or did not take place under an authorization listed in the Commission's database. As a remedy, Clearwire recommends that the Commission enforce § 5.81 of the rules, which requires that ERS licensees who have permanently discontinued their experiments notify OET. As Clearwire notes, the rules already require licensees to notify the Commission if they permanently discontinue their experimental operations. However, it may be that some licensees simply just allow their licenses to expire once they conclude their experiments. To ensure that licensees are fully aware of their obligation to notify the Commission if they cease experimental operations prior to their license expiration date, the Commission adds clarifying language to explicitly state this in the rule in § 5.81. In addition, the Commission notes that if it becomes aware of rule violations, the Commission can take disciplinary action to include fines and/or loss of ability to obtain future licenses.

112. *Coordination Charges.* Clearwire states that it charges ERS applicants the costs of coordinating requests for experimental use of spectrum that Clearwire uses on a primary basis. Boeing disagrees with this practice, and argues that because licensees under the Communications Act do not acquire an ownership interest in their licensed spectrum, the Commission has statutory authority to prohibit licensees from charging fees for reviewing and approving coordination requests for experimental use of spectrum. Clearwire responds that while it agrees with Boeing that ''payment for approval'' by authorized licensees would be inappropriate, such licensees should be permitted to recover their costs of coordinating with ERS applicants. Although the Commission has discretion under part 5 to condition a license on coordination with the primary licensee in a frequency band, the part 5 rules do not address the charging issue. Further, the Commission notes that it did not address this issue in the *NPRM.* Because the Commission does not have proper notice of this issue, the issue is beyond the scope of this proceeding and is not addressed any further.

113. *Electronic Filing of Informal Objections to Experimental License Applications Pursuant to § 5.95.* The Commission adopted electronic filing procedures for experimental license applications using the ELS in 1998, and in a subsequent Order in 2003, mandated the electronic filing of all experimental applications. In that Order, the Commission also adopted a non-substantive procedural rule codifying in § 5.95 of the rules the existing procedures for filing informal objections to experimental license applications, but directed filers to make submissions pursuant to the requirements in §§ 1.41–1.52 of the rules without clarifying how filers should make submissions electronically.

114. Because the ELS did not support processing informal objections at the time § 5.95 was adopted, the Commission adopts a non-substantive procedural change to § 5.95 to clarify that filers shall no longer file informal objections using the process for print mail submissions in §§ 1.41–1.52, but shall submit all informal objections electronically via the ELS as otherwise required in § 5.55 of the rules. OET is releasing a public notice announcing the date after which no further paper filings will be accepted. This change merely clarifies the requirements for mandatory electronic filing. Thus, it is procedural in nature and does not substantively change the information required to be filed with the Commission, making the notice and comment requirements of the Administrative Procedure Act inapplicable.

**Procedural Matters**

*Final Regulatory Flexibility Analysis*

115. As required by the Regulatory Flexibility Act of 1980, as amended (RFA) [1] an Initial Regulatory Flexibility Analysis (IRFA) was incorporated in the Notice of Proposed Rule Making (*NPRM*) in this proceeding.[2] The Commission sought written public comment on the proposals in the *NPRM,* including comments on the IRFA. The comments received are discussed below. This present Final Regulatory Flexibility Analysis (FRFA) conforms to the RFA.[3]

*A. Need for and Objectives of the Report and Order*

116. The *NPRM* sought to promote innovation and efficiency in spectrum use in the Commission's part 5 Experimental Radio Service (ERS). The *NPRM* proposed specific steps to accelerate the rate at which innovative ideas transform from prototypes to consumer devices and services. These proposals were designed to 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.

117. The objective of the *Report and Order* (R&O) is to provide increased opportunities for experimentation and innovation. To this end, the R&O establishes new program and testing

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

[2] *See* Promoting Expanded Opportunities for Radio Experimentation and Market Trials Under part 5 of the Commission's Rules and Streamlining Other Related Rules, ET Docket No. 10–236; 2006 Biennial Review of Telecommunications Regulations—Part 2, Administered by the Office of Engineering and Technology (OET), ET Docket 06–155; *Notice of Proposed Rulemaking,* 25 FCC Rcd 16544 (2010); *Erratum,* 26 FCC Rcd 3828 (2011).

[3] *See* 5 U.S.C. 603(a).

experimental radio license that will eliminate administrative burdens on those who are engaged in ongoing programs of research, experimentation, and testing. The current rules allow for an experimenter to apply for and be issued a license to cover a single or a series of closely related experiments—referred to hereinafter as a conventional experimental license—which generally limits the scope of the experiment, frequencies, emissions, and power levels. If licensees want to vary any of their authorized parameters, they must apply for new or modified licenses. While the current process works well for those applicants who need to undertake only a single experiment, it can be cumbersome for applicants who wish to pursue ongoing research and can significantly delay the introduction of new technologies and services into the marketplace. The R&O allows the FCC to continue to issue conventional experimental licenses for specific types of experimentation, but also permits issuance of program and testing experimental licenses to promote ongoing research. The testing licenses are being created to advance the critical areas of medical and compliance testing. All of these new licenses will allow researchers and laboratories to conduct multiple non-related experiments under a single authorization over a longer period of time, thus eliminating regulatory delay and uncertainty.

118. The R&O also broadens opportunities for market studies by revising and consolidating the Commission's existing ERS Rules, promotes greater overall experimentation by streamlining those rules and procedures, and opens new opportunities for experimentation by making targeted modifications to those rules and procedures.

### *B. Summary of Significant Issues Raised by Public Comments in Response to the IRFA*

119. One commenting party, Stephen Crowley, responded directly to the IRFA. Crowley observes that the IRFA provided an estimate of the number of small businesses involved in a variety of radio services, but contends that the IRFA did not provide an analysis describing the impact of the proposed rules on small businesses. Crowley further contends that the IRFA omitted a class of small business that would be impacted if the proposals set forth in the *NPRM* were adopted—namely wireless technology developers. Crowley notes that such developers were precluded from obtaining research program experimental licenses under the proposed rules, and argues that this proposal would force wireless technology developers to obtain conventional experimental licenses, which would impose delays and increased costs on them. Crowley therefore recommends as a significant alternative to the proposed rules that the Commission permit wireless technology developers and other commercial entities to be eligible for research program experimental licenses.[4]

120. Regarding Crowley's contention that the IRFA did not describe the impact of the proposed rules on small businesses, the IRFA solicited comment on that issue, as required by the RFA. Also, the IRFA solicited comment on the impact of the proposed rules on Wireless Telecommunications Carriers (Except Satellite), which includes wireless technology developers. Finally, a number of commenting parties expressed the same concern as Crowley did regarding the proposed exclusion of commercial entities from receiving program experimental licenses. Based on those comments, the Commission decided to modify its proposal to permit manufacturers that have demonstrated expertise in radio spectrum management to receive such licenses.

### *C. Response to Comments by the Chief Counsel for Advocacy of the Small Business Administration*

121. Pursuant to the Small Business Jobs Act of 2010, the Commission is required to respond to any comments filed by the Chief Counsel for Advocacy of the Small Business Administration (SBA), and to provide a detailed statement of any change made to the proposed rules as a result of those comments. The Chief Counsel did not file any comments in response to the proposed rules in this proceeding.

### *D. Description and Estimate of the Number of Small Entities to Which the Rules Will Apply*

122. 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.[5] The RFA generally defines the term ''small entity'' as having the same meaning as the terms ''small business,'' ''small organization,'' and ''small governmental jurisdiction.''[6] In addition, the term ''small business'' has the same meaning as the term ''small business concern'' under the Small Business Act.[7] A small business concern is one which: (1) Is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the SBA.

123. Our action may, over time, affect small entities that are not easily categorized at present. The Commission therefore describes here, at the outset, three comprehensive, statutory small entity size standards that encompass entities that could be directly affected by the proposals under consideration.[8] As of 2009, small businesses represented 99.9% of the 27.5 million businesses in the United States, according to the SBA.[9] Additionally, a ''small organization'' is generally ''any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.''[10] Nationwide, as of 2007, there were approximately 1,621,315 small organizations.[11] Finally, the term ''small governmental jurisdiction'' is defined generally as ''governments of cities, counties, towns, townships, villages, school districts, or special districts, with a population of less than fifty thousand.''[12] Census Bureau data for 2007 indicate that there were 89,527 governmental jurisdictions in the United States.[13] We estimate that, of this total, as many as 88,761 entities may qualify as ''small governmental jurisdictions.''[14] Thus, we estimate that

[4] *See* Crowley Comments to *NPRM* at 8–9.

[5] *See* 5 U.S.C. 603(b)(3), 604(a)(3).

[6] *Id.,* 601(6).

[7] *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**.''

[8] *See* 5 U.S.C. 601(3)–(6).

[9] *See* SBA, Office of Advocacy, ''Frequently Asked Questions,'' available at *http://web.sba.gov/faqs/faqindex.cfm?areaID=24* (last visited Aug. 31, 2012).

[10] 5 U.S.C. 601(4).

[11] Independent Sector, The New NonProfit Almanac & Desk Reference (2010).

[12] 5 U.S.C. 601(5).

[13] U.S. Census Bureau, Statistical Abstract of the United States: 2011, Table 427 (2007).

[14] The 2007 U.S Census data for small governmental organizations are not presented based on the size of the population in each such organization. There were 89,476 local governmental organizations in 2007. If we assume that county, municipal, township, and school district organizations are more likely than larger governmental organizations to have populations of 50,000 or less, the total of these organizations is 52,095. If we make the same population assumption about special districts, specifically that they are likely to have a population of 50,000 or less, and also assume that special districts are different from county, municipal, township, and school districts, in 2007 there were 37,381 such special districts. Therefore, there are a total of 89,476 local

Continued

most governmental jurisdictions are small. There is an overall trend of increasing experimental activity. For example, disposals (grants and dismissals) under the ERS increased from 1,067 in 2000 to 1,235 in 2005 to 1,553 in 2011.[15] By contrast, much less activity has taken place under our developmental rules, which we are eliminating in the Report and Order. Since 1999 in the non-broadcast (wireless) radio services, ten developmental licenses were granted under Part 22 (Public Mobile Services), one was granted under Part 80 (Maritime Services), 37 were granted under Part 87 (Aviation Services), and eight were granted under Part 90 (Private Land Mobile Radio Services). None were granted since 1999 under Part 101 (Fixed Microwave Services).

124. Wireless Telecommunications Carriers (except Satellite). Since 2007, the Census Bureau has placed wireless firms within this new, broad, economic census category.[16] Prior to that time, such firms were within the now-superseded categories of ''Paging'' and ''Cellular and Other Wireless Telecommunications.'' [17] Under the present and prior categories, the SBA has deemed a wireless business to be small if it has 1,500 or fewer employees.[18] 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.[19] Of this total, 804 firms had employment of 999 or fewer employees, and three firms had employment of 1,000 employees or more.[20] 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.[21] Of this total, 1,378 firms had employment of 999 or fewer employees, and 19 firms had employment of 1,000 employees or more.[22] Thus, we estimate that the majority of wireless firms are small.

125. *Fixed Microwave Services.* Fixed microwave services include common carrier,[23] private operational-fixed,[24] and broadcast auxiliary radio services.[25] 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.[26] 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.

126. *Unlicensed Personal Communications Services.* As its name indicates, Unlicensed Personal Communications Services (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 Report and Order 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).[27] Prior to that time, such firms were within the now-superseded category of ''Paging'' and ''Cellular and Other Wireless Telecommunications.'' [28] Under the present and prior categories, the SBA has deemed a wireless business to be small if it has 1,500 or fewer employees.[29] 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

government organizations. As a basis of estimating how many of these 89,476 local government organizations were small, in 2011, we note that there were a total of 715 cities and towns (incorporated places and minor civil divisions) with populations over 50,000. City And Towns Totals: Vintage 2011—U.S. Census Bureau, *available at http://www.census.gov/popest/data/cities/totals/2011/index.html*. If we subtract the 715 cities and towns that meet or exceed the 50,000 population threshold, we conclude that approximately 88,761 are small. U.S. Census Bureau, Statistical Abstract of The United States 2011, Tables 427, 426 (Data cited therein are from 2007).

[15] 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 Authorization. *See https://fjallfoss.fcc.gov/oetcf/els/reports/GenericSearch.cfm*.

[16] U.S. Census Bureau, 2007 NAICS Definitions, ''517210 Wireless Telecommunications Categories (Except Satellite)''; *http://www.census.gov/naics/2007/def/ND517210.HTM#N517210*.

[17] 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*.

[18] *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).

[19] 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).

[20] *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 ''1000 employees or more.''

[21] 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).

[22] *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 ''1000 employees or more.''

[23] *See* 47 CFR 101 *et seq.* for common carrier fixed microwave services (except Multipoint Distribution Service).

[24] 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.

[25] 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.

[26] *See* 13 CFR 121.201, NAICS code 517210.

[27] U.S. Census Bureau, 2007 NAICS Definitions, ''517210 Wireless Telecommunications Categories (Except Satellite)''; *http://www.census.gov/naics/2007/def/ND517210.HTM#N517210*.

[28] 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*.

[29] *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).

that there were 807 firms that operated for the entire year.[30] Of this total, 804 firms had employment of 999 or fewer employees, and three firms had employment of 1,000 employees or more.[31] 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.[32] Of this total, 1,378 firms had employment of 999 or fewer employees, and 19 firms had employment of 1,000 employees or more.[33] Thus, we estimate that the majority of wireless firms are small.

127. *Aviation and Marine Radio Services.* There are approximately 26,162 aviation, 34,555 marine (ship), and 3,296 marine (coast) licensees.[34] The Commission has not developed a small business size standard specifically applicable to all licensees. For purposes of this analysis, the Commission will use the SBA small business size standard for the category Wireless Telecommunications Carriers (except Satellite), which is 1,500 or fewer employees.[35] The Commission is 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.[36] 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.[37] Further, the Commission made available Automated Maritime Telecommunications System (''AMTS'') licenses in Auctions 57 and 61.[38] Winning bidders could claim status as a very small business or a very 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.[39] 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.

128. *Public Safety Radio Services.* Public Safety radio services include police, fire, local government, forestry conservation, highway maintenance, and emergency medical services.[40] There are a total of approximately 127,540 licensees in these services. Governmental entities[41] 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.[42] The small private businesses fall within the ''wireless'' category described *supra.*

### *E. Description of Projected Reporting, Recordkeeping and Other Compliance Requirements*

129. The Report and Order establishes a new type of experimental radio license—the program experimental radio license—to 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 the Commission's existing rules. Program experimental radio licensees will 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 reports with the Commission. The Report and Order also consolidates, clarifies, and streamlines existing rules to facilitate experimentation in the radio spectrum. These rules will permit qualified applicants to engage in additional marketing activities, while streamlining existing rules to eliminate burdensome regulations. We project that by creating a new license type and by revising our existing rules, reporting, recordkeeping and other compliance requirements associated with the issuance of an experimental radio licenses will be reduced.

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

130. The RFA requires an agency to describe any significant alternatives that it has considered in reaching its final rules, 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

[30] 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).

[31] *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 ''1000 employees or more.''

[32] 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).

[33] *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 ''1000 employees or more.''

[34] 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 96–82, 11 FCC Rcd 14849 (1996).

[35] *See* 13 CFR 121.201, NAICS code 517210.

[36] A licensee may have a license in more than one category.

[37] *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).

[38] *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).

[39] *See* 47 CFR 80.1252.

[40] 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 90.15–90.27. 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 90.15–90.27. 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 90.33–90.55.

[41] *See* 47 CFR 1.1162.

[42] *See* 5 U.S.C. 601(5).

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.[43]

131. We find that our rules in this proceeding will help alleviate burdens on small entities by simplifying procedures and reducing paperwork, and no alternative rules would be less burdensome. We do not find it appropriate to establish different rules for small entities, as we believe that the rules that we have adopted are not burdensome on any entities.

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

132. None.

*H. Report to Congress*

133. The Commission will send a copy of the Report and Order, including this Final Regulatory Flexibility Analysis, in a report to be sent to Congress pursuant to the Congressional Review Act. In addition, the Commission will send a copy of the Report and Order, including this Final Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.[44]

*Congressional Review Act*

134. The Commission will send a copy of this Report and Order to Congress and the Government Accountability Office, pursuant to the Congressional Review Act, *see* 5 U.S.C. 801(a)(1)(A).

**Ordering Clauses**

135. 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 Report and Order *is adopted.*

137. Parts 0, 1, 2, 5, 22, 73, 74, 80, 87, 90, and 101 of the Commission's Rules, 47 CFR parts 0, 1, 2, 5, 22, 73, 74, 80, 87, 90, and 101, *are amended* as set forth in the Order. These revisions will take effect 30 days after publication of a summary of this Report and Order in the **Federal Register**, except for §§ 2.803(c)(2), 5.59, 5.61, 5.63, 5.64, 5.65, 5.73, 5.79, 5.81, 5.107, 5.115, 5.121, 5.123, 5.205, 5.207, 5.217(b), 5.307, 5.308, 5.309, 5.311, 5.404, 5.405, 5.406, 5.504, and 5.602. These rules contain new or modified information collection requirements that require approval by the Office of Management and Budget (OMB) under the Paperwork Reduction Act (PRA), and *will become effective* after the Commission publishes a notice in the **Federal Register** announcing the approval and effective date.

136. The Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, *shall send* a copy of this Report and Order, including the Final Regulatory Flexibility Analysis, to Congress and the Government Accountability Office, pursuant to the Congressional Review Act, *see* 5 U.S.C. 801(a)(1)(A).

**List of Subjects**

*47 CFR Part 0*

Organization and functions (Government agencies)

*47 CFR Part 1*

Administrative practice and procedures, Reporting and recordkeeping requirements.

*47 CFR Parts 2 and 74*

Communications equipment, Radio, Reporting and recordkeeping requirements.

*47 CFR Part 5*

Radio, Reporting and recordkeeping requirements.

*47 CFR Parts 22, 73, 80, 87, 90 and 101*

Communications equipment, Reporting and recordkeeping requirements.

Federal Communications Commission.

**Marlene H. Dortch,**

*Secretary.*

**Final Rules**

For the reasons set forth in the preamble the Federal Communications Commission amends 47 CFR parts 0, 1, 2, 5, 22, 73, 74, 80, 87, 90 and 101 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.* Part 5 provides for 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, 227, 303(r), and 309, Cable Landing License Act of 1921, 47 U.S.C. 35–39, and the Middle Class Tax Relief and Job Creation Act of 2012, Pub. L. 112–96.

■ 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 are set forth in part 5 of this chapter.

* * * * *

■ 5. 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.

* * * * *

■ 6. 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.

■ 7. Section 1.1307 is amended by revising the entry ''Experimental Radio,

[43] *See* 5 U.S.C. 603(c).

[44] *See* 5 U.S.C. 604(b).

Auxiliary, Special Broadcast and Other Program Distributional Services (part 74)'' of the table in paragraph (b)(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

| Service (title 47 CFR rule part) | Evaluation required if: |
|---|---|
| * * * * * * * | * * |
| 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

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

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

■ 9. Section 2.1 is amended by adding the definitions ''End Product'' and ''Evaluation Kit'' in alphabetical order to read as follows:

**§ 2.1 Terms and definitions.**

* * * * *

*End Product.* A completed electronic device that has received all requisite FCC approvals and is suitable for marketing.

* * * * *

*Evaluation Kit.* An assembly of components, subassemblies, or circuitry, including software, created by or for a component maker, system integrator, or product developer for the sole purpose of facilitating: (i) End product developer evaluation of all or some of such components, subassemblies, or circuitry, or (ii) the development of software to be used in an end product.

* * * * *

**§ 2.102 [Amended]**

■ 10. Section 2.102 is amended by removing and reserving paragraph (b)(2).

■ 11. Section 2.803 is revised to read as follows:

**§ 2.803 Marketing of radio frequency products 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 authorization under certification, the device has been authorized in accordance with the rules in subpart J of 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 in accordance with the rules in subpart J of this chapter, 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 under subpart J of this chapter but 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 H of part 5.

(2) Limited marketing is permitted, as described in the following text, 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 devices 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) (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 device being displayed is a prototype of a device that has been properly authorized and the prototype, itself, is not authorized due to differences between the prototype and the authorized device, this language may be used instead: Prototype. Not for Sale.

(iv) An evaluation kit as defined in § 2.1 may be sold provided that:

(A) Sales are limited to product developers, software developers, and system integrators;

(B) The following notice is included with the kit:

FCC NOTICE: This kit is designed to allow:

(1) Product developers to evaluate electronic components, circuitry, or software associated with the kit to determine whether to incorporate such items in a finished product and

(2) Software developers to write software applications for use with the end product. This kit is not a finished product and when assembled may not be resold or otherwise marketed unless

all required FCC equipment authorizations are first obtained. Operation is subject to the condition that this product not cause harmful interference to licensed radio stations and that this product accept harmful interference. Unless the assembled kit is designed to operate under part 15, part 18 or part 95 of this chapter, the operator of the kit must operate under the authority of an FCC license holder or must secure an experimental authorization under part 5 of this chapter.

(C) The kit is labeled with the following legend: For evaluation only; not FCC approved for resale; and

(D) Any radiofrequency transmitter employed as part of an evaluation kit shall be designed to comply with all applicable FCC technical rules, including frequency use, spurious and out-of-band emission limits, and maximum power or field strength ratings applicable to final products that would employ the components or circuitry to be evaluated.

(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 products prior to equipment authorization.**

(a*) General rule.* A radio frequency device may not be operated prior to equipment authorization unless the conditions set forth in paragraphs (b), (c), (d) or (e), of this section are meet. Radio frequency devices operated under these provisions may not be marketed (as defined in § 2.803(a)) except as provided elsewhere in this chapter. In addition, the provisions of subpart K continue to apply to imported radio frequency devices.

(b) Operation of a radio frequency device prior to equipment authorization is permitted under the authority of an experimental radio service authorization issued under part 5 of this chapter.

(c) Operation of a radio frequency device prior to equipment authorization is permitted for experimentation or compliance testing of a device that is fully contained within an anechoic chamber or a Faraday cage.

(d) For devices designed to operate solely under parts 15, 18, or 95 of this chapter without a station license, operation of a radio frequency device prior to equipment authorization is permitted under the following conditions, so long as devices are either rendered inoperable or retrieved at the conclusion of such operation:

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

(i) Demonstrations at a trade show or an exhibition, provided a notice containing the wording specified in § 2.803(c)(2)(iii) is displayed in a conspicuous location on, or immediately adjacent to, the device; or all prospective buyers at the trade show or 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

(ii) Evaluation of performance and determination of customer acceptability, during developmental, design, or pre-production states. If the device is not operated at the manufacturer's facilities, it must be labeled with the wording specified in § 2.803(c)(2)(iii), and in the case of an evaluation kit, the wording specified in § 2.803(c)(2)(iv)(C).

(e) Operation of a radio frequency device prior to equipment authorization is permitted under either paragraph (e)(1) or (e)(2) of this section so long as devices are either rendered inoperable or retrieved at the conclusion of such operation:

(1) The radio frequency device shall 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

(i) Under the authority of a service license (only in the bands for which that service licensee holds a license) provided that the licensee grants permission and the licensee continues to remain responsible for complying with all of the operating conditions and requirements associated with its license; or

(ii) Under a grant of special temporary authorization.

(2) The radio frequency device shall be operated at or below the maximum level specified in the table in § 15.209(a) of this chapter for at least one of these purposes:

(i) Demonstrations at a trade show or an exhibition, provided a notice containing the wording specified in § 2.803(c)(2)(iii) is displayed in a conspicuous location on, or immediately adjacent to, the device; or all prospective buyers at the trade show or 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

(ii) Evaluation of performance and determination of customer acceptability, during developmental, design, or pre-production states. If the device is not operated at the manufacturer's facilities, it must be labeled with the wording specified in § 2.803(c)(2)(iii), and in the case of an evaluation kit, the wording specified in § 2.803(c)(2)(iv)(C).

■ 13. Section 2.811 is revised to read as follows:

**§ 2.811 Transmitters operated under part 73 of this chapter.**

Section 2.803(a) through (c) shall not be applicable to a transmitter operated in any of the Radio Broadcast Services regulated under part 73 of this chapter, provided the conditions set out in part 73 of this chapter for the acceptability of such transmitter for use under licensing are met.

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

**§ 2.1204 Import conditions.**

(a) * * *

(3) The radio frequency device is being imported in quantities of 4,000 or fewer units 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.

(i) Prior to importation of a greater number of units than shown in paragraph (a)(3) of this section, written approval must be obtained from the Chief, Office of Engineering and Technology, FCC; and

(ii) Distinctly different models of a device and separate generations of a particular model under development are considered to be separate devices.

* * * * *

■ 15. Revise part 5 to read as follows:

## PART 5—EXPERIMENTAL RADIO SERVICE

**Subpart A—General**



**Subpart B—Applications and Licenses**

**License Requirements**



**General Filing Requirements**

**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) *Basis.* 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) *Purpose.* The rules in this part provide the conditions by which portions of the radio frequency spectrum may be used for the purposes of experimentation, 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) Testing of medical devices that use RF wireless technology or communications functions for diagnosis, treatment, or patient monitoring.

(j) 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.

(k) Product development and market trials.

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

### § 5.5 Definition of terms.

For the purposes 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.

*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.

*Market trial.* A program designed to evaluate product performance and customer acceptability prior to the production stage, and typically requires

testing a specific product under expected use conditions to evaluate actual performance and effectiveness.

*Open Area Test Site.* A site for electromagnetic measurements that has a reflective ground plane, and is characterized by open, flat terrain at a distance far enough away from buildings, electric lines, fences, trees, underground cables, pipelines, and other potential reflective objects, so that the effects due to such objects are negligible.

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

*Product development trial.* An experimental program designed to evaluate product performance (including medical devices in clinical trials) in the conceptual, developmental, and design stages, and typically requiring testing under expected use conditions.

## Subpart B—Applications and Licenses

### License Requirements

#### § 5.51 Eligibility.

(a) Authorizations for stations in the Experimental Radio Service will be issued only to persons qualified to conduct the types of operations permitted in § 5.3, including testing laboratories recognized by the Commission for radio frequency device testing.

(b) No foreign government or representative thereof is eligible to hold a station license in the Experimental Radio Service.

#### § 5.53 Station authorization required.

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

#### § 5.54 Types of authorizations available.

The Commission issues the following types of experimental authorizations:

(a)(1) *Conventional experimental radio license.* This type of license is issued for a specific research or experimentation project (or a series of closely-related research or experimentation projects), 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 is considered to be temporary and the special temporary authorization procedure outlined in § 5.61 must be used.

(b) *Broadcast experimental radio license.* This type of license is issued for the purpose of 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.* This type of license is issued to qualified institutions and to conduct an ongoing program of research and experimentation under a single experimental authorization subject to the requirements of subpart E of this part. Program experimental radio licenses are available to colleges, universities, research laboratories, manufacturers of radio frequency equipment, manufacturers that integrate radio frequency equipment into their end products, and medical research institutions.

(d) *Medical testing experimental radio license.* This type of license is issued to hospitals and health care institutions that demonstrate expertise in testing and operation of experimental medical devices that use wireless telecommunications technology or communications functions in clinical trials for diagnosis, treatment, or patient monitoring.

(e) *Compliance testing experimental radio license.* This type of license will be issued to laboratories recognized by the FCC under subpart J of part 2 of this chapter to perform:

(1) Testing of radio frequency devices, and

(2) Testing of radio frequency equipment in an Open Area Test Site.

(f) An experimental license is not required when operation of a radiofrequency device is fully contained within an anechoic chamber or a Faraday cage.

### General Filing Requirements

#### § 5.55 Filing of applications.

(a) To assure that necessary information is supplied in a consistent manner by applicants, standard forms must be used, except for applications for special temporary authorization (STA) and reports submitted for Commission consideration. Standard numbered forms for the Experimental Radio Service are described 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 the information required by the application form and this part.

(1) Conventional license and STA applications shall be specific as to station location, proposed equipment, power, antenna height, and operating frequencies.

(2) Broadcast license applicants shall comply with the requirements in subpart D of this part; Program license applicants shall comply with the requirements in subpart E of this part; Medical Testing license applicants shall comply with the requirements in subpart F of this part; and Compliance Testing license applicants shall comply with the requirements in subpart G of this part.

(d) Filing conventional, program, medical, and compliance testing experimental radio license applications:

(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 authorization 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 submitted 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 Sec. 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, program, medical, and compliance testing experimental radio licenses.*

(1) *Application for new authorization or modification of existing authorization.* 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 authorization or modification of existing authorization.* 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 a Special Temporary Authorization (STA) for operation of a conventional experimental radio service station during a period of time not to exceed 6 months.

(2) Applications for STA must be submitted electronically through the Office of Engineering and Technology Web site *http://www.fcc.gov/els* 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, as defined in § 1.915(b)(1) of this chapter, a request for STA may be made by telephone or electronic media provided a properly signed application is filed within 10 days of such request.

(b) An application for STA shall contain the following information:

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

(2) Explanation 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 (*e.g.* fixed, mobile, or both) 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 (or frequency bands) requested.

(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 an STA may be granted provided that an application for a conventional experimental license that is consistent with the terms and conditions of that STA (*i.e.,* there is no increase in interference potential to authorized services) has been filed at least 15 days prior to the expiration of the licensee's STA. When such an application is timely filed, operations may continue in accordance with the other terms and conditions of the STA 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:

(1) A narrative statement describing how the applicant meets the eligibility criteria set forth in subpart E of this part.

(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.

(e) For medical testing and compliance testing experimental radio licenses, each application must include a narrative statement describing how the applicant meets the eligibility criteria set forth in §§ 5.402(a) and 5.502 respectively.

### § 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 is entirely at the applicant's risk and does 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, a statement disclosing 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 operator 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 describe 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. An assessment shall include a statement as to the likelihood that portions of the spacecraft will survive re-entry and reach the surface of the Earth, and the probability of human casualty as a result.

### § 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 be found to be unacceptable 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, 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 without prejudice.

**§ 5.69 License grants that differ from applications.**

If the Commission grants a license or special temporary authority 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 objection, the Commission will coordinate with the applicant in an attempt to resolve issues arising from the grant.

(a) Applicants may continue operating under the parameters of a granted special temporary authority (STA) during the time any problems are being resolved when:

(1) An application for a conventional license has been timely filed in accordance with § 5.61; and

(2) The application for conventional license is for the same facilities and technical limitations as the existing STA.

(b) The applicant, at its option, may accept a grant-in-part of their license while working to resolve any issues.

**§ 5.71 License period.**

(a) *Conventional experimental radio licenses.* (1) The regular license term is 2 years. An applicant may request a license term up to 5 years, but must provide justification for a license of that duration.

(2) A license may be renewed for an additional term not exceeding 5 years, upon an adequate showing of need to complete the experiment.

(b) *Program, medical testing, and compliance testing experimental radio licenses.* Licenses are issued for a term of 5 years and may be renewed for up to 5 years upon an adequate showing of need.

(c) *Broadcast experimental radio license.* Licenses are issued for a one-year period and may be renewed for an additional term not exceeding 5 years, upon an adequate showing of need.

**§ 5.73 Experimental report.**

(a) The following provisions apply to conventional experimental radio licenses and to medical testing experimental licenses that operate under part 15, Radio Frequency Devices; part 18, Industrial, Scientific, and Medical Equipment, part 95, Personal Radio Services subpart H—Wireless Medical Telemetry Service; or part 95, subpart I—Medical Device Radiocommunication Service:

(1) The Commission may, as a condition of authorization, request that the licensee 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) The provisions in § 5.207 apply to broadcast experimental radio licenses.

(c) The provisions in § 5.309 apply to program experimental licenses and to medical testing experimental licenses that do not operate under part 15, Radio Frequency Devices; part 18, Industrial, Scientific, and Medical Equipment, part 95, Personal Radio Services subpart H—Wireless Medical Telemetry Service; or part 95, subpart I—Medical Device Radiocommunication Service.

**§ 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 ERP (or EIRP) and antenna complies with the license and the regulations governing the same; and

(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, program experimental, medical testing, and compliance testing 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 prior to the license expiration date, the licensee shall notify the Commission. Licensees who willfully fail to do so may be subject to disciplinary action, including monetary fines, by the Commission.

**§ 5.83 Cancellation provisions.**

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

(a) 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) The 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 criterion.**

Operation of an experimental radio station is permitted only on the condition that harmful interference is not 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 occurs, upon becoming aware of such harmful interference the Experimental Radio Service licensee shall immediately cease transmissions. Furthermore, the licensee shall not resume transmissions until the licensee establishes to the satisfaction of the Commission that further harmful interference will not be caused to any established radio service.

**§ 5.85 Frequencies and policy governing frequency assignment.**

(a) Stations operating in the Experimental Radio Service may be authorized to use any Federal or non-Federal 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 use any frequency or frequency band exclusively allocated to the passive services (including the radio astronomy service). Stations authorized under subparts E and F are subject to additional restrictions.

(b) Frequency or frequency bands are assigned to stations in the Experimental Radio Service on a shared basis and are not assigned for the exclusive use of any one licensee. Frequency assignments may be restricted to specified geographical areas.

(c) *Broadcast experimental radio stations.* (1) The applicant shall select frequencies best suited to the purpose of the experimentation and on which there appears to be the least likelihood of interference to established stations.

(2) Except as indicated only frequencies allocated to broadcasting service are 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.*

(1) *Conventional experimental licenses.* Applicants in the Experimental Radio Service shall avoid use of public safety frequencies identified in part 90 of this chapter except when a compelling showing is 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 include a condition requiring the experimental licensee to coordinate the operation with the appropriate frequency coordinator or all of the public safety licensees using the frequencies in question in the experimenter's proposed area of operation.

(2) *Program experimental licenses.* A program licensee shall plan a program of experimentation that avoids use of public safety frequencies, and may only operate on such frequencies when it can make a compelling showing that use of such frequencies is in the public interest. A licensee planning to operate on public safety frequencies must incorporate its public interest showing into the narrative statement it prepares under § 5.309(a)(1), and must coordinate, prior to operating, with the appropriate frequency coordinator or all of the public safety licensees that operate on the frequencies in question in the program experimental licensee's proposed 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 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$^2$ 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 call the FCC, telephone 1–888–225–5322 (1–888–CALL FCC).

(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 paragraph (f)(2) of this section would be exceeded by their proposed radio facilities (except mobile stations). The following is a suggested guide for determining whether coordination is needed:

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

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

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

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

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

**§ 5.91 Notification to 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 an Experimental Radio Service station authorization other than a mobile, temporary base, or temporary fixed station, within the area bounded by 39°15′ N on the north, 78°30′ W on the east, 37°30′ N on the south and 80°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 be submitted

electronically consistent with the requirements set forth in § 5.55.

## Subpart C—Technical Standards and Operating Requirements

### § 5.101 Frequency stability.

Experimental Radio Service licensees shall ensure that transmitted emissions remain within the authorized frequency band under normal operating conditions: 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.

The occupied bandwidth of transmitted emissions from an Experimental Radio Service station shall not exceed the authorized bandwidth specified in the authorization. Each authorization will show, as the prefix to the emission classification, a figure specifying the necessary bandwidth. The application may request an authorized bandwidth that is greater than the necessary bandwidth for the emission to be used, if required for the experimental purpose. Necessary bandwidth and occupied bandwidth are defined and determined in accordance with § 2.1 and § 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) *Medical testing experimental radio stations.* The licensee shall ensure that transmissions are in conformance with the requirements in subpart F of this part and that the station is operated only by persons duly authorized by the licensee.

(d) *Compliance testing experimental radio stations.* The licensee shall ensure that transmissions are in conformance with the requirements in subpart G of this part and that the station is operated only by persons duly authorized by the licensee.

(e) *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 Responsibility for antenna structure painting and lighting.

Experimental Radio Service licensees may become responsible for maintaining the painting and lighting of any antenna structure they are authorized to use in accordance with part 17 of this chapter. *See* § 17.6 of this chapter.

### § 5.110 Power limitations.

(a) The transmitting radiated power for stations authorized under the Experimental Radio Service shall be limited to the minimum practical radiated power necessary for the success of the experiment.

(b) For broadcast experimental radio stations, the operating power shall not exceed by more than 5 percent 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 must transmit 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.* Program experimental radio licenses shall comply with either paragraph (c)(1) or (c)(2):

(1) 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

(2) Stations may post information sufficient to identify it on the Commission's program experimental registration Web site.

**§ 5.121 Station record requirements.**

(a) For conventional, program, medical testing, and compliance testing 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; and

(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 shall follow the rules in subparts B and C of this part. In case of any conflict between the rules set forth in this subpart and the rules set forth in subparts B and C of this part, the rules in this subpart shall govern.

**§ 5.203 Experimental authorizations for licensed broadcast stations.**

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

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

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

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

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

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

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

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

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

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

**§ 5.205 Licensing requirements, necessary showing.**

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

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

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

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

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

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

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

**§ 5.207 Supplemental reports with application for renewal of license.**

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

(a) Number of hours operated.

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

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

(d) Power employed, field intensity measurements and visual and aural

observations and the types of instruments and receivers utilized to determine the station service area and the efficiency of the respective types of transmissions.

(e) Estimated degree of public participation in reception and the results of observations as to the effectiveness of types of transmission.

(f) Conclusions, tentative and final.

(g) Program of further developments in broadcasting.

(h) All developments and major changes in equipment.

(i) Any other pertinent developments.

**§ 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

**§ 5.301 Applicable rules.**

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

**§ 5.302 Eligibility.**

Program experimental licensees may be granted to the following entities: a college or university with a graduate research program in engineering that is accredited by the Accreditation Board for Engineering and Technology (ABET); a research laboratory; a hospital or health care institution; a manufacturer of radio frequency equipment; or a manufacturer that integrates radio frequency equipment into their end products. Each applicant must meet the following requirements:

(a) The radiofrequency experimentation will be conducted in a defined geographic area under the applicant's control;

(b) The applicant has institutional processes to monitor and effectively manage a wide variety of research projects; and

(c) The applicant has demonstrated expertise in radio spectrum management or partner with another entity that has such expertise.

**§ 5.303 Frequencies.**

Licensees may operate in any frequency band, except for frequency bands exclusively designated as restricted in § 15.205(a) of this chapter with the additional exception that program licensees are permitted to operate in frequency bands above 38.6 GHz, unless these bands are listed in footnote US246 of the Table of Frequency Allocations.

**§ 5.304 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 where the experimentation will be conducted and that is under the applicant's control. If an applicant wants to conduct experiments in more than one defined geographic area, it shall apply for a license for each location.

**§ 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 as part of its justification for its license application; or

(d) A product development or a market trial is to be conducted.

**§ 5.307 Responsible party.**

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

(1) Ensuring compliance with the notification requirements of § 5.309 of this part; and

(2) Ensuring compliance with all applicable FCC rules.

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

(c) The license application must include the name of the responsible individual and contact information at which the person can be reached at any time of the day; this information will be listed on the license. Licensees are required to keep this information current.

**§ 5.308 Stop buzzer.**

A ''Stop Buzzer'' point of contact must be identified and available at all times during operation of each experiment conducted under a program license. A ''stop buzzer'' point of contact is a person who can address interference concerns and cease all transmissions immediately if interference occurs.

**§ 5.309 Notification requirements.**

(a) At least ten calendar days prior to commencement of any experiment, program experimental licensees must provide the following information to the Commission's program experimental registration Web site.

(1) A narrative statement describing the experiment, including a description and explanation of measures taken to avoid causing harmful interference to any existing service licensee;

(2) Contact information for the researcher-in-charge of the described experiment;

(3) Contact information for a ''stop buzzer''; and

(4) Technical details including:

(i) The frequency or frequency bands;

(ii) The maximum equivalent 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; and

(vi) A mitigation plan as required by § 5.311, if necessary.

(5) For program license experiments that may affect frequency bands used for the provision of commercial mobile services, emergency notifications, or public safety purposes, a list of those critical service licensees that are authorized to operate in the same bands and geographic area of the planned experiment.

(b) Experiments may commence without specific approval or authorization once ten calendar days have elapsed from the time of posting to the above Web site. During that ten-day period, the licensee of an authorized service may contact the program licensee to resolve any objections to an experiment. It is expected that parties will work in good faith to resolve such objections, including modifying experiments if necessary to reach an agreeable resolution. However, only the Commission has the authority to prevent a program licensee from beginning operations (or to order the cessation of operations). Therefore, if an incumbent licensee believes that it will suffer interference (or in fact, has experienced interference), it must bring its concerns to the Commission for action. In such an event, the Commission will evaluate the concerns, and determine whether a planned experiment should be permitted to commence as proposed (or be terminated, if the experiment has commenced).

(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 Commission's program experimental registration Web site and be associated with the materials described in paragraphs (a) and (b) of this section.

(e)(1) The Commission may ask licensees for additional information to resolve an interference incident, gain a better understanding of new technology development, or for auditing purposes to ensure that licensees are actually conducting experiments. Failure to comply with a Commission request for additional information under this section, or if, upon review of such information, the Commission determines that a licensee is not actually conducting experimentation, could result in forfeiture of the program license and loss of privilege of obtaining such a license in the future.

(2) All information submitted pursuant to this section will be treated as routinely available for publicly inspection, within the meaning of § 0.459 of this chapter. Licensees are permitted to request that information requested by the Commission pursuant to this section be withheld from public inspection. The Commission will consider such requests pursuant to the procedures set forth in § 0.459 of this chapter.

**§ 5.311 Additional requirements related to safety of the public.**

In addition to the notification requirements of § 5.309, for experiments that may affect frequency 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 that are authorized to operate in the same bands and geographic area as the planned experiment and, as appropriate, their end users;

(b) Rapid identification, and elimination, of any harm the experiment may cause; and

(c) Identifying an alternate means for accomplishing potentially-affected vital public safety functions during the experiment.

**§ 5.313 Innovation zones.**

(a) An innovation zone is a specified geographic location with pre-authorized boundary conditions (such as frequency band, maximum power, etc.) created by the Commission on its own motion or in response to a request from the public. Innovation zones will be announced via public notice and posted on the

Commission's program experimental registration Web site.

(b) A program experimental licensee may conduct experiments in an innovation zone consistent with the specified boundary conditions without specific authorization from the Commission. All licensees operating under this authority must comply with the requirements and limitations set forth for program licensees in this part, including providing notification of its intended operations on the program experimental registration Web site prior to operation.

## Subpart F—Medical Testing Experimental Radio Licenses

### § 5.401 Applicable rules.

In addition to the rules in this subpart, medical testing 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.

### § 5.402 Eligibility and usage.

(a) Eligibility for medical testing licenses is limited to health care facilities as defined in § 95.1103(b) of this chapter.

(b) Medical testing experimental radio licenses are for testing in clinical trials medical devices that use RF wireless technology for diagnosis, treatment, or patient monitoring for the purposes of, but not limited to, assessing patient compatibility and usage issues, as well as operational, interference, and RF immunity issues. Medical testing is limited to testing equipment designed to comply with the rules in part 15, Radio Frequency Devices; part 18, Industrial, Scientific, and Medical Equipment; part 95, Personal Radio Services subpart H—Wireless Medical Telemetry Service; or part 95, subpart I—Medical Device Radiocommunication Service.

### § 5.403 Frequencies.

(a) 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.

(b) Exception: Licensees may use frequencies listed in § 15.205(a) of this chapter if the device under test is designed to comply with all applicable service rules in part 18, Industrial, Scientific, and Medical Equipment; part 95, Personal Radio Services subpart H—Wireless Medical Telemetry Service; or part 95, subpart I—Medical Device Radiocommunication Service.

### § 5.404 Area of operation.

Applications must specify, and the Commission will grant authorizations for, a geographic area that is inclusive of an institution's real-property facilities where the experimentation will be conducted and that is under the applicant's control. Applications also may specify, and the Commission will grant authorizations for, defined geographic areas beyond the institution's real-property facilities that will be included in clinical trials and monitored by the licensee. In general, operations will be permitted where the likelihood of harmful interference being caused to authorized services is minimal.

### § 5.405 Yearly report.

Medical testing licensees must file a yearly report detailing the activity that has been performed under the license. This report is to be filed electronically to the Commission's program experimental registration Web site and must, at a minimum, include:

(a) A list of each test performed and the testing period; and

(b) A Description of each test, including equipment tested; and

(c) The results of the test including any interference incidents and their resolution.

### § 5.406 Responsible party, ''stop-buzzer,'' and notification requirements, and additional requirements related to safety of the public.

(a) Medical testing licensees must identify a single point of contact responsible for all experiments conducted under the license and must also identify a ''stop buzzer'' point of contact for all experiments, consistent with subpart E, §§ 5.307 and 5.308.

(b) Medical testing licensees must meet the notification and safety of the public requirements of subpart E, §§ 5.309 and 5.311.

### § 5.407 Exemption from station identification requirement.

Medical testing experimental licensees are exempt from complying with the station identification requirements of § 5.115.

## Subpart G—Compliance Testing Experimental Radio Licenses

### § 5.501 Applicable rules.

In addition to the rules in this subpart, compliance testing 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.

### § 5.502 Eligibility.

Compliance testing experimental radio licenses may be granted to those testing laboratories recognized by the FCC as being competent to perform measurements of equipment for equipment authorization.

### § 5.503 Scope of testing activities.

The authority of a compliance testing experimental license is limited to only those testing activities necessary for device certification (including antenna calibration, test site validation, proficiency testing, and testing in an Open Area Test Site); *i.e.,* compliance testing experimental licensees are not authorized to conduct immunity testing.

### § 5.504 Responsible party.

Compliance testing licensees must identify a single point of contact responsible for all experiments conducted under the license, including ensuring compliance with all applicable FCC rules:

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

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

### § 5.505 Exemption from station identification requirement.

Compliance testing experimental licensees are exempt from complying with the station identification requirements of § 5.115.

## Subpart H—Product Development and Market Trials

### § 5.601 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(k) 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 such limitations as the Commission may 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.

(e) Broadcast experimental station applicants and licensees must also meet the requirements of § 5.205.

#### § 5.602 Market trials.

Unless otherwise stated in the instrument of authorization, experimental radio licenses granted for the purpose of market trials pursuant to § 5.3(k) 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, subject to the ownership provisions in paragraph (d) of this section and 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. If more than one licensee is authorized, the licensees or the Commission shall designate one as the responsible party for the trial.

(d) All transmitting and/or receiving equipment used in the study shall be owned by the experimental 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.

(g) Broadcast experimental station applicants and licensees must also meet the requirements of § 5.205.

## PART 22—PUBLIC MOBILE SERVICES

■ 16. The authority citation for part 22 continues to read as follows:

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

#### § 22.165 [Amended]

■ 17. Section 22.165 is amended by removing and reserving paragraph (d)(2).

■ 18. Section 22.377 is revised to read as follows:

#### § 22.377 Certification of transmitters.

Transmitters used in the Public Mobile Services, including those used with signal boosters, in-building radiation systems and cellular repeaters, must be certificated for use in the radio services regulated under this part. Transmitters must be certificated when the station is ready for service, not necessarily at the time of filing an application. The FCC may list as certificated only transmitters that are capable of meeting all technical requirements of the rules governing the service in which they will operate. The procedure for obtaining certification is set forth in part 2 of this chapter.

### Subpart D [Removed and Reserved]

■ 19. Subpart D (consisting of §§ 22.401 through 22.413) is removed and reserved.

■ 20. Section 22.591 is amended by revising paragraph (a) to read as follows:

#### § 22.591 Channels for point-to-point operation.

* * * * *

(a) The 72–76 MHz channels may be used in point-to-multipoint configurations. The 72–76 MHz channels are also allocated for assignment in the Private Radio Services (see part 90 of this chapter).

* * * * *

#### § 22.599 [Removed]

■ 21. Section 22.599 is removed.

## PART 73—RADIO BROADCAST SERVICES

■ 22. 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]

■ 23. Section 73.1510 is removed.

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

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

**Authority:** 47 U.S.C. 154, 303, 307, 309, 336 and 554.

■ 25. Section 74.1 is revised to read as follows:

#### § 74.1 Scope.

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

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

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

#### § 74.5 Cross reference to rules in other parts.

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

* * * * *

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

**§ 74.15 Station license period.**

* * * * *

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

■ 28. Section 74.16 is revised to read as follows:

**§ 74.16 Temporary extension of station licenses.**

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

■ 29. Section 74.28 is revised to read as follows:

**§ 74.28 Additional orders.**

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

**Subpart A [Removed and Reserved]**

■ 30. Subpart A (consisting of §§ 74.101 through 74.184) is removed and reserved.

**§ 74.780 [Amended]**

■ 31. Section 74.780 is amended by adding an entry for ''Part 5—Experimental authorizations'' in numerical order and removing the entry for ''Section 73.1510—Experimental authorizations.''

## PART 80—STATIONS IN THE MARITIME SERVICES

■ 32. The authority citation 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]**

■ 33. Section 80.25 is amended by removing paragraph (c).

**§ 80.33 [Removed]**

■ 34. Section 80.33 is removed.

**§ 80.203 [Amended]**

■ 35. Section 80.203 is amended by removing and reserving paragraph (j).

**§ 80.211 [Amended]**

■ 36. Section 80.211 is amended by removing paragraph (g).

■ 37. 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]**

■ 38. Section 80.391 is removed.

## PART 87—AVIATION SERVICES

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

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

■ 40. Section 87.27 is 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]**

■ 41. Section 87.37 is removed.

## PART 90—PRIVATE LAND MOBILE RADIO SERVICES

■ 42. 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), and 332(c)(7), and Title VI of the Middle Class Tax Relief and Job Creation Act of 2012, Pub. L. 112–96, 126 Stat. 156.

**§ 90.7 [Amended]**

■ 43. Section 90.7 is amended by removing the definition ''Developmental Operation.''

**§ 90.20 [Amended]**

■ 44. Section 90.20 is amended by removing and reserving paragraph (e)(3).

**§ 90.35 [Amended]**

■ 45. Section 90.35 is amended by removing the entry for ''8,400 to 8,500'' from the table in paragraph (b)(3) and by removing and reserving paragraphs (c)(75), (d)(6) and (e)(2).

**§ 90.129 [Amended]**

■ 46. Section 90.129 is amended by removing and reserving paragraph (f).

**§ 90.149 [Amended]**

■ 47. Section 90.149 is amended by removing paragraph (c).

**§ 90.175 [Amended]**

■ 48. Section 90.175 is amended by removing and reserving paragraph (j)(4).

**§ 90.203 [Amended]**

■ 49. Section 90.203 is amended by removing and reserving paragraph (b)(1).

**§ 90.241 [Amended]**

■ 50. Section 90.241 is amended by removing paragraph (e).

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

**§ 90.250 Meteor burst communications.**

* * * * *

(i) Stations employing meteor burst communications must 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]

■ 52. Subpart Q (consisting of §§ 90.501 through 90.517) is removed and reserved.

## PART 101—FIXED MICROWAVE SERVICES

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

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

#### § 101.21 [Amended]

■ 54. Section 101.21 is amended by removing and reserving paragraph (b).

■ 55. 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]

■ 56. Subpart F (consisting of §§ 101.401 through 101.413) is removed and reserved.

[FR Doc. 2013–08528 Filed 4–26–13; 8:45 am]

BILLING CODE 6712–01–P