

Before the  
Federal Communications Commission  
Washington, D.C. 20554

In the Matter of )  
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)  
Amendment of Part 5 of the Commission's ) ET Docket No. 96-256  
Rules to Revise the Experimental Radio )  
Service Regulations )  
)

REPORT AND ORDER

Adopted: October 22, 1998

Released: October 27, 1998

By the Commission:

I. INTRODUCTION

1. By this action, we revise Part 5 of our rules, which governs the Experimental Radio Service (ERS). This action will promote technical innovation and new services by encouraging experiments; ensure that experimental licenses do not result in abuse of our processes; eliminate unnecessary and burdensome experimental regulations; and protect public safety frequencies.

2. To promote technical innovation, we are permitting longer license terms, blanket licensing of related multiple experiments, construction of satellite experimental facilities to begin prior to licensing, and electronic filing of experimental applications. We are also encouraging student experiments by permitting the issuance of licenses to schools, as well as to individual students, and by permitting use of additional frequencies for such experiments. Further, we are making special temporary authorizations (STAs) easier to obtain by making them independent of other experimental licenses and by expediting their processing where circumstances warrant. To prevent abuses of our processes, we are limiting the size and scope of each market study on a case-by-case basis, and we will immediately terminate any such study that we determine to be in excess of this size and scope. Additionally, we are limiting STAs to single, non-renewable authorizations. To reduce the regulatory burden, we are eliminating the requirement that experimental licensees contact our Compliance and Information Bureau (CIB) before commencing operation; eliminating rules that specify that a construction permit be obtained in conjunction with an experimental license and that expiration dates of experimental licenses be distributed over the 12 calendar months; and permitting licensees to make discrete changes in emission characteristics without being required to submit applications for modification, provided that they establish that such changes would not exceed the maximum emissions envelope in the existing authorization. Further, we are consolidating and reorganizing the rules, including transferring wildlife and ocean buoy tracking operations from Part 5 to Part 90. Finally, to protect public safety frequencies, we are adopting new rules to ensure that experiments avoid those frequencies except when there is a compelling need to use them.

II. BACKGROUND

3. In the *Notice of Proposed Rule Making (Notice)* in this proceeding, the Commission proposed a

number of changes to Part 5.<sup>1</sup> The Commission noted that Section 303(g) of the Communications Act of 1934, as amended, (the Act) authorizes the Commission to provide for experimental use of frequencies and charges the Commission with encouraging the larger and more effective use of radio in the public interest. The Commission further noted that the primary purpose of the ERS is to provide for experimental uses of radio frequencies and for development of techniques and systems that are not otherwise permitted under existing service rules, and that the ERS provides opportunity for manufacturers, inventors, entrepreneurs, and students to experiment with new radio technologies, new equipment designs, characteristics of radio wave propagation, or new service concepts related to the use of the radio spectrum.

4. Additionally, the Commission observed that it last updated its ERS rules in 1983. Since that time, there have been significant changes in services and technologies, and the competitive and rapidly developing telecommunications market has increased the importance of maintaining current and useful rules to govern the ERS. The Commission stated that based on its experience, it believed that the ERS rules should be significantly modified to eliminate unnecessary and burdensome rules and to better promote experimentation, while ensuring that the experimental process is not abused.

### III. DISCUSSION

#### A. *Promotion of Technical Innovation and New Services by Encouraging Experiments*

##### License Period

5. In the *Notice*, the Commission observed that, although experimental licenses are currently granted for two years, it may be beneficial to certain segments of the communications industry -- in particular, companies that desire to conduct experiments that involve ongoing research and development -- to provide for a longer license period. Accordingly, the Commission proposed an additional licensing option that would give applicants the ability to apply for a five-year license. However, the Commission requested comment on the appropriate length for such an extended license period and on whether this new class of experimental license should be limited to certain parties, such as those involved in long-term product development.

6. Commenting parties strongly support the option of a five-year license term. ProNet Inc. (ProNet) states that adoption of a five-year term for all experimental applicants will immediately and substantially decrease the administrative and processing costs associated with experimental licenses, but will not diminish the Commission's regulatory authority.<sup>2</sup> Rockwell International Corporation (Rockwell) concurs that a five-year license term option is appropriate for all types of ERS operations,<sup>3</sup> and Motorola, Inc. (Motorola) expresses general support for a five-year option.<sup>4</sup> AirCell Inc. (AirCell) states that market development grants,<sup>5</sup> in particular, should be for a term of five years, but also should be non-renewable.<sup>6</sup> In supporting a five-year license term option, Motorola Satellite Communications, Inc. (MSC) suggests in particular that the

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<sup>1</sup> See *Notice of Proposed Rule Making*, ET Docket No. 96-256, 11 FCC Rcd 20130 (1996).

<sup>2</sup> Comments of ProNet Inc., filed February 10, 1997, at 3.

<sup>3</sup> Comments of Rockwell International Corporation, filed February 10, 1997, at 2-3.

<sup>4</sup> Comments of Motorola, Inc., filed February 10, 1997, at 6.

<sup>5</sup> See 47 C.F.R. §§ 5.202(j) and 5.206.

<sup>6</sup> Reply comments of AirCell Inc., filed February 28, 1997, at 5.

Commission grant licenses for terms which vary from two to five years. MSC contends that while the flexibility provided by variable license terms might add slightly to our administrative burden, the additional effort may prove worthwhile as a means of tailoring licenses to the specific requirements of the licensee. Thus, MSC concludes, any new administrative burden on the Commission may be offset by a decrease in the number of applications for renewal of experimental licenses.<sup>7</sup> Ericsson, Inc. (Ericsson) takes no position on whether a five-year license term should be limited to a specific class of ERS licensee, but states that the Commission should in any event make a five-year license term available for entities that are engaged in manufacturing radio equipment.<sup>8</sup> Finally, AT&T Wireless Services, Inc. (AT&T) states that the Commission should issue licenses for a five-year term upon an adequate showing of need. AT&T contends that if an applicant cannot demonstrate in advance why the developmental needs of a particular project require a longer term, it will nevertheless have later opportunity to apply for renewal of its authorization.<sup>9</sup>

7. *Decision.* We concur with the commenting parties that an option for a five-year licensing term is desirable for all ERS applicants. We see no need to limit this option to only certain types of applicants, or to establish special rules for those applicants undertaking market studies, but we will require an applicant seeking an extended license term to show a need for the requested license term. We also conclude that license terms which vary from two to five years would provide greater flexibility, would serve the public interest, and should be permitted. We note that, currently, even with two-year license terms, we permit applicants to apply for licenses of terms shorter than two years. Therefore, we will extend this practice and will now permit applicants to apply for licenses of a term greater than two years, up to a maximum of five years. As specified in Appendix A, we are providing for this additional licensing flexibility to all experimental applicants who demonstrate that they require a license term longer than the normal two years. All licenses will be renewable upon an adequate showing of need.

#### Filing of Applications

8. In the *Notice*, the Commission proposed to amend the rules governing the filing of experimental applications in order to simplify the filing process and to encourage applications to be filed. Specifically, the Commission proposed to delete the existing requirement for the filing of separate applications for fixed stations and for mobile stations and to allow an applicant to apply for all of the stations needed in its experimental system, including fixed stations and associated mobile units, with a single experimental license application.<sup>10</sup> Similarly, the Commission proposed to amend its rules in order to permit the filing of a single application for multiple experiments, when doing so would be appropriate for the proposed project.<sup>11</sup> Additionally, in order to facilitate the electronic filing of applications, the

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<sup>7</sup> Comments of Motorola Satellite Communications, Inc., filed February 10, 1997, at 6-7.

<sup>8</sup> Comments of Ericsson, Inc., filed February 10, 1997, at 2.

<sup>9</sup> Comments of AT&T Wireless Services, Inc., filed February 10, 1997, at 4-5.

<sup>10</sup> See 47 C.F.R. § 5.55(a) and (b).

<sup>11</sup> See 47 C.F.R. § 5.62 (licenses required for separate experimental projects).

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Commission proposed to amend its rules to permit the Commission's Office of Engineering and Technology (OET) to accept electronic signatures.<sup>12</sup>

9. All of the commenting parties support the Commission's proposals; however, some encourage the Commission to take additional steps to liberalize the filing rules. For example, Motorola expresses general support for combining fixed and mobile operations under one license, and for permitting electronic signatures.<sup>13</sup> MSC supports the Commission's proposal to permit an applicant to combine several related fixed and/or mobile radio facilities under one license, and also submits that the Commission should allow multiple phases of an experimental process to be authorized under one license and allow a single application to be filed by an entity that wishes to perform multiple experiments. MSC therefore recommends that we grant a blanket experimental license for all related facilities, and that we clarify the extent of a licensee's authority under a blanket license to make changes without additional Commission approval.<sup>14</sup>

10. Ericsson urges the Commission to adopt rules that give manufacturers more flexibility to conduct experiments under a blanket license. Specifically, Ericsson recommends that manufacturers be allowed to be licensed on a nationwide basis for experimental operations on a wide variety of frequency bands, modulation schemes, and power levels for fixed and mobile units, with only a requirement that licensees notify the Commission of specific details of their individual experiments.<sup>15</sup>

11. Rockwell supports allowing an experimental licensee to change equipment without additional authorization provided that the change does not result in operations inconsistent with any term of the licensee's outstanding authorization. Rockwell urges that even greater efficiencies can be realized if the Commission additionally allow an experimental licensee to make discrete changes in emission characteristics without further authorization, provided that the maximum emissions envelope of the existing authorization would not be exceeded.<sup>16</sup>

12. *Decision.* We adopt our proposals to allow an applicant to apply for all of the fixed and mobile stations in its experimental system on a single license application, to permit the filing of a single application for related multiple experiments, and to permit OET to accept electronic signatures. We find that these actions will facilitate experimentation and decrease the regulatory burden on our licensees and staff. Additionally, we adopt the recommendations of commenting parties that we allow applicants to apply for a blanket experimental license for all related facilities, allow manufacturers to conduct experiments under blanket nationwide licenses, and allow experimental licensees to change emission characteristics provided that their authorized maximum emissions envelope is not exceeded. We find that dispensing with the existing requirements for applying for additional authorizations in these circumstances will facilitate experimentation, increase administrative efficiency, and eliminate unnecessary regulatory burdens on ERS licensees. However, we will require licensees who operate under blanket licenses to notify us of the specific details of each individual experiment, including location, number of base and mobile units, power, emission designator, and any other pertinent technical information not specified by the blanket license; and we will require licensees who change emission characteristics to submit written notification to us demonstrating that such changes will not exceed the

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<sup>12</sup> See 47 C.F.R. § 5.53(f), which currently requires that the original signed copy of the application be filed.

<sup>13</sup> Comments of Motorola, at 2, 6.

<sup>14</sup> Comments of MSC, at 7-8.

<sup>15</sup> Comments of Ericsson, at 2-4.

<sup>16</sup> Comments of Rockwell, at 3-4.

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maximum emissions envelope established in the existing authorization.

#### Student Authorizations

13. In the *Notice*, the Commission proposed to permit ERS licenses to be issued to schools, as well as to individual students; to remove the current restriction that students be required to contact the Commission's local field office in advance of scheduled operation; and to modify the frequency bands used for student authorizations. Specifically, the Commission proposed to delete the 2483.5-2500 MHz band from the set of frequencies designated for student authorizations and to replace it with the 2402-2450 MHz and 10.00-10.50 GHz bands. The Commission requested comment on whether student experiments could be accommodated in those bands without causing harmful interference to existing users. In addition, the Commission requested comment on whether the 5725-5825 MHz band should be made available for student authorizations. Further, in Section 5.405, which sets forth the power limitation governing student authorizations, the Commission proposed to remove the somewhat arcane reference to "dc plate power" and replace it with the more conventional requirement that the "effective isotropic radiated power" (EIRP) not exceed 4 watts, and requested comment on whether this power level would be appropriate, given the distances over which student experimenters typically would seek to communicate. Finally, the Commission requested comment about the level of supervision and the knowledge of radiofrequency emissions that may be required to supervise adequately elementary school-age children.

14. *Decision.* No commenting party addressed any of the Commission's proposals related to student experimentation. Because we find that these proposals will facilitate student use of the radio spectrum and are otherwise in the public interest, we are adopting them, as specified in Appendix A. We are not, however, authorizing use of the 5725-5825 MHz band for student experimentation because that band was recently allocated for use by a new category of unlicensed equipment, known as Unlicensed National Information Infrastructure (U-NII) devices,<sup>17</sup> and we find that there would be too great a potential for harmful interference in the band if student use were permitted in addition to the authorized use of the band. Specifically, because U-NII devices may operate anywhere in the 5725-5825 MHz band, there would be no way to ensure that a student experiment in a particular geographic area would not operate on the same frequency as a U-NII device.

#### Temporary Experiments

15. Special temporary authorizations are currently issued in cases in which a need is shown for operation of an authorized station for a limited time only, in a manner other than that specified in an existing experimental license, but not in conflict with our ERS rules. In the *Notice*, the Commission proposed to modify existing Sections 5.53(e)(2) and 5.56 to remove the requirement that an applicant have an experimental license before applying for an STA, and further proposed to modify Section 5.56 to include a provision for preferential processing of STA applications in cases in which an applicant sets forth compelling reasons why such an authorization must be granted expeditiously. Additionally, the Commission proposed to amend existing Section 5.56(b) to specify more clearly the information needed in an application for STA.

16. Only three parties commented on these proposals. As part of its general support for initiatives that permit the ERS to operate more efficiently while maintaining flexibility, Motorola supports the Commission's proposal to eliminate the need for a party to obtain an experimental license before seeking an

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<sup>17</sup> See *Report and Order*, ET Docket No. 96-102, 12 FCC Rcd 1576 (1997).

STA.<sup>18</sup> Similarly, MSC and Rockwell express general support for all three proposals as part of their support for streamlining the ERS rules.<sup>19</sup>

17. *Decision.* We agree with commenters that there is no reason to require a regular experimental license as a precondition for obtaining an STA. Permitting STAs to be granted on a stand-alone basis will decrease the burden on applicants and will increase administrative efficiency. Further, we agree with Rockwell and MSC and find that it is in the public interest to grant STAs on short notice in some instances and to specify more clearly the information needed in an application for STA. These changes will, respectively, permit applicants greater flexibility and decrease the burden on applicants and increase administrative efficiency. Accordingly, we are adopting our proposals, as specified in Appendix A.

*B. Ensuring that Experimental Licenses Do Not Result in Abuse of Our Processes*

Market Studies

18. In the *Notice*, the Commission observed that in some instances its experimental processes have been abused by companies attempting to establish under the guise of experimental licenses commercial businesses that would normally require permanent licenses. Such abuse can be particularly unfair when a commercial business is being provided under an experimental license in competition with a similar business provided under a permanent license. Accordingly, the Commission proposed that as a condition of granting experimental licenses for market studies, it would require licensees to limit the size and scope of each study. The Commission stated that it would determine the appropriate limits for market studies on a case-by-case basis and terminate any such study that exceeds these limits.<sup>20</sup>

19. AT&T agrees with the Commission's proposal to limit the size and scope of each market study on a case-by-case basis to ensure that experimental licensees do not establish commercial businesses under the guise of their experimental licenses. AT&T recommends that experimental licensees undertaking market studies be required to supply sufficient information and justification to allow the Commission to determine the appropriate limits of the trial on a case-by-case basis. Finally, AT&T urges that these new requirements should not be limited to those experiments aimed at studying new markets but should also include technological studies.<sup>21</sup>

20. Ericsson states that it supports the Commission's proposal regarding market studies but requests

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<sup>18</sup> Comments of Motorola, at 3.

<sup>19</sup> Comments of MSC, at 8; Comments of Rockwell, at 5.

<sup>20</sup> Further, the Commission proposed that an applicant desiring to perform a limited market study be required to submit a narrative describing in detail the proposed study and its objectives. However, existing Section 5.57(a) of the Commission's rules, which the Commission proposed to recodify as Section 5.63(a), already requires for all experimental applicants "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 utilization of the radio art, or is along lines not already investigated." Accordingly, we find that it is unnecessary to require an additional narrative by applicants for market studies.

<sup>21</sup> Comments of AT&T, at 1-4; reply comments of AT&T, filed February 28, 1997, at 1-3.

that the Commission clarify which kinds of market studies are permissible and which are impermissible. For example, Ericsson asks whether an ERS licensee conducting an experiment in conjunction with a Commercial Mobile Radio Service (CMRS) licensee may deploy base station equipment in a commercially operating system to determine if that equipment works with type-accepted equipment. Ericsson contends that permitting such deployment would provide the experimental licensee with valuable technical information and would enable the manufacturer and CMRS licensee to determine if the new equipment will be useful in a commercial deployment configuration. Similarly, Ericsson maintains, the Commission should permit an experimental licensee to sell very limited quantities of equipment operated under an experimental license to determine if there is market demand for products at various price points.<sup>22</sup>

21. ProNet states that the Commission's proposals to curb market study abuses are reasonable and prudent; however, it cautions against an overreaction. ProNet maintains that the Commission should apply its power to terminate market study authorizations only where the likelihood of abuse is substantial, such as where an analogous non-experimental radio license can be acquired only through a substantial capital expenditure, *i.e.*, through an auction or purchase from an incumbent licensee.<sup>23</sup>

22. AirCell states that any limits the Commission imposes on the size and scope of experiments should not undermine the technical purpose of the experiment or, in the case of a marketing study, should not effectively prevent the licensee from verifying the true nature of the market or from demonstrating the viability of the business or service being evaluated. AirCell argues that Commission-imposed limitations on the size and scope of a market study could be sought by rivals who want to prevent the development of systems and services that would compete with their current businesses. In conclusion, AirCell suggests that the Commission's review process for ERS applications proposing a market study be clearly defined and appropriately weigh whether the proposed market study would investigate new technologies, would test a significant advance in existing services with existing technologies, or would investigate whether significant spectrum efficiencies can be gained by commercial implementation of the study. AirCell contends that, if the Commission's review were to indicate that the market study would garner such information, then it would serve the public interest to grant the ERS application, subject to appropriate interference and emission constraints.<sup>24</sup>

23. *Decision.* We conclude that some limits on market studies are necessary. The commenting parties agree with this general assessment but differ significantly on the specific limits that should be imposed. In general, we concur with AirCell that a market study which investigates new technologies, tests significant advances or developments in existing services or technologies, or investigates whether significant spectrum efficiencies can be gained from commercial implementation of the subject of the study may on a case-by-case basis be appropriately authorized under our ERS rules, provided, among other factors, that the study is to be conducted on a non-interference basis with other services. In determining whether to authorize individual market studies we will consider whether the planned scope of a study is appropriate to the nature of the service provided and not larger than is necessary to adequately examine market responses and technology performance under market conditions. In addition, we will limit the duration of such studies to a period of time that is sufficient to complete the planned study activity. We also concur with Ericsson that a request by a CMRS

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<sup>22</sup> Comments of Ericsson, at 5-6.

<sup>23</sup> Comments of ProNet, at 4-5.

<sup>24</sup> Reply comments of AirCell, at 4-5.

licensee to deploy experimental base station equipment in a commercially operating system, in order to determine if that equipment works with type-accepted equipment, may on a case-by-case basis be appropriate for ERS licensure. On the other hand, we find more problematic Ericsson's recommendation that we permit the sale of very limited quantities of equipment operated under the scope of an ERS license so as to enable the licensee to determine the extent of market demand for products at various price points. In general, we believe that such information can be obtained from marketing surveys, and that equipment sales for this purpose are not necessary. Also, such equipment sales may result in initiation of a service which, in turn, may compete unfairly with regularly licensed services<sup>25</sup> and which consumers may mistakenly regard as a fully-licensed, permanent service. In sum, we find it appropriate to specify limits for market studies on a case-by-case basis.<sup>26</sup> See Appendix A.

### STAs

24. In the *Notice*, the Commission also observed that there has been some abuse of STAs. The Commission stated that STAs are intended for temporary, short-term operation, but in the past some parties have used them as substitutes for experimental licenses by requesting repeated extensions of the STA and thus have created unnecessary administrative and paperwork burdens on the Commission's staff. The Commission therefore proposed to amend its rules to state that in the absence of extenuating circumstances no extensions of STAs would be granted, and that holders of STAs who wish to continue experimentation must apply for regular experimental licenses at least 60 days prior to expiration of their STAs.

25. Ericsson supports the Commission's proposal; however, it recommends that the Commission clarify the types of "extenuating circumstances" under which an STA may be extended beyond the original license term.<sup>27</sup> MSC states that because the STA procedure is designed to accommodate entities that do not require an experimental license of two or more years, the Commission should not require a showing of extenuating circumstances for those requests that would extend STAs for a total of two years or less from the

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<sup>25</sup> *E.g.*, subscriber fees for the permanent service may reflect the full economic value of the spectrum, such as is the case where the licensee has obtained its right to use the spectrum via competitive bidding; in contrast, the experimental licensing process does not involve competitive bidding because of the experimental and relatively short-term nature of ERS operations, and, hence, subscriber fees for an ERS service could potentially reflect less than the value of the spectrum. In this situation, an ERS licensee would have a clear, but unfair, competitive advantage.

<sup>26</sup> We note that petitions to revoke AirCell's experimental authorization (Call Sign KI2XCS, File No. 5349-EX-MR-96) to provide an air/ground communications service have been filed by AirTouch Communications, Inc. (AirTouch), AT&T Wireless Services, Inc. and jointly by BellSouth Cellular Corp. (BellSouth) and GTE Wireless Products and Services (GTE). These petitions are being addressed by OET in a separate restricted proceeding. See *Public Notice*, DA 97-1019, released May 15, 1997.

On May 30, 1997, OET issued a letter to AirCell, imposing a freeze on AirCell's experimental marketing study. On February 11, 1998, however, OET issued a letter to AirCell that lifted this freeze. On March 12, 1998, two documents were filed with the Commission challenging OET's decision to lift the freeze. First, AirTouch, BellSouth, GTE, and Southwestern Bell Mobile Systems, Inc. filed an Application for Review of the decision; and second, those parties and Bell Atlantic Mobile, Inc. filed a Motion for Stay of the decision. On March 25, 1998, AirCell filed an Opposition to Motion for Stay and on March 31, 1998 AirCell filed an Opposition to Application for Review.

<sup>27</sup> Comments of Ericsson, at 4.



original date of the first STA grant.<sup>28</sup>

26. Motorola recommends that in order to reduce the possibility for serious disruptions of STA experiments that happen to extend beyond six months the Commission should permit special temporary authority to continue in force if an application for a regular experimental license on Form 442 is timely filed. Motorola contends that while filing for regular experimental authority at least 60 days before expiration of an STA, in compliance with the Commission's proposed rule, may be feasible in some cases, in other cases the need to extend an STA will not be apparent until much closer to the end of the STA term. Accordingly, Motorola urges that the Commission's proposed 60-day deadline be changed to a 15-day deadline and that the authority granted by the STA be automatically extended pending completion of processing of a related timely-filed application for a regular ERS license. Motorola also recommends that the Commission clarify that the requirement of Section 5.56(a) that STA operations not be "in conflict with the Commission's rules" refers specifically to the ERS rules, and not to rules for non-experimental radio services. Motorola states that often -- particularly in the case of equipment being developed for exportation -- the particular radio equipment or operations needed for product testing may not be authorizable under the Commission's rules for non-experimental radio services but may be authorized, and should remain authorizable, under Part 5.<sup>29</sup>

27. Rockwell states that it supports Motorola's recommendation for automatic extension of an STA if the holder files an application for a regular experimental radio license at least 15 days before expiration of the STA.<sup>30</sup> Comsat RSI, Inc. (CRSI) agrees and points out that such an automatic STA extension would eliminate the need for filing an application for renewal of STA and for incurring related expenses. Alternatively, CRSI proposes that the Commission permit renewal of an STA, provided an application for a regular experimental radio license has been filed in advance of the STA's expiration.<sup>31</sup>

28. *Decision.* We find persuasive commenters' recommendations that the Commission's proposal to limit STAs to single short-term, non-renewable authorizations be adopted with minor modifications. Accordingly, we will require STA holders who wish to continue operations beyond the expiration date of the STA to file an ERS application no later than 15 days prior to that date. In such cases where the ERS application has been timely filed, the STA shall continue in force automatically until action is taken on the application. We also clarify that an STA must not be in conflict with the ERS rules, but in some instances an STA -- like a regular experimental authorization -- may be in conflict with rules for non-experimental radio services. We believe that these decisions will best serve the public interest by preventing abuses of our processes while providing reasonable flexibility to holders of STAs. Accordingly, we are adopting the modified proposal, as specified in Appendix A.

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<sup>28</sup> Comments of MSC, at 9.

<sup>29</sup> Comments of Motorola, at 4-5.

<sup>30</sup> Reply comments of Rockwell, filed February 28, 1997, at 7.

<sup>31</sup> Reply comments of Comsat RSI, Inc., filed February 28, 1997, at 3-4.

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C. *Elimination of Unnecessary and Burdensome Experimental Regulations*

Notification of Field Offices

29. In the *Notice*, the Commission proposed to eliminate requirements that ERS licensees notify the Commission's CIB field offices of their ERS operations in the applicable CIB region. The Commission requested comment on this proposal and whether the removal of these requirements could result in an increased potential for harmful interference from ERS operations.

30. Commenting parties support this proposal. AT&T argues that if the proposal is adopted, the Commission should nevertheless impose a new requirement upon ERS licensees to provide, at least 30 days prior to commencing operations, written notification to other licensees who use the same frequency band in the market. AT&T claims that this requirement will be necessary to ensure that ERS operations do not cause harmful interference to transmissions from CMRS and other licensees in the same band. AT&T states that the mandatory notice should identify the frequencies to be used, the type of service to be offered, and the geographic scope of the experiment.<sup>32</sup>

31. CRSI disagrees with AT&T, stating that AT&T's proposal would create a significant and unnecessary burden for ERS licensees. CRSI points out that the Commission routinely considers the potential for harmful interference in evaluating whether to grant an ERS application. CRSI adds that incumbent licensees should have no difficulty identifying ERS licensees, particularly those with stationary operations such as CRSI. CRSI notes that the Commission's ERS database has been improved to facilitate identification of any potential cause of harmful interference.<sup>33</sup> Rockwell contends that AT&T has not established that interference from ERS licensees is a problem, and that AT&T's notification proposal is vague and fails to take into account the nature of ERS or radio services other than CMRS. Rockwell concludes that AT&T's proposal would place substantial additional regulatory burdens on ERS licensees and the Commission, is unwarranted, and therefore should not be adopted.<sup>34</sup>

32. *Decision.* We have decided to eliminate the CIB notification requirement and will not adopt the new notification requirement proposed by AT&T. Based on the Commission's experience, we do not believe that this action will increase the potential for harmful interference from ERS operations. We are aware that, historically, ERS licensees have established a commendable record of not causing harmful interference to non-ERS operations, and we concur with Rockwell that a new notification requirement would impose an unjustifiable new regulatory burden. Accordingly, we are eliminating the CIB notification requirement as proposed and are not adopting a new notification requirement. This decision does not preclude us from adding a notification requirement to a particular license if circumstances so warrant.

Construction Permits and License Expirations

33. In the *Notice*, the Commission explained that for a number of years our practice has been to accept a combined application in the ERS for a construction permit and a license to build and operate an experimental

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<sup>32</sup> Comments of AT&T, at 5-6.

<sup>33</sup> Reply comments of CRSI, at 4-5.

<sup>34</sup> Reply comments of Rockwell, at 3-6.

radio station, and to issue a single instrument of authorization. Therefore, the Commission proposed to delete from the ERS rules all references to construction permits. Further, the Commission proposed to delete existing Section 5.63(c) of its rules, which states that the expiration dates for ERS licenses will be distributed over the twelve calendar months, in accordance with the alphabetical distribution of the names of the licensees. This requirement was established to ensure the even distribution of applications for renewals throughout each year. The Commission explained that this rule was no longer needed to facilitate the renewal process because its experience reflects that the constant flow of applications results in an administratively acceptable distribution of ERS license applications and that, in any event, this rule no longer reflected our administrative practice.

34. Rockwell supports both proposals and MSC supports the proposal to delete all references to ERS construction permits. MSC proposes that the Commission further amend its rules to allow an ERS applicant to begin construction of its experimental system prior to receiving a license. In particular, MSC maintains that allowing an applicant for a satellite system to begin construction of both the space and earth stations, at its own risk, can shave years off the time needed to bring new services to fruition. Further, MSC contends that the Commission's December 1996 *Streamlining Order* permits applicants under Part 25 to begin construction of their satellite systems prior to obtaining an FCC construction permit or license, and that the Commission could readily extend its liberalization of the statutory construction requirements to satellite ERS applicants based upon the same rationale used in the *Streamlining Order*.<sup>35</sup>

35. *Decision.* We find that the public interest will be served by adoption of the proposals to delete references to construction permits from the ERS rules and to delete existing rule Section 5.63(c), and that such action will lessen the regulatory burdens on ERS applicants and the Commission. Accordingly, we adopt these proposals. With respect to MSC's proposal, in light of the Commission's *Streamlining Order*, which permits applicants for permanent satellite authorizations to construct facilities for commercial use prior to obtaining licenses or construction permits, we find that the public interest would be served by likewise permitting satellite ERS applicants to construct at their own risk prior to receiving an ERS license. We therefore adopt this proposal. This action will more closely align satellite ERS procedure with satellite procedure under Part 25 and will not create any undesirable incentives for satellite providers to use the Part 5 rules inappropriately to avoid their responsibilities and obligations under Part 25, yet will also remove unnecessary regulatory burdens and increase efficiencies for the satellite ERS applicants and the Commission.<sup>36</sup> However, we advise satellite experimental applicants that any construction undertaken prior to receipt of an ERS license will not entitle them to any assurances that their experiments will be subsequently approved or their regular service subsequently authorized. Further, consistent with the *Streamlining Order*, we will require satellite ERS applicants to notify us in writing that they plan to begin construction at their own risk.

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<sup>35</sup> See *Streamlining the Commission's Rules and Regulations for Satellite Application and Licensing Procedures, Report and Order*, IB Docket No. 95-117, 11 FCC Rcd 21581 (1996). In the *Streamlining Order*, the Commission referenced the instant proceeding and encouraged MSC to participate in it. *Id.* at para. 8.

<sup>36</sup> In the *Streamlining Order*, the Commission eliminated Subpart E, concerning developmental operations, from Part 25, stating that a developmental authorization appeared tantamount to an experimental authorization issued by OET. The Commission further stated that OET will coordinate with the Commission's International Bureau to confirm that developmental operations are compatible with authorized services. *See id.* at para. 51.

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Partial Grants of Applications

36. In the *Notice*, the Commission proposed to amend its rules to clarify that, consistent with its long-time practice, it will rely on coordination between an ERS applicant and its staff, in conjunction with paper submissions, to resolve any objections the applicant may have to a partial grant of its application. The Commission stated that these procedures would usually be the most efficient and appropriate means of resolving any problems with such a grant. Only Rockwell addressed this proposal, supporting its adoption.

37. *Decision.* We adopt this proposal because we find it will promote efficiency and otherwise serve the public interest. We observe that although existing rule Section 5.58 calls for the vacation of a partial grant and designation of the application for an evidentiary hearing to resolve a petition for reconsideration of a partial grant, this procedure has rarely if ever been used for the ERS. Accordingly, we are adopting the proposal, as specified in Appendix A, which accurately reflects the procedure the Commission has long relied upon in the ERS. We point out that this coordination process is best and most efficiently designed to achieve the particular statutory purpose of the ERS, under Section 303(g) of the Communications Act of 1934, as amended, which is to "[s]tudy new uses for radio, provide for experimental uses of frequencies, and generally encourage the larger and more effective use of radio in the public interest."<sup>37</sup>

*D. Protection of Public Safety Frequencies*

38. In the *Notice*, the Commission stated that protection of public safety radio frequencies from harmful interference is one of its paramount concerns and noted that the Commission's staff counsels applicants for experimental licenses to avoid public safety frequencies unless their proposed experiments are of a public safety nature. The Commission proposed to amend Part 5 in order to make this policy explicit, and requested comment on the following proposed amendment:

Applicants in the Experimental Radio Service must avoid public safety frequencies except when performing experiments of a public safety nature. Public safety frequencies are identified in Subpart B (Public Safety Radio Services) and Subpart C (Special Emergency Radio Service) of Part 90 of the Commission's rules. In addition, Subpart S of Part 90 contains rules for the assignment of frequencies that may be used by Public Safety Radio Services in the 806-824 MHz and 851-869 MHz bands. However, if operation on these frequencies is deemed essential, the applicant may apply for frequency bands that include public safety frequencies. The resulting experimental license may be granted, but the authorization will be conditioned to require coordination between the experimental licensee and the appropriate frequency coordinator and/or all of the public safety licensees in its area of intended operation.

39. Commenting parties offer mixed comments on this proposal. Rockwell and Ericsson state that they concur with the proposal, but Ericsson contends that the Commission's language designed to protect public safety frequencies is ambiguous and should be revised to make clear that all Part 90 frequencies on which public safety agencies operate will be protected. Motorola suggests that the Commission's proposed language be liberalized. Motorola argues that whenever a compelling showing can be made that experimental use of public safety frequencies is in the public interest, and the applicant

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<sup>37</sup> 47 U.S.C. § 303(g).

states its willingness to coordinate such use with public safety licensees, the experimental use should be permitted.

40. In reply comments, Ericsson states that a Commission requirement that the experimental licensees coordinate with a frequency coordinator and/or all of the public safety licensees in the experimental licensee's area of intended operation may prove to be a substantial burden that could thwart the development of radio for public safety uses. Ericsson contends that, unlike the case of services such as CMRS in which spectrum is assigned for the exclusive use of the licensee, public safety licensees generally share spectrum, and that there thus may be numerous public safety licensees in operation, some of whom may be difficult to identify. Accordingly, Ericsson recommends that the Commission undertake the task of coordination between the experimental licensee and appropriate parties, if coordination were to be required at all.

41. *Decision.* We adopt with modifications the proposal to amend the rules to codify the Commission's ERS licensing practices for frequencies used by Part 90 public safety services. We are adopting Motorola's recommendation that we permit the experimental use of public safety frequencies upon a compelling showing that such use will best serve the public interest. We find that this action will properly balance the public interests in preserving these frequencies for public safety use and in providing the flexibility needed for certain vital experiments that might otherwise not be undertaken. We also find that coordination must take place between an ERS licensee and all public safety licensees -- either directly or through a frequency coordinator -- in the licensee's area of intended operation. While Ericsson contends that such coordination may be burdensome because there may be numerous public safety operations in the geographic area where an ERS licensee intends to operate, we find that the burden of coordination properly should fall on the licensee. In other words, we conclude that, on the one hand, permitting the use of public safety frequencies upon a compelling public interest showing, and, on the other hand, requiring the ERS licensee to coordinate with public safety services, reflects an appropriate balance of burdens that will best serve the public interest. Finally, we also clarify that our rule amendment shall apply to all frequencies used for Part 90 public safety operations.

#### *E. Reorganization of the Regulatory Structure*

42. In the *Notice*, the Commission proposed to reorganize Part 5 by consolidating six current subparts into three, reordering rules sections to provide a more logical flow of the regulations, and removing redundancies between the subparts. Further, the Commission proposed to eliminate or consolidate certain rules sections, proposed to transfer the rules governing wildlife and ocean buoy tracking operations from Part 5 to Part 90 so that these tracking operations would be regulated under the same rule part as other tracking operations, and solicited comment on transferring Subpart A of Part 74 -- Experimental Broadcast Operations -- to Part 5.<sup>38</sup> The Commission requested comment on whether the latter change would be desirable and, if so, on whether Subpart A of Part 74 should be made a separate subpart of Part 5 or fully integrated with the proposed three new subparts of Part 5.

43. *Decision.* No commenting party addressed any of these proposals. Because we find that these proposals would increase our administrative efficiency, would make the rules clearer and easier to use by ERS applicants, and would otherwise serve the public interest, we adopt them. We believe that these changes will contribute to a more streamlined and efficient regulatory structure. With respect to transferring Subpart A of

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<sup>38</sup> The Commission did not propose any change to the experimental broadcast provisions in Section 73.1510 of its rules. This section permits licensees of broadcast stations to obtain authorizations to conduct experimentation directed toward improvement of the technical phases of operation and service.

Part 74 to Part 5, no commenting party addressed this issue and we find that such a change would be administratively burdensome and is unnecessary at this time. Accordingly, Experimental Broadcasting Operations will remain under Subpart A of Part 74.

*F. Other Matters*

44. In comments, Motorola recommends some minor wording changes to certain proposed rule sections. Specifically, Motorola recommends that: in proposed Section 5.3(f), the definition of "person" be expanded to include "state and local governmental subdivisions"; in proposed Section 5.3(g), the term "type approval" be changed to "regulatory approval"; in proposed Sections 5.55(d) and 5.61(c)(6), the Commission clarify that special temporary authority may apply to more than one location; in proposed Section 5.63, the reference to "contract numbers" in foreign government contracts be revised to "any associated contract number;" in proposed Section 5.73(c), the Commission correct a typographical error; in proposed Section 5.77(a), the Commission revise the requirement that an ERS licensee notify us of an equipment change so that it would not apply to equipment modifications that would be consistent with the licensee's existing authorization; in proposed Section 5.85(f)(1), that the free space characteristic impedance be changed from "120 ohms" to "120 $\pi$  ohms"; and, in proposed Section 5.119, the reference to the ERS licensee's "premises" be deleted. We find that each of these recommendations would provide desirable clarification, eliminate unnecessary minor regulatory impediments, or correct minor errors. Accordingly, we conclude that these recommendations would serve the public interest and we adopt them.

#### IV. PROCEDURAL INFORMATION

45. Paperwork Reduction Act. This *Report and Order* contains a new information collection. As part of the Commission's continuing effort to reduce paperwork burdens, we invite the general public and the Office of Management and Budget (OMB) to comment on the information collections contained in this *Report and Order*, as required by the Paperwork Reduction Act of 1995, Pub. L. No. 104-13. Public and agency comments are due 60 days from date of publication of this *Report and Order* in the Federal Register. Comments may address the following: (a) whether the proposed collection of information is necessary for the proper performance of the functions of the Commission, including whether the information shall have practical utility; (b) the accuracy of the Commission's burden estimates; (c) ways to enhance the quality, utility, and clarity of the information collected; and (d) ways to minimize the burden of the collection of information on the respondents, including the use of automated collection techniques or other forms of information technology. Written comments on the proposed and/or modified information collections must be submitted on or before 60 days after date of publication in the Federal Register. In addition to filing comments with the Secretary, a copy of any comments on the information collections contained herein should be submitted to Judy Boley, Federal Communications Commission, Room 234, 1919 M Street, N.W., Washington, DC 20554, or via the Internet to <jboley@fcc.gov>. For additional information concerning the information collections contained in the Report and Order, contact Judy Boley at 202-418-0214.

46. Final Regulatory Flexibility Analysis. As required by Section 603 of the Regulatory Flexibility Act, 5 U.S.C. § 603 ("RFA"), a Final Regulatory Flexibility Analysis ("FRFA") is set forth in Appendix B.

47. Ordering Clauses. IT IS ORDERED that Parts 5 and 90 ARE AMENDED, as specified in Appendix A, effective 60 days after publication in the Federal Register. IT IS FURTHER ORDERED that

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the Reference Operations Division of the Commission's Office of Public Affairs shall send a copy of this *Report and Order*, including the FRFA, to the Chief Counsel for Advocacy of the SBA.

48. Authority. This action is taken pursuant to Sections 4(i), 303(c), 303(f), 303(g) and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. Sections 154(i), 303(c), 303(f), 303(g) and 303(r).

FEDERAL COMMUNICATIONS COMMISSION

Magalie Roman Salas  
Secretary

**APPENDIX A: FINAL RULES**

A. Part 5 of Title 47 of the Code of Federal Regulations is amended as follows:

**PART 5 -- EXPERIMENTAL RADIO SERVICE (OTHER THAN BROADCAST)**

1. The authority citation for Part 5 is revised to read as follows:

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

2. The entire Part 5 of Title 47 of the Code of Federal Regulations is amended as follows:

**PART 5--EXPERIMENTAL RADIO SERVICE (OTHER THAN BROADCAST)**

## Subpart A--General

## Section

- 5.1 Basis.
- 5.3 Scope of service.
- 5.5 Definition of terms.

## Subpart B--Applications and Licenses

- 5.51 Eligibility of license.
- 5.53 Station authorization required.
- 5.55 Filing of applications.
- 5.57 Who may sign applications.
- 5.59 Forms to be used.
- 5.61 Procedure for obtaining a special temporary authorization.
- 5.63 Supplementary statements required.
- 5.65 Defective applications.
- 5.67 Amendment or dismissal of applications.
- 5.69 Partial grants.
- 5.71 License period.
- 5.73 Experimental report.
- 5.75 Number of licenses required.
- 5.77 Change in equipment and emission characteristics.
- 5.79 Transfer and assignment of station authorization.
- 5.81 Discontinuance of station operation.
- 5.83 Cancellation provisions.
- 5.85 Frequencies and policy governing their assignment.
- 5.87 Frequencies for field strength surveys or equipment demonstrations.
- 5.89 School and student authorizations.



- 5.91 Notification to the National Radio Astronomy Observatory.
- 5.93 Limited market studies.

#### Subpart C--Technical Standards and Operating Requirements

- 5.101 Frequency stability.
- 5.103 Types of emission.
- 5.105 Authorized bandwidth.
- 5.107 Transmitter control requirements.
- 5.109 Antenna and tower requirements.
- 5.111 General limitations on use.
- 5.113 Adherence to program of research.
- 5.115 Station identification.
- 5.117 Suspension of transmission required.
- 5.119 Posting station licenses.
- 5.121 Retention of station records.
- 5.123 Inspection of stations.
- 5.125 Authorized points of communication.

#### Subpart A--General

##### Section 5.1 Basis and purpose.

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

(b) The purpose of this part is to prescribe the manner in which parts of the radio frequency spectrum may be made available for experimentation as defined and provided for in this part.

##### Section 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 under contractual agreement with the United States Government, or for export purposes.
- (c) Communications essential to a research project.
- (d) Technical demonstrations of equipment or techniques.
- (e) Field strength surveys by persons not eligible for authorization in any other service.
- (f) Demonstration of equipment to prospective purchasers by persons or state and local governmental subdivisions engaged in the business of selling radio equipment.
- (g) Testing of equipment in connection with production or regulatory approval of such equipment.
- (h) Development of radio technique, equipment or engineering data not related to an existing or proposed service, including field or factory testing or calibration of equipment.
- (i) Development of radio technique, equipment, operational data or engineering data related to an

existing or proposed radio service.

(j) Limited market studies.

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

#### Section 5.5 Definition of terms.

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

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

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

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

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

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

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

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

*Landing area.* As defined by 49 U.S.C. Section § 40102(a)(28) of the Civil Aeronautics Act of 1938, as amended, any locality, either of land or water, including airdromes and intermediate landing fields, that is used, or intended to be used, for the landing and take-off of aircraft, whether or not facilities are provided for the shelter, servicing, or repair of aircraft, or for receiving or discharging passengers or cargo.

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

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

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

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

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

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

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

### Subpart B--Applications and Licenses

#### Section 5.51 Eligibility of license.

(a) Authorizations for stations in the Experimental Radio Service will be issued only to persons qualified to conduct experimentation utilizing radio waves for scientific or technical operation data directly related to a use of radio not provided by existing rules; or for communications in connection with research projects when existing communications facilities are inadequate.

(b) Applicants eligible for authorizations in an established service, and seeking to develop operational data or techniques directed toward the improvement or extension of that service shall file applications and conduct such projects under the developmental rules of the established service.

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

#### Section 5.53 Station authorization required.

(a) No radio transmitter shall be operated in the Experimental Radio Service except under and in accordance with a proper station authorization granted by the Commission. However, construction of proposed experimental satellite facilities may begin prior to Commission grant of an authorization. Such construction will be entirely at the applicant's risk and will not entitle the applicant to any assurances that its proposed experiment will be subsequently approved or regular services subsequently authorized. Additionally, 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) Persons desiring to install and operate radio transmitting equipment under this part should first submit an application for a radio station license in accordance with § 5.59.

(c) 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.

#### Section 5.55 Filing of applications.

(a) To assure that necessary information is supplied in a consistent manner by all persons, standard forms are prescribed for use in connection with the majority of applications and reports submitted for Commission consideration. Standard numbered forms applicable to the Experimental Radio Service are discussed in § 5.59 and may be obtained by calling the FCC FORMS hotline, (202) 418-FORM. If no standard form is applicable, the informal application procedure outlined in § 5.59 (f) should be followed.

(b) Any application for radio station authorization and all correspondence relating thereto shall be submitted to the Commission's Office of Engineering and Technology, Washington, DC 20554. (Applications requiring fees as set forth in Part 1, Subpart G of this chapter must be filed in accordance with § 0.401(b) of the rules.)

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

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

#### Section 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, Section 1001, and by appropriate administrative sanctions, including revocation of station license pursuant to Section 312(a)(1) of the Communications Act of 1934, as amended.

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

#### Section 5.59 Forms to be used.

(a) *Application for experimental radio license.* Entities requesting an experimental authorization must submit FCC Form 442 (application). A single FCC Form 442 may be used for several radio components of an experimental program, however, unrelated experimental programs should be filed on separate applications.

(b) *Application for modification of experimental license.* An application for modification of experimental authorization shall be submitted on FCC Form 442. A blanket application may be submitted for modification of a group of authorizations of the same class as long as the scope of the modifications are specified in the application. The individual authorizations covered by such an application shall be clearly identified therein. However, application for modification to change location of an experimental authorization shall be filed as a separate application.

(c) *Application for renewal of experimental authorization.* Application for renewal of station license shall be submitted on FCC Form 405. A blanket application may be submitted for renewal of a group of station licenses in the same class in those cases in which the renewal requested is in exact accordance with the terms of the existing authorizations. The individual stations covered by such applications shall be clearly identified thereon. 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.

(d) *Application for consent to assign an experimental authorization.* Application on FCC Form 702 shall be submitted when the legal right to construct or 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. Such application must be accompanied by the FCC Form 442 of which only the certification need be signed by the proposed assignee. No other information is required to be submitted on this form.

(e) *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.

(f) *Informal application.*

(1) An application not submitted on a standard form prescribed by the Commission is considered to be an informal application. Each informal application shall be submitted normally in letter form, and with the original signed in accordance with § 5.57. Each application shall be clear and complete within itself as to the facts presented and the action desired.

(2) An informal application for authority to operate transmitting equipment will be accepted only under the conditions set forth for special temporary authorizations in § 5.61.

#### Section 5.61 Procedure for obtaining a special temporary authorization.

(a) The Commission may issue a special temporary authorization under this part in cases in which a need is shown for operation of a station for six months or less, provided such operation is not in conflict with the Commission's rules in this part. In cases in which an applicant sets forth compelling reasons why a special temporary authorization must be granted expeditiously, preference will be given to processing the application.

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

(c) An application for special temporary authorization may be filed as an informal application in the manner prescribed by § 5.59(f) and shall contain the following information:

- (1) Name, address, phone number (also e-mail address and facsimile number, if available) of the applicant.
- (2) Description of why an STA is needed.
- (3) Description of the operation to be conducted and its purpose.
- (4) Time and dates of proposed operation.
- (5) Class(es) of station (fixed, mobile, fixed and mobile) and call sign of station (if applicable).
- (6) Description of the location(s) and geographical coordinates of the proposed operation. Indication of which coordinate datum (NAD-27 or NAD-83) applies.
- (7) Equipment to be used, including name of manufacturer, model and number of units.
- (8) Frequency(ies) desired.
- (9) Maximum effective radiated power (ERP).
- (10) Emission designator (see § 2.201) 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 the Commission's rules concerning notification to the FAA).

Section 5.63 Supplementary statements required.

(a) Each applicant for an authorization in the Experimental Radio Service must enclose with the application 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 utilization of the radio art, or is along lines not already investigated. An applicant may request non-disclosure of proprietary information submitted under this part. These requests should follow the procedures for submission set forth in § 0.459 of this chapter.

(b) 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, the applicant shall submit a narrative statement describing the project, the name of the contracting agency, and the contract number.

(c) 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, the applicant shall submit a narrative statement describing the project, any associated contract number, and the name of the foreign government concerned.

(d) The provisions of paragraph (a) of this section shall not be applicable to applications for an authorization in the Experimental Radio Service to be used for communications essential to a research project in which other means of communications are inadequate or not available. In such cases, applicants shall include as part of the application for an authorization the following:

- (1) A description of the nature of the research project being conducted.
- (2) A showing that communications facilities are necessary for the research project involved.
- (3) A showing that existing communications facilities are inadequate or unavailable.

Section 5.65 Defective applications.

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

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

(c) Applications that are 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 of the applicant for waiver of, or an exception to, any rule, regulation, or requirement with which the application is in conflict. Such request shall show the nature of the waiver or exception desired and set forth the reasons in support thereof.

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Section 5.67 Amendment or dismissal of applications.

(a) Any application may be amended or dismissed without prejudice upon request of the applicant prior to the time the application is granted. Each amendment to, or request for dismissal of an application shall be signed, authenticated, and submitted in the same manner and with the same number of copies 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) Failure to prosecute an application, or failure to respond to official correspondence or request for additional information, will be cause for dismissal. Such dismissal will be without prejudice.

Section 5.69 Partial grants.

In cases in which the Commission grants an application in part, or with any privileges, terms, or conditions other than those requested, or subject to any interference that may result to a station if designated application or applications are subsequently granted, the action of the Commission shall be considered as a grant of such application unless the applicant shall, within 30 days from the date on which such grant is made or from its effective date if a later date is specified, file with the Commission a written request rejecting the grant as made. Upon receipt of such request, the Commission will coordinate with the applicant in an attempt to resolve problems arising from the grant.

Section 5.71 License period.

(a) The regular license period for stations in the Experimental Radio Service is either 2 or 5 years. An applicant desiring to apply for a 5-year license must provide justification for its need for a license of that duration. A license may be renewed upon an adequate showing of need.

(b) A license will not be granted for a period longer than that which is required for completion of the experimental project. If such period is estimated to be less than 2 years, or between 2-5 years, a statement to that effect by the applicant may facilitate grant of the application. See also § 5.69.

Section 5.73 Experimental report.

(a) Unless specifically stated as a condition of the authorization, licensees are not required to file a report on the results of the experimental program carried on under this subpart.

(b) The Commission may, as a condition of authorization, request the licensee to forward periodic reports in order to evaluate the progress of the experimental program.

(c) 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.

Section 5.75 Number of licenses required.

An application for a station embracing widely divergent and unrelated experimentations will normally require a separate license for each experiment. However, if the experiments are related or conducted by the same manufacturer, an applicant may apply for a blanket license encompassing the entire experimental

program. If a blanket license is granted, licensees will be required to notify the Commission of the specific details of each individual experiment, including location, number of base and mobile units, power, emission designator, and any other pertinent technical information not specified by the blanket license.

#### Section 5.77 Change in equipment and emission characteristics.

(a) A change may be made in a licensed transmitter without specific authorization from the Commission provided that the change does not result in operations inconsistent with any term of the outstanding authorization for the station involved.

(b) Discrete changes in emission characteristics may be made without specific authorization from the Commission provided that the Commission is given written notification demonstrating that such changes will not exceed the maximum emissions envelope established in the existing authorization. Changes made pursuant to such notification that become a permanent part of the licensee's experimental program must be listed in the licensee's next application for renewal.

(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 as much as one second, or when such relocation involves a change in street address.

#### Section 5.79 Transfer and assignment of station authorization.

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 shall, after securing full information, decide that such a transfer is in the public interest and give its consent in writing. Requests for authority to transfer or assign a station authorization shall be submitted on the forms prescribed by § 5.59.

#### Section 5.81 Discontinuance of station operation.

In case of permanent discontinuance of operation of a fixed or land station in the Experimental Radio Service, or in case of permanent discontinuance of operation of all transmitter units listed in the license for a mobile station in the Experimental Radio Service, the licensee shall forward the station license to the Commission's Office of Engineering and Technology for cancellation.

#### Section 5.83 Cancellation provisions.

The applicant for a station in the Experimental Radio Services accepts the license with the express understanding: (a) that the authority to use the frequency or frequencies assigned is granted upon an experimental basis only and does not confer any right to conduct an activity of a continuing nature; and (b) that said grant is subject to change or cancellation by the Commission at any time without 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.



Section 5.85 Frequencies and policy governing their assignment.

(a) Stations operating in the Experimental Radio Service may be authorized to use any government or non-government frequency designated in the Table of Frequency Allocations set forth in Part 2 of this chapter, provided that the need for the frequency requested is fully justified by the applicant.

(b) Each frequency or band of frequencies available for assignment to stations in the Experimental Radio Service is available on a shared basis only, and will not be assigned for the exclusive use of any one applicant, and such use may also be restricted to one or more specified geographical areas. Not more than one frequency in a band of frequencies will normally be assigned for the use of a single applicant unless a showing is made demonstrating that need for the assignment of additional frequencies is essential to the proposed program of experimentation.

(c) Frequency assignments will be made only on the condition that harmful interference will not be caused to any station operating in accordance with the Table of Frequency Allocation of Part 2 of this chapter.

(d) Use of Public Safety Frequencies: Applicants in the Experimental Radio Service must avoid use of public safety frequencies except when a compelling showing can be made that use of such frequencies is in the public interest. Public safety frequencies are identified in Subpart B (Public Safety Radio Services) and Subpart C (Special Emergency Radio Service) of Part 90 of the Commission's rules. In addition, Subpart S of Part 90 contains rules for the assignment of frequencies that may be used by Public Safety Radio Services in the 806-824 MHz and 851-869 MHz bands. If an experimental license to use public safety radio frequencies is granted, the authorization will be conditioned to require coordination between the experimental licensee and the appropriate frequency coordinator and/or all of the public safety licensees in its intended area of operation.

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

(f) Protection of FCC monitoring stations:

(1) Applicants are advised to give consideration, prior to filing applications, to the need to protect FCC monitoring stations from harmful interference. Geographical coordinates of such stations are listed in § 0.121(b) of the Commission's Rules. Applications for stations (except mobile stations) that will produce on any frequency a direct wave fundamental field strength of greater than 10 mV/m in the authorized bandwidth of service ( $-65.8 \text{ dBW/m}^2$  power flux density assuming a free space characteristic impedance of  $120\pi$  ohms) at the referenced coordinates, may be examined to determine the extent of possible interference. Depending on the theoretical field strength value or other ambient radio field signal levels at the indicated coordinates, a clause protecting the monitoring station may be added to the station authorization.

(2) In the event that calculated value of expected field strength exceeds 10 mV/m ( $-65.8 \text{ dBW/m}^2$ ) at the reference coordinates, or if there is any question whether field strength levels might exceed the threshold value, advance consultation with the FCC to discuss any protection necessary should be considered. Prospective applicants may communicate with the Technology Division, Compliance and Information Bureau, telephone (202) 418-1210, Federal Communications Commission, Washington, D.C. 20554.

(3) Advance consultation is suggested particularly for those applicants who have no reliable data that indicates whether the field strength or power flux density figure indicated would be exceeded by their proposed radio facilities (except mobile stations). In such instances, the following is a suggested guide for

determining whether an applicant should coordinate:

- (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(c) of the Commission's Rules and also meets the criteria outlined in paragraphs (d) (2) and (3) of this section.
- (5) The Commission will not screen applications to determine whether advance consultation has taken place. However, applicants are advised that such consultation can avoid objections from the Commission.

Section 5.87 Frequencies for field strength surveys or equipment demonstrations.

(a) Authorizations issued under §§ 5.3 (e) and (f) will normally not have specific frequencies designated in a station license. Prior to the commencement of a survey or demonstration, the licensee will request a specific frequency assignment and submit the following information:

- (1) Time, date and duration of survey.
- (2) Frequency to be used.
- (3) Location of transmitter and geographical area to be covered.
- (4) Purpose of survey.
- (5) Method and equipment to be used.
- (6) Names and addresses of persons for whom the survey is conducted.

Section 5.89 School and student authorizations.

The Commission may issue an authorization to schools or students for the purpose of presenting experiments or technical demonstrations for school or school approved projects that require the use of radio for a limited period of time. Such authorizations may be granted at the discretion of the Commission.

(a) An application for a school or student authorization may be filed in letter form and must comply with the provisions of § 5.63, except where specified below. The application must be accompanied by a signed statement from a member of faculty of the school, on appropriate letterhead, indicating the person under whose general supervision the project will be conducted. In the case of student authorizations, the letter must state that the project has the approval of the school

(b) Frequencies in the following bands are available for assignment in authorizations issued under this section:

27.23-27.28 MHz.  
460-461 MHz.  
462.525-467.475 MHz.  
2402-2483.5 MHz.  
10.00-10.50 GHz.

(c) Operations under this section shall not exceed a peak envelope output power of 4 watts. The Commission may authorize a greater power if a satisfactory showing is made that such greater power is necessary and that appropriate measures will be taken to prevent interference.

(d) The frequency of operation must be measured or checked prior to each time of operation.

(e) Subject to the provisions of (b), (c) and (d), the provisions in Subpart C of this part are waived insofar as such provisions require a station authorized under this section to observe the technical and operating restrictions set forth therein.

(f) The licensee holding an authorization issued under this section shall maintain a record of operation containing the following information:

(1) A brief description of the experimentation being conducted.

(2) The date and time of each period of operation.

(3) The frequency of operation as measured or checked at the beginning of each period of operation.

(g) The record of operation shall be retained for one month after the termination of the authorization.

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

#### Section 5.93 Limited market studies.

Unless otherwise stated in the instrument of authorization, licenses granted for the purpose of limited market studies pursuant to § 5.3(j) 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 anyone participating in the experiment that the service or device is granted under an experimental authorization and is strictly temporary.

(c) 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 study is not so limited, the study shall be immediately terminated.

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Subpart C-- Technical Standards and Operating Requirements

Section 5.101 Frequency stability.

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

Section 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.

Section 5.105 Authorized bandwidth.

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

Section 5.107 Transmitter control requirements.

Each licensee shall be responsible for maintaining control of the transmitter authorized under its station authorization. This includes both ensuring 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.

Section 5.109 Antenna and tower requirements.

(a) Applicants with fixed stations that use antennas that exceed 6 meters in height above the ground level or more than 6 meters in height above an existing building must comply with the requirements of Part 17 of this chapter.

(b) The licensee of any radio station that has an antenna structure required to be painted and illuminated pursuant to the provisions of Section 303(q) of the Communications Act of 1934, as amended, and Part 17 of this chapter, shall perform the inspections and maintain the tower marking and lighting, and associated control equipment, in accordance with the requirements of §§ 17.43 through 17.57 of this chapter.

Section 5.111 General limitations on use.

(a) The following transmission limitations are applicable to all classes of stations in the Experimental Radio Service:

(1) Stations may make only such transmissions as are necessary and directly related to the conduct of the licensee's stated program of experimentation as specified in the application for license and the related station instrument of authorization, and as governed by the provisions of the rules and regulations

contained in this part. All transmissions shall be limited to the minimum practical transmission time.

(2) When transmitting, the licensee must use every precaution to insure that the radio frequency energy emitted 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 and, further, that the power radiated is reduced to the lowest practical value consistent with the program of experimentation for which the station authorization is granted. If harmful interference to an established radio service develops, the licensee shall cease transmissions and such transmissions shall not be resumed until it is certain that harmful interference will not be caused.

(b) If experimental stations are to be used to retransmit signals of any other station or to render any communications service to third parties, a full disclosure of this must be made in the application for license.

#### Section 5.113 Adherence to program of research.

(a) The program of experimentation as stated by an applicant in its application for license or in the station instrument of authorization, shall be substantially adhered to unless the licensee is authorized to do otherwise by the Commission.

(b) Where some phases of the experimental program are not covered by the general rules of the Commission or by the rules of this part, the Commission may specify supplemental or additional requirements or conditions in each case as deemed necessary in the public interest, convenience, or necessity.

#### Section 5.115 Station identification.

Each class of station in the experimental services shall, unless specifically exempted by the terms of the station authorization, 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.

#### Section 5.117 Suspension of transmission required.

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.

#### Section 5.119 Posting station licenses.

The current original authorization for each station shall be retained as a permanent part of the station records but need not be posted.

#### Section 5.121 Retention of station records.

Records required to be kept by this part shall be retained for a period of at least one year.

Section 5.123 Inspection of stations.

All stations and records of stations in the Experimental Radio Service 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.

Section 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.

B. Part 90 of Title 47 of the Code of Federal Regulations is amended as follows:

**PART 90 - PRIVATE LAND MOBILE RADIO SERVICES**

1. The authority citation for Part 90 continues to read as follows:

**AUTHORITY: Secs. 4, 303, 48 Stat. 1066, 1082, as amended; 47 U.S.C. 154, 303, and 332, unless otherwise noted.**

2. Section 90.203 is amended by revising paragraph (a) and by adding a new paragraph (k), to read as follows:

Section 90.203 Type acceptance required.

(a) Except as specified in paragraphs (b) and (k) of this section, each transmitter utilized for operation under this part and each transmitter marketed as set forth in § 2.803 of Part 2 of this chapter must be of a type that is included in the Commission's current Radio Equipment List as type accepted for use under this part; or, be of a type that has been type accepted by the Commission for use under this part in accordance with the procedures in paragraph (a)(2) of this section.

\* \* \* \* \*

(k) Ocean buoy and wildlife tracking transmitters operating in the band 40.66-40.70 MHz or 216-220 MHz under the provisions of Section 90.248 of this part shall be authorized under the notification procedure pursuant to Subpart J of Part 2 of this chapter.

3. A new Section 90.248 is added to read as follows:

Section 90.248 Wildlife and ocean buoy tracking.

(a) The frequency bands 40.66-40.70 MHz and 216-220 MHz may be used for the tracking of, and the telemetry of scientific data from, ocean buoys and animal wildlife.

(b) Transmitters operating under the provisions of this section are not subject to the technical standards contained in §§ 90.205-90.217. In lieu thereof, the transmitters shall comply with the provisions in this section.

(c) Classes of emission are limited to N0N, A1A, A2A, A2B, F1B, J2B, F2A, F2B, and/or F8E.

(d) The authorized bandwidth shall not exceed 1 kHz.

(e) Frequency stability:

(1) For transmitters operating in the 40.66-40.70 MHz frequency band, the frequency stability shall be sufficient to ensure that, at the carrier frequency employed, the sum of the authorized bandwidth plus the bandwidth required for frequency stability are confined within this band.

(2) In the 216-220 MHz frequency band, transmitters shall employ a minimum frequency stability of 0.005 percent (50 parts per million). The carrier frequency shall be selected to ensure that the sum of the authorized bandwidth plus the bandwidth required for frequency stability are confined within this band.

(3) The frequency stability standards shall be met over a temperature range of  $-30^{\circ}$  to  $+50^{\circ}$  centigrade at normal supply voltage and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of  $+20^{\circ}$  C. For battery operated equipment, the equipment tests shall be performed using a new battery.

(f) The maximum peak transmitter output (carrier) power shall not exceed 1 milliwatt for airborne wildlife applications, 10 milliwatts for terrestrial wildlife applications or 100 milliwatts for ocean buoys.

(g) Emissions appearing outside of the authorized bandwidth shall be attenuated below the carrier power by at least 26 dB, following the procedures specified in § 90.210(m).

4. Section 90.259 is amended, to read as follows:

Section 90.259 Assignment and use of frequencies in the bands 216-220 MHz and 1427-1435 MHz.

Frequencies in the bands 216-220 MHz and 1427-1435 MHz may be assigned to applicants under this part provided the bands are listed in the individual radio service under which they establish eligibility. Use of these bands is limited to telemetering purposes, except that the 216-220 MHz band may also be used for wildlife and ocean buoy tracking operations pursuant to § 90.248. All operation is secondary to Federal Government operations, and operation in the 216-220 MHz band is also secondary to the maritime mobile service and operation in the 1427-1429 MHz band is also secondary to the space operation service (earth-to-space). Base stations authorized in these bands shall be used to perform telecommand functions with associated mobile telemetering stations. Base stations may also command actions by the vehicle itself, but will not be authorized solely to perform this function. Airborne use will not be authorized. Each application will be coordinated with the Federal Government by the Federal Communications Commission and is subject to such technical and operational limitations as may be imposed by the government. Each application should include precise information concerning emission characteristics, transmitter frequency deviation, output power, type and directional characteristics, if any, of the antenna, and the minimum necessary hours of operation.

**APPENDIX B: FINAL REGULATORY FLEXIBILITY ANALYSIS**

As required by Section 603 of the Regulatory Flexibility Act, 5 U.S.C. § 603 ("RFA"), an Initial Regulatory Flexibility Analysis ("IRFA") was incorporated into the *Notice* in ET Docket No. 96-256.<sup>39</sup> The Commission sought written public comments on the proposals in the *Notice*, including the IRFA. The Commission's Final Regulatory Flexibility Analysis ("FRFA") in this *Report and Order* conforms to the RFA, as amended by the Contract With America Advancement Act of 1996 (CWAAA), Pub. L. No. 104-121, 110 Stat. 847 (1996).<sup>40</sup>

**Need For and Objective of the Rules:** In this decision, the Commission revises its Experimental Radio Service rules. This action is needed to promote technical innovation and new services by encouraging experiments, ensure that experimental licenses do not result in abuse of the Commission's processes, eliminate unnecessary and burdensome experimental regulations, and protect public safety frequencies.

**Summary of Issues Raised by the Public Comments in Response to the IRFA:** No comments were filed in direct response to the IRFA. However, in general comments to the *Notice*, some parties recommended modifications to our proposals. Specifically, parties recommended granting blanket experimental license for all related facilities, allowing manufacturers to conduct experiments under blanket nationwide licenses, and allowing experimental licensees to change emission characteristics that do not exceed the maximum emissions envelope in their existing authorizations without license modifications. We agree that these recommendations will facilitate experimentation and increase efficiency, and are adopting them.

**Description and Estimate of Small Entities Subject to Which Rules Will Apply:** The RFA generally defines a "small business" to be the same as a "small business concern" under the Small Business Act , 15 U.S.C. § 632, unless the Commission has developed one or more definitions that are appropriate to its activities.<sup>41</sup> Under the SBA, a "small business concern" is one that: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) meets any individual criteria established by the Small Business Administration (SBA).<sup>42</sup>

The Commission has not developed a definition of small entities applicable to experimental licensees. Therefore, the applicable definition of small entity is the definition under the Small Business Administration (SBA) rules applicable to radiotelephone companies. SBA has defined a small business for Standard Industrial Classification (SIC) category 4812 (Radiotelephone Communications) to be small entities when

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<sup>39</sup> 11 FCC Rcd 20130 (1996).

<sup>40</sup> Subtitle II of the CWAAA is "The Small Business Regulatory Enforcement Fairness Act of 1996" (SBREFA), codified at 5 U.S.C. § 601 *et seq.*

<sup>41</sup> 5 U.S.C. § 601(3) (incorporating by reference the definition of "small business concern" in 5 U.S.C. § 632).

<sup>42</sup> 15 U.S.C. § 632.



they have fewer than 1500 employees.<sup>43</sup>

The Commission processes approximately 1,000 applications a year for experimental radio operations. About half of these are renewals and the other half are for new licenses. The majority of experimental licenses are issued to companies such as Motorola and Department of Defense contractors such as Northrop, Lockheed and Martin Marietta. Businesses such as these may have as many as 200 licenses at one time. The majority of these applications, 70 percent, are from entities such as these. Given this fact, the remaining 30 percent of applications, we assume, for purposes of our evaluations in the FRFA, will be awarded to small entities, as that term is defined by the SBA.

**Projected Reporting, Recordkeeping and Other Compliance Requirements of the Rules:**

Adoption of our proposals should decrease the regulatory burden on all experimental license applicants, including small entities. For example, we are permitting applicants the option of applying for a five-year experimental license, in addition to maintaining the current two-year license. We anticipate that a longer term license will reduce the number of renewal applications, and thereby decrease the regulatory burden. We are also removing an unnecessary requirement that STA applicants hold experimental licenses, and are clarifying the STA rules. We are also replacing existing Sections 5.55(a) and 5.55(b) of our rules with a single provision that will allow an applicant to apply for all of the stations in its experimental system, including fixed stations and associated mobile units, on one experimental license application; and similarly to modify Section 5.62 to permit the filing of only a single application for multiple related experiments. Additionally, this action increases the opportunities for students to obtain experimental authorizations, remove requirements that certain licensees notify the FCC's field offices prior to commencing operations, and eliminates obsolete rules. These changes should have a positive effect on small entities; however, we are unable to quantify all potential effects on such entities.

**Steps Taken to Minimize Significant Economic Impact on Small Entities and**

**Significant Alternatives Considered:** We believe that our actions to revise our ERS rules will eliminate unnecessary and burdensome regulations for small entities. Section 303(g) of the Communications Act of 1934, as amended, charges the Commission with encouraging the larger and more effective use of radio in the public interest. We have considered the alternative of not making the proposed revisions; however, we believe that would not serve the public interest and would continue to place an unnecessary burden on licensees.

**Report to Congress:** The Commission shall send a copy of this Final Regulatory Flexibility Analysis, along with this *Report and Order*, in a report to Congress pursuant to the Small Business Regulatory Enforcement Fairness Act of 1996, 5 U.S.C. § 801(a)(1)(A). A copy of this FRFA will also be published in the Federal Register.

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<sup>43</sup> 13 C.F.R. § 121.201 Standard Industrial Classification (SIC) Code 4812.

**APPENDIX C: COMMENTING PARTIES**

**Comments**

AT&T Wireless Services, Inc.

Ericsson, Inc.

Motorola, Inc.

Motorola Satellite Communications, Inc.

ProNet Inc.

Rockwell International Corporation

**Reply Comments**

AirCell Inc.

AT&T Wireless Services, Inc.

Comsat RSI, Inc.

Ericsson, Inc.

Rockwell International Corporation