

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
Promoting Expanded Opportunities for Radio)	ET Docket No. 10-236
Experimentation and Market Trials under Part)	
5 of the Commission's Rules and Streamlining)	
Other Related Rules)	
)	
2006 Biennial Review of Telecommunications)	ET Docket No. 06-155
Regulations – Part 2 Administered by the)	
Office Of Engineering and Technology)	

REPLY COMMENTS OF AT&T INC.

AT&T Inc.
Paul K. Mancini
Gary L. Phillips
M. Robert Sutherland
AT&T Services, Inc.
1120 20th Street, N.W.
Washington, DC 20036
(202) 457-2057

Counsel for AT&T Inc.

April 11, 2011

TABLE OF CONTENTS

	Page
I. Introduction and Summary	1
II. The Record Supports Modifying the Experimental Radio Licensing Rules While Protecting CMRS.....	2
III. Commenters Widely Agree that Commercial Entities Should Be Permitted to Obtain All Three Types of Program Licenses	8
IV. Conclusion	9

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
Promoting Expanded Opportunities for Radio Experimentation and Market Trials under Part 5 of the Commission’s Rules and Streamlining Other Related Rules)	ET Docket No. 10-236
)	
)	
2006 Biennial Review of Telecommunications Regulations – Part 2 Administered by the Office Of Engineering and Technology)	ET Docket No. 06-155
)	

REPLY COMMENTS OF AT&T INC.

I. INTRODUCTION AND SUMMARY

AT&T Inc., on behalf of itself and its affiliates (“AT&T”), hereby submits reply comments in response to the Federal Communications Commission’s (“FCC” or “Commission”) Notice of Proposed Rulemaking (“*Notice*”) in the above-referenced proceeding.¹ The *Notice* seeks to promote robust radio experimentation in the Part 5 Experimental Radio Service (“ERS”) by creating three new types of spectrum licenses: (1) a research program experimental radio license; (2) an innovation zone program experimental radio license; and (3) a medical program experimental radio license.² AT&T supports the Commission’s goal of increasing the flexibility

¹ *Promoting Expanded Opportunities for Radio Experimentation and Market Trials under Part 5 of the Commission’s Rules and Streamlining Other Related Rules; 2006 Biennial Review of Telecommunications Regulations – Part 2 Administered by the Office Of Engineering and Technology*, Notice of Proposed Rulemaking, ET Docket No. 10-236; ET Docket No. 06-155, FCC 10-197 (2011) (“*Notice*”). Unless otherwise noted, all comments cited herein were filed in ET Docket No. 10-236 on March 10, 2011.

² A program experimental license would carry broad authority to conduct an ongoing program of research and experimentation under a single experimental authorization, and that would only be available to qualified institutions.

of ERS, but with modifications to better protect existing CMRS networks and subscribers.³ Specifically, the Commission should require program licensees to provide notice to potentially affected commercial licensees, obtain consent from each CMRS licensee, and bear the burden of proof in interference disputes. As the record shows, failure to adopt these safeguards would expose CMRS networks and consumers to harmful interference, delay the detection of the source, and impede its rapid resolution. The small number of commenters that oppose notice and consent have adopted a short-sighted approach to spectrum policy that would force existing licensees into a reactive posture in which they can only defend against interference after it harms their networks and customers. Additionally, the Commission should allow commercial entities to obtain each type of program license. As the record shows, experimentation by commercial entities is of equal importance to experimentation by educational and medical institutions in developing innovative technologies and services.

II. THE RECORD SUPPORTS MODIFYING THE EXPERIMENTAL RADIO LICENSING RULES WHILE PROTECTING CMRS.

The record supports modifying the experimental licensing rules to accelerate advances in spectrum innovation and efficiency, but preserving the ability of CMRS licensees to protect their networks and their customers from harmful interference.⁴ AT&T welcomes the interference

³ For purposes of the instant comments only, AT&T uses the term “CMRS” to include both: (1) Title II voice services that meet the definition of CMRS in Section 332 of the Communications Act; and (2) Title I information services like data services and wireless broadband Internet access services, even though these latter services are not within the statutory definition of CMRS.

⁴ Some commenters oppose the program licensee concept entirely. *See, e.g.*, Verizon Wireless Comments at 3 (“Universities, research organizations, and health care facilities should not be permitted to use licensed CMRS spectrum for experiments given the high likelihood of harmful interference being caused to commercial operations. CMRS spectrum is intensely utilized at universities and health care facilities, has high mobility users, ubiquitous coverage, and is very sensitive to external system interference. Interference can come in various forms including loss of system capacity, reduced data throughputs, disruptions, and reduced quality.”);

safeguards proposed by the Commission,⁵ but additional controls are necessary to protect CMRS networks. As detailed below, this view is supported by other commenters who urge the Commission to require notification, coordination, and CMRS licensee consent prior to experiments that could potentially affect CMRS licensees.⁶ The record also supports AT&T's view that, throughout the entire experimental licensing process, the burden should fall on the experimental licensee whenever questions of interference arise.

First, the Commission should require ERS licensees to provide explicit notification to all potentially affected CMRS licensees about the details of a proposed experiment.⁷ The

V-Comm Comments at 4 (“Universities, research organizations, and health care facilities should not utilize licensed CMRS spectrum to conduct unproven radio experiments, which can result in harmful interference to incumbent CMRS services.”). AT&T does not oppose the entire program license concept. Outside of CMRS spectrum, program licensees may be able to develop important advances in wireless communications.

⁵ As AT&T explained in its opening comments, while additional safeguards are needed, the *Notice* does propose several important measures that AT&T fully supports. First, all experiments must be conducted on a non-interference basis. Second, before conducting tests, a licensee must evaluate the propagation characteristics of the frequencies to be used in individual experiments, the operational nature of the services normally operating on those and nearby frequencies, and the specific operations listed within the Commission's licensing databases. Third, experiments must be designed to use the minimum power necessary and be restricted to the smallest practicable area. Fourth, all experiments must either transmit station identification as part of the broadcast or provide detailed testing information (such as starting time and duration) via a web-based reporting portal. Fifth, the FCC must possess the ability to strictly enforce its rules in this area. *See* AT&T Comments at 8-9.

⁶ As commenters highlight, CMRS spectrum is heavily-used nationwide, particularly on campuses. *See, e.g.*, V-Comm Comments at 4 (“College dormitory residents use CMRS service as their only source of voice communications, and CMRS broadband data service as well, while standard landline telephones are rarely used by college dormitory residents. Health care providers rely on CMRS services for patient care -- including doctors, nurses, staff, visitors, and patients for emergencies.”); *id.* at 5 (“Public safety agencies use CMRS voice services to supplement their voice communications needs, critical broadband data communications for in-vehicle mobile data terminals, and CMRS smartphones to enhance efficiency and productivity for our nation's first responders.”); Verizon Wireless Comments at 3-4.

⁷ *See, e.g.*, AT&T Comments at 5; CTIA Comments at 6 (proposing 30-day advance notice to all potentially affected CMRS licensees); Satellite Industry Association Comments at 11-12

notification should be provided in a manner that allows the CMRS licensee to easily find out about the experiment, understand the parameters of the experiment, and assess interference risk. Moreover, ERS licensees should be required to immediately cease operations if interference occurs. As commenters explain, “[r]ather than require thousands of licensees to spend thousands of hours monitoring the potential for [Program Experimental Radio License] applications, the Commission should require that a [program license] applicant provide notice of a proposed experiment to existing licensees that might be affected by the experiment.”⁸

Second, the Commission should require coordination and CMRS licensee consent for each experiment.⁹ The record supports such an approach. As one commenter explains, “any new rules must explicitly require prior approval of a CMRS licensee before an experimental licensee may commence operations on CMRS spectrum otherwise the FCC would be effectively requiring a CMRS licensee to share its spectrum.”¹⁰ Further, experimental licenses “granted without a licensee’s consent could unlawfully devalue and impair the auction contract, violating

(“Program licensees should bear the burden of notifying service licensees and demonstrating as necessary that their experiments will not cause harmful interference.”); WCAI Comments at 3 (“Because a [Program Experimental Radio License] applicant knows which frequency bands it intends to use and the geographic area in which it intends to operate, it would require very little additional effort for a PERL applicant to provide direct notice of its experiment to potentially affected licensees.”); EIBASS Comments at 9.

⁸ WCAI Comments at 3.

⁹ *See, e.g.*, AT&T Comments at 5; CTIA Comments at 6 (“[T]he Commission should require an affected CMRS licensee’s prior approval to a test or experiment where appropriate, such as in cases where experiments are conducted outside of buildings or away from controlled venues.”); Verizon Wireless Comments at 7, 9; WCAI Comments at 4-5.

¹⁰ Verizon Wireless Comments at 7. Even with coordination and consent, experiments should be confined to set locations and not made mobile. Permitting mobile experiments would raise the risk of interference substantially and is simply unacceptable on campuses, which, as the Commission recognizes, are densely populated with commercial wireless users. *See* AT&T Comments at 7.

licensees' settled right to maximize the value of the spectrum they bought."¹¹ Still others ask the Commission to require "[c]oordination and notification to CMRS licensees operating on adjacent bands and adjacent markets."¹² AT&T supports this proposal. Additionally, to protect against gamesmanship in the consent and coordination process, AT&T and other commenters largely agree that parties should have an obligation to negotiate in good faith.¹³

Despite the record support for these safeguards, a small number of commenters oppose the notice and consent requirements. Boeing, for example, argues that such safeguards are unnecessary, provided that experimental licensees operate on a non-interference basis and cease operations if interference occurs.¹⁴ But Boeing's proposed protections are short-sighted and would force existing licensees into a reactive posture. Specifically, existing licensees would have no opportunity to halt a potentially interfering experiment before it begins. Rather, service licensees could address interference only after it had affected their networks and customers. As AT&T noted in its initial comments, this type of regime—which preferences experimental licensees over existing licensees—is nonsensical.¹⁵ CMRS licensees provide service to existing customers. ERS licensees are engaged in the process of developing services that potentially may be available to future consumers.

¹¹ Verizon Wireless Comments at 9.

¹² V-Comm Comments at 6-7; Verizon Wireless Comments at 4 (The FCC should "require coordination with and notification to CMRS licensees operating on adjacent bands and adjacent markets for all radio experiments and testing activities by universities, research organizations, and health care facilities. Notifications should be made a minimum of 30 days before a proposed start date to provide sufficient time for CMRS licensees to evaluate the proposed test.").

¹³ *See, e.g.*, AT&T Comments at 5; WCAI Comments at 4.

¹⁴ Boeing Comments at 13-14; *see also* BAE Comments at 10-14.

¹⁵ AT&T Comments at 6.

Third, ERS licensees should bear the burden of demonstrating that an experiment will not cause interference. AT&T strongly opposes the imposition of this burden on the service licensee.¹⁶ As commenters explain, a program license applicant “is in the best position to make a showing regarding its proposed experiment” because it is “most familiar with the details of its proposal and would likely have already considered or created the types of models that would [be] the most useful in analyzing interference issues.”¹⁷ Experimental licensees—which by definition have no customers—will have “little incentive to avoid harmful interference to existing licensees.”¹⁸ And whatever incentive a program applicant “might have would be further reduced if the ... applicant does not need to make any demonstration that its experiment is actually harmless.”¹⁹

For these reasons, the Commission should also reject BAE’s proposal that co-channel service licensees bear the burden of proof and that service licensees not be able to object to an experiment without fully articulated technical demonstrations. As commenters emphasize, “[g]iven the non-standard nature of experimental operations, it would be unreasonable to require existing Commission licensees to ‘prove’ that a proposed” program license would cause interference.²⁰ Indeed, “[e]xisting licensees, perhaps unfamiliar with new and emerging

¹⁶ See, e.g., AT&T Comments at 6; TIA Comments at 6 (“TIA is opposed to any changes that would shift the burden of ensuring interference protection from experimental licensees to allocated primary and secondary users, and urges the Commission to refrain from any such rule changes.”); WCAI Comments at 8; Cisco Comments at 4.

¹⁷ WCAI Comments at 8

¹⁸ *Id.*

¹⁹ *Id.*

²⁰ EIBASS Comments at 9.

technologies, lacking complete technical data that may not be provided by the proponent, would have no ability to comply” with BAE’s proposal.²¹

Fourth, each program licensee should be required to identify a single point of contact who is ultimately responsible for all experiments conducted under the research license.²² As CTIA explains, the “the stop-buzzer contact person must be able to control all devices used under an experimental authorization and cease transmissions immediately if interference to CMRS operations occurs (until the interference is resolved).”²³ And the engineering firm Cohen, Dippell and Everist proposes that an “immediate contact should be available regardless of weekends and holidays” and contact failure should subject the licensee to strict, but fair, penalties, including license suspension.²⁴ AT&T agrees. Monitoring for, and quickly responding to, reports of actual interference should be among the core duties of a program licensee. Failure to satisfy these obligations should result in an appropriate sanction.

Fifth, the record supports the creation of a pilot program, in which the Commission would grant program licenses to a limited number of institutions and then evaluate the program before expanding its scope.²⁵ As AT&T explained in its opening comments, this approach “would allow the Commission to promote innovation and flexibility while studying the potential for harmful or unanticipated interference, particularly interference to CMRS licensees.”²⁶

²¹ *Id.*

²² *See, e.g.*, AT&T Comments at 6; CTIA Comments at 6-7; Cohen Comments at 2; EIBASS Comments at 9; Qualcomm Comments at 9-10.

²³ CTIA Comments at 6-7.

²⁴ Cohen Comments at 2.

²⁵ *See, e.g., id.*; AT&T Comments at 7.

²⁶ AT&T Comments at 7.

III. COMMENTERS WIDELY AGREE THAT COMMERCIAL ENTITIES SHOULD BE PERMITTED TO OBTAIN ALL THREE TYPES OF PROGRAM LICENSES.

The record supports permitting commercial entities to obtain all three types of program licenses proposed in the *Notice*.²⁷ Indeed, AT&T and many other commenters agree that for-profit entities possess the financial resources and market incentives to most effectively leverage the power of experimental radio licensing to accelerate the rate at which ideas are translated from prototypes to consumer devices and services.²⁸ As Boeing explains, “commercial entities, not research organizations or universities, are the driving force behind major advances in communications.”²⁹ Similarly, Steven Crowley, a spectrum engineer, explains that “[i]ndustrial entities should be eligible for the research program experimental radio license” and points to several studies that show that industry drives wireless development significantly more than non-profit sectors.³⁰ Commercial manufacturers possess unique institutional knowledge and testing facilities, expediting the process by which advances in RF technology are transformed into consumer products.³¹ TIA, for example, states that “many of [its] member companies operate research campuses and labs where radio frequency (RF) is effectively contained; these facilities are recognized as some of the most cutting-edge communications research centers in the

²⁷ See, e.g., Boeing Comments at 5; TIA Comments at 3; Steven J. Crowley Comments at 2; Qualcomm Comments at 8; TechAmerica Comments at 4; CTIA Comments at 8.

²⁸ AT&T Comments at 9-10; Steven J. Crowley Comments at 3-4.

²⁹ Boeing Comments at 5.

³⁰ Steven J. Crowley Comments at 9.

³¹ AT&T Comments at 9-10; Qualcomm Comments at 8 (The FCC should expand its proposed Research Program Experimental License to include commercial research laboratories, such as those within Qualcomm’s facilities, that “have defined campus settings and institutional processes” and can “effectively manage a wide variety of research projects.”); Steven J. Crowley Comments at 2.

world.”³² Accordingly, precluding for-profit entities from receiving program licenses would unnecessarily limit ERS’s potential for increasing spectrum efficiency and the availability and functionality of wireless broadband.

To protect against harmful interference or other misuses of ERS, the Commission should require commercial entities applying for program licenses to satisfy the same qualifications as the *Notice* proposes for non-profit entities.³³ Specifically, the ERS applicant must demonstrate that it has a “defined campus setting” and “institutional processes to monitor and effectively manage a wide variety of research projects.”³⁴ No additional requirements specific to commercial entities are needed. Once a commercial entity is licensed, it should follow whatever rules the Commission adopts for non-profit entities that seek to experiment.

IV. CONCLUSION.

AT&T supports the Commission’s goal of increasing the flexibility of ERS and, specifically, the three types of program licenses, but with modifications to protect CMRS licensees from harmful interference. Most importantly, the Commission should require notification, coordination, and CMRS licensee consent prior to experiments. The Commission also should place the burden of proving non-interference on the experimental radio licensee. With regard to eligibility, the Commission should not restrict program licenses to educational, medical, and non-profit institutions. Private industry drives wireless innovation, and arbitrarily excluding commercial entities from eligibility for program licenses would not serve the public

³² TIA Comments at 4.

³³ AT&T Comments at 10; TechAmerica Comments at 4.

³⁴ AT&T Comments at 10; TechAmerica Comments at 4 (“TechAmerica prefers that the Commission allow commercial research laboratories that ‘have defined campus settings and institutional processes to effectively manage a wide variety of research projects’ to utilize the license.”).

interest. For the foregoing reasons, the Commission should modify the ERS licensing rules consistent with the recommendations herein, ensuring that CMRS licensees and their customers are protected from harmful interference.

Respectfully submitted,

AT&T INC.

By: /s/ M Robert Sutherland

Paul K. Mancini

Gary L. Phillips

M. Robert Sutherland

AT&T Services, Inc.

1120 20th Street, N.W.

Washington, DC 20036

(202) 457-2057

Counsel for AT&T Inc.

April 11, 2011