

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of

Recommendations Approved)
By The Advisory Committee For The) IB Docket No. 04-286
2012 World Radiocommunication Conference)

To: The Commission

**COMMENTS
OF
NATIONAL PUBLIC RADIO, INC.**

Pursuant to Section 1.415 of the Commission's Rules, 47 C.F.R. § 1.415, National Public Radio, Inc. ("NPR") hereby submits its comments on the Commission's Public Notice in the above-captioned proceeding concerning the recommendations of WAC/128 and WAC/129.¹

I. As the Manager of the Federally Supported Public Radio Satellite System, NPR is Directly Affected by Proposed Modifications to the Radio Regulations in the Frequency Range 400 MHz – 6 GHz

NPR is a non-profit, noncommercial membership organization of more than 900 public radio stations. While known for producing and distributing such noncommercial educational radio programming as *All Things Considered*[®], *Morning Edition*[®], and *Talk Of The Nation*[®], NPR also manages and operates the Public Radio Satellite System ("PRSS"), which, for more than three decades, has enabled a broad and extremely diverse community of program producers and noncommercial educational radio stations to distribute programming for broadcast.

¹ Public Notice, IB Docket No. 04-286, DA 11-447 (Mar. 10, 2011).

Visionary pioneers at NPR established this satellite-based interconnection system in the late 1970s, the first of its kind. The PRSS operates in the C-band spectrum, interconnecting over 400 downlinks located at public radio stations nationwide. More than 250 different distributors use this system each year to deliver programs to stations.

NPR is licensed to operate a small number of transmit and receive earth stations located at NPR's headquarters in Washington, D.C. Additional transmit and receive earth stations that comprise key components of the PRSS are licensed or registered to, owned by, and located at a number of public radio stations across the country. The more than 400 interconnected public radio stations, including both NPR and non-NPR stations, maintain and operate receive-only earth stations in order to receive noncommercial educational, cultural, and informational programming from a multitude of program producers for broadcast to a diverse public -- including rural, minority, and other unserved and underserved audiences. These downlinks in turn feed over 900 public radio stations located in every state in the nation as well as Puerto Rico, the U.S. Virgin Island, Guam, and other territories. These facilities utilize frequency in the range 400 MHz to 6 GHz.

While NPR manages the system, the national-level assets of the system, including the space segment, are owned by the Public Radio Satellite Interconnection System Charitable Trust (the "Trust"). The trustees of the Trust are charged with ensuring that the Trust assets are preserved for the benefit of public radio stations participating in the PRSS. NPR's management of the PRSS is also subject to regular review by a Distribution and Interconnection Committee, whose members are elected by and represent public radio stations and producers throughout the public radio system.

The clear public interest nature of these activities is supported by a long-standing and substantial Federal interest. In the 1967 Public Broadcasting Act, Congress authorized the establishment of one or more interconnection systems to provide program suppliers with the means to distribute programs to local public television and radio stations.² In 1978, public television and radio became the first extensive broadcasting systems in the nation to switch from a system of land line distribution to satellite interconnection.³ Congress subsequently authorized and appropriated a substantial portion of the funding for the refurbishment of the PRSS in 1988,⁴ with the stated purpose of continuing and expanding the nationwide, satellite-interconnected system of distributing public telecommunications services.⁵ Following the failure of the Galaxy IV satellite in 1998, Congress appropriated \$48 million to secure replacement transponder capacity and related facilities for the next generation PRSS.⁶ Most recently, Congress completed a three-year \$78 million Federal appropriation for the replacement and upgrade of significant portions of the PRSS.⁷

² Pub. L. No. 90-129, § 201, 81 Stat. 365, 370 (1967) (codified, as amended, at 47 U.S.C. § 396(g)(1)(B)).

³ H.R. Conf. Rep. No. 825, 100th Cong., 2d Sess. 11 (1988).

⁴ Pub. L. 100-626, 100th Cong., 2d Sess., 102 Stat. 3207 (amending Section 396(k) of the Communications Act of 1934). Congress appropriated \$200 million for both the public television and public radio satellite systems. Pub. L. No. 100-436, 102 Stat. 1680, 1708-09 (1988); Pub. L. No. 101-166, 103 Stat. 1159, 1185 (1989); Pub. L. No. 101-517, 104 Stat. 2190, 2217 (1990).

⁵ See H. Rep. No. 825, 100th Cong., 2d. Sess. 10-15 (1988); S. Rep. No. 444, 100th Cong., 2d Sess. 6-10 (1988).

⁶ Emergency Supplemental Appropriations, Pub. L. No. 106-31, 113 Stat. 91-92 (1999).

⁷ See Consolidated Appropriations Act 2010, Pub. L. No. 111-117, 123 Stat 3274 (2009); Omnibus Appropriations Act, 2009, Pub. L. No. 111-8, 123 Stat. 797 (2008); Consolidated Appropriations Act, 2008, Pub L. No. 110-161, 121 Stat. 2202 (2007).

II. Potential Use of C-Band Frequencies for IMT Services Threatens the Distribution of Noncommercial Educational Programming Throughout the United States

Satellite communication is, by its very nature, a specialized, high performance activity requiring careful frequency coordination and planning.⁸ It is not conducive to sharing with mobile services, such as IMT. Satellite antenna gain is significant, amplifying signals from orbiting satellites over 22,000 miles distant. Although satellite dishes are highly directional, they all exhibit sensitivity to off-axis signals. Wireless mobile transmitters in common or adjacent frequency bands would pose a substantial threat to the integrity of broadcast satellite systems which have been carefully designed to achieve mission critical, high availability. C-Band in particular is widely utilized by broadcasters due to characteristics assuring high reliability during weather events and a wide variety of adverse conditions.

The potential introduction of new services such as IMT to C-Band frequencies would require extensive analysis of the innumerable variables in receiver and dish performance susceptibility of current users of such spectrum to avoid significant economic harm to users of this valuable resource and disenfranchisement of the listening and viewing public. The PRSS makes specific use of 5925 MHz to 6085 MHz for uplinking, and its own operations could cause interference to unlicensed operation near our facilities. More importantly, national downlink frequencies interconnect over 900 local public radio stations utilizing 3700 MHz to 3860 MHz where unlicensed terrestrial operation could have a serious impact on program reception at any downlink. Even operation that is somewhat out of band could lead to receiver front end

⁸ By allowing satellite users to frequency coordinate all "available" satellite orbital locations and frequencies, the current rules have enabled space segment users to respond to changing circumstances, including unforeseeable satellite failures, with minimized disruption. "Available" frequencies and orbital locations include those not previously frequency coordinated by a terrestrial fixed service user.

desensitization and create harmful interference. Additionally, transmissions in the L-band range of 950 to 1450 MHz are also highly susceptible to interference as the Intermediate Frequencies utilized in all PRSS downlink receivers.⁹

Moreover, broadcast use of C-band frequencies is vital to human safety during times of national emergencies by broadcast network transmission of Primary Entry Point communications during a Presidential-level Emergency Action Notification condition.¹⁰ The government's ability to communicate to the American people, across the over three thousand counties of the nation during times of emergency has been a priority for over a half century. Compromising C-band integrity through casual convenience of allocating new wireless services would force substantial re-investments by broadcasters that would ultimately compromise the fabric of ubiquitous coverage.

Weighed against these adverse consequences, there is little evidence to justify a fundamental change in either ITU or national regulations governing the use of C-band spectrum. There is no evidence that sharing of the C-band spectrum is a viable proposition. Virtually all the public comment to date has been in opposition to such proposals. Accordingly, NPR joins with many other industry participants in urging the Commission to reconsider the proposal to study allocations for IMT in the frequency ranges comprising C-band spectrum.

⁹ Recent technical studies have documented the serious interference consequences to potential sharing of C Band spectrum. See http://www.suirg.org/pdf/SUIRG_WiMaxFieldTestReport.pdf; Spectrum sharing studies in C band between IMT2000 (WIMAX) & satellite networks, [2009 IEEE 9th Malaysia International Conference on Communications \(MICC\)](#), 15-17 Dec. 2009.

¹⁰ NPR and PRSS participate in the Primary Entry Point system through FEMA- provided equipment, connecting over 900 local public radio stations in the event of a national EAN event.

Conclusion

For the foregoing reasons, NPR urges the Commission to withdraw the Recommendations of the Advisory Committee for the 2012 World Radiocommunication Conference concerning the WAC/129 Proposal A to study potential C-band frequency allocations for IMT services.

Respectfully submitted,

NATIONAL PUBLIC RADIO, INC.



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