Reform, to minimize litigation, eliminate ambiguity, and reduce burden.

Protection of Children

We have analyzed this proposed rule under Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks. This rule is not an economically significant rule and would not create an environmental risk to health or risk to safety that might disproportionately affect children.

Indian Tribal Governments

This proposed rule does not have tribal implications under Executive Order 13175, Consultation and Coordination with Indian Tribal Governments, because it would not have a substantial direct effect on one or more Indian tribes, on the relationship between the Federal Government and Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes.

Energy Effects

We have analyzed this proposed rule under Executive Order 13211, Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use. We have determined that it is not a ''significant energy action'' under that order because it is not a ''significant regulatory action'' under Executive Order 12866 and is not likely to have a significant adverse effect on the supply, distribution, or use of energy. The Administrator of the Office of Information and Regulatory Affairs has not designated it as a significant energy action. Therefore, it does not require a Statement of Energy Effects under Executive Order 13211.

Technical Standards

The National Technology Transfer and Advancement Act (NTTAA) (15 U.S.C. 272 note) directs agencies to use voluntary consensus standards in their regulatory activities unless the agency provides Congress, through the Office of Management and Budget, with an explanation of why using these standards would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (*e.g.,* specifications of materials, performance, design, or operation; test methods; sampling procedures; and related management systems practices) that are developed or adopted by voluntary consensus standards bodies.

This proposed rule does not use technical standards. Therefore, we did not consider the use of voluntary consensus standards.

Environment

We have analyzed this proposed rule under Department of Homeland Security Management Directive 023–01 and Commandant Instruction M16475.lD, which guide the Coast Guard in complying with the National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321–4370f), and have made a preliminary determination that this action is one of a category of actions that do not individually or cumulatively have a significant effect on the human environment. A preliminary environmental analysis checklist supporting this determination will be available in the docket where indicated under **ADDRESSES**. This proposed rule involves establishment of a safety zone on the waters of the East River during a firework works display. This rule appears to be categorically excluded, under figure 2–1, paragraph (34)(g), of the Commandant Instruction.

We seek any comments or information that may lead to the discovery of a significant environmental impact from this proposed rule.

List of Subjects in 33 CFR Part 165

Harbors, Marine safety, Navigation (water), Reporting and recordkeeping requirements, Security measures, Waterways.

For the reasons discussed in the preamble, the Coast Guard proposes to amend 33 CFR part 165 as follows:

PART 165—REGULATED NAVIGATION AREAS AND LIMITED ACCESS AREA

1. The authority citation for part 165 continues to read as follows:

Authority: 33 U.S.C. 1231; 46 U.S.C Chapter 701, 3306, 3703; 50 U.S.C. 191, 195; 33 CFR 1.05–1, 6.04–1, 6.04–6, 160.5; Public Law 107–295, 116 Stat. 2064; Department of Homeland Security Delegation No. 0170.1.

2. Add § 165.T01–0130 to read as follows:

§ 165.T01–0130 Safety Zone; Wedding Fireworks Display, Boston Inner Harbor, Boston, MA.

(a) *Regulated Area.* The following area is a temporary safety zone: All navigable waters from surface to bottom, within a 450-foot radius of position 42°21′19″ N, 071°02′32″ W. This position is located approximately 450-feet off of Anthony's Pier 4, Boston Inner Harbor Boston, MA.

(b) *Definitions.* For purposes of this section ''Designated on-scene representative'' is any Coast Guard commissioned, warrant, or petty officer who has been designated by the Captain of the Port Boston (COTP) to act on the COTP's behalf.

(c) *Effective Period.* This rule will be effective and will be enforced from 8 p.m. to 11 p.m. on May 19, 2012.

(d) *Regulations.*

(1) The general regulations contained in 33 CFR 165.23, as well as the following regulations, apply.

(2) No vessels, except for fireworks barge and accompanying vessels, will be allowed to enter into, transit, or anchor within the safety zone without the permission of the COTP or the designated on-scene representative.

(3) All persons and vessels shall comply with the instructions of the COTP or the designated on-scene representative. Upon being hailed by a U.S. Coast Guard vessel by siren, radio, flashing light, or other means, the operator of a vessel shall proceed as directed.

(4) Vessel operators desiring to enter or operate within the regulated area shall contact the COTP or the designated on-scene representative via VHF channel 16 or 617–223–3201 (Sector Boston Command Center) to obtain permission.

(5) Vessel operators given permission to enter or operate in the regulated area must comply with all directions given to them by the COTP or the designated on-scene representative.

Dated: March 15, 2012.

J.N. Healey,

Captain, U.S. Coast Guard, Captain of the Port Boston.

[FR Doc. 2012–7782 Filed 3–30–12; 8:45 am]

BILLING CODE 9110–04–P

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Part 27

[WT Docket No. 12–69; FCC 12–31]

Promoting Interoperability in the 700 MHz Commercial Spectrum; Interoperability of Mobile User Equipment Across Paired Commercial Spectrum Blocks in the 700 MHz Band

AGENCY: Federal Communications Commission.

ACTION: Notice of proposed rulemaking.

SUMMARY: In this document, the Commission seeks comment on whether the customers of Lower 700 MHz B and C Block licensees would experience harmful interference—and if so, to what degree—if the Lower 700 MHz band were interoperable. The Commission also explores the next steps should it find that interoperability would cause

limited or no harmful interference to Lower 700 MHz B and C Block licensees, or that such interference can reasonably be mitigated through industry efforts and/or through modifications to the Commission's technical rules or other regulatory measures. The Commission initiates this proceeding to promote interoperability in the Lower 700 MHz band and to encourage the efficient use of spectrum.

DATES: Interested parties may file comments on or before June 1, 2012, and reply comments on or before July 16, 2012.

ADDRESSES: You may submit comments, identified by WT Docket No. 12–69, by any of the following methods:

- *Federal eRulemaking Portal: http://www.regulations.gov.* Follow the instructions for submitting comments.
- *Federal Communications Commission's Web site: http://www.fcc.gov/cgb/ecfs/.* Follow the instructions for submitting comments.
- *Mail:* Filings can be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail (although the Commission continues to experience delays in receiving U.S. Postal Service mail). All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission.
- *People with Disabilities:* Contact the FCC to request reasonable accommodations (accessible format documents, sign language interpreters, CART, etc.) by email: *FCC504@fcc.gov* or phone: 202–418–0530 or TTY: 202–418–0432.

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

FOR FURTHER INFORMATION CONTACT: Brenda Boykin, Wireless Telecommunications Bureau, (202) 418–2062, email *Brenda.Boykin@fcc.gov.*

SUPPLEMENTARY INFORMATION: This is a summary of the Commission's Notice of Proposed Rulemaking (NPRM) in WT Docket No. 12–69, adopted March 21, 2012, and released March 21, 2012. The full text of the NPRM is available for inspection and copying during business hours in the FCC Reference Information Center, Portals II, 445 12th Street SW., Room CY–A257, Washington, DC 20554. Also, it may be purchased from the Commission's duplicating contractor at Portals II, 445 12th Street SW., Room CY–B402, Washington, DC 20554; the contractor's Web site, *http://www.bcpiweb.com;* or by calling (800) 378–3160, facsimile (202) 488–5563, or email *FCC@BCPIWEB.com.* Copies of the NPRM also may be obtained via the Commission's Electronic Comment Filing System (ECFS) by entering the docket number WT Docket No. 12–69. Additionally, the complete item is available on the Federal Communications Commission's Web site at *http://www.fcc.gov.*

I. Introduction

1. The Communications Act directs the Commission to, among other things, promote the widest possible deployment of communications services, ensure the most efficient use of spectrum, and protect and promote vibrant competition in the marketplace. On each occasion where the Commission has made available new spectrum for mobile telephony and/or broadband, it has strived to meet these important goals. This was the case when the Commission launched its proceeding to free up the 700 MHz band for commercial mobile services, as it expressly recognized the need to ''balance several competing goals, including facilitating access to spectrum by both small and large providers, providing for the efficient use of the spectrum, and better enabling the delivery of broadband services in the 700 MHz Band.''

2. Since the completion of the 700 MHz auction and the subsequent clearing of the spectrum, however, certain Lower 700 MHz A Block licensees have asserted that the development of two distinct band classes within the Lower 700 MHz band has hampered their ability to have meaningful access to a wide range of advanced devices. The result, they argue, is that this spectrum is being built out less quickly than anticipated (and in some cases not at all), so that a large number of Lower 700 MHz A Block licensees are unable to provide the level of service and degree of competition envisioned at the close of the auction and as contemplated by the Communications Act. The 700 MHz band, at 70 megahertz, one of the largest commercial mobile service bands, is the only non-interoperable commercial mobile service band.

3. The record to date in response to the underlying Petition for Rulemaking reveals disagreement over the rationale for the distinct band classes, and the wisdom of maintaining both. At its core, the dispute is whether a unified band class would result in harmful interference to Lower 700 MHz licensees in the B and C Blocks and whether, if harmful interference exists, it reasonably can be mitigated.

4. There is express agreement, however, that a unified band class across the Lower 700 MHz band has the potential to yield significant benefits for all licensees. Indeed, as AT&T, the primary holder of Lower B and C Block licenses, affirmed in a recent letter to the Commission, ''[AT&T] indeed anticipate[s] that there would be increased opportunity [if interference concerns were addressed] for commercial relationships with A Block licensees.'' Unfortunately, no industry-led solution to the lack of interoperability has yet emerged.

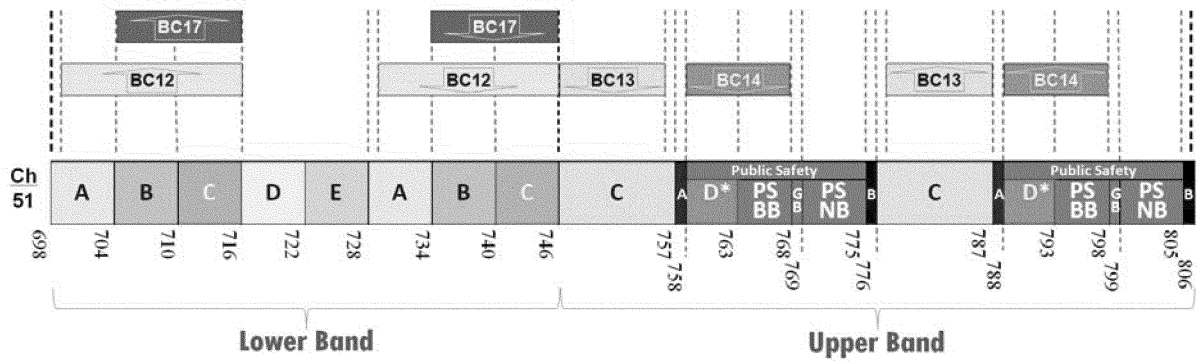
5. Therefore, the Commission initiates this rulemaking proceeding to promote interoperability in the Lower 700 MHz band and to encourage the efficient use of spectrum.[1] The Commission will evaluate whether the customers of Lower 700 MHz B and C Block licensees would experience harmful interference—and if so, to what degree—if the Lower 700 MHz band were interoperable. The Commission also explores the next steps should it find that interoperability would cause limited or no harmful interference to Lower 700 MHz B and C Block licensees, or that such interference can reasonably be mitigated through industry efforts and/or through modifications to the Commission's technical rules or other regulatory measures.

II. Background

6. *700 MHz Band.* The 700 MHz band (698–806 MHz), illustrated in the following figure, is comprised of 70 megahertz of commercial, non-guard band spectrum, 4 megahertz of guard band spectrum, 24 megahertz of public safety: Spectrum, and 10 megahertz of spectrum that will be reallocated for public safety use pursuant to recent Congressional mandate.

[1] The Commission has a longstanding interest in promoting the interoperability of mobile user equipment in a variety of contexts as a means to promote the widest possible deployment of mobile services, ensure the most efficient use of spectrum, and protect and promote competition.

700 MHz Band Plan & 3GPP Band Classes



"BCxx" indicates Band Classes proposed as part of the international 3GPP industry LTE technical standards processes.
* The D Block will be reallocated for use by public safety entities as directed by the Middle Class Tax Relief and Job Creation Act of 2012

7. As shown above, the Lower 700 MHz band spectrum (698–746 MHz) consists of 48 megahertz of commercial spectrum, with three blocks of 12 megahertz each of paired spectrum (Lower A, B, and C Blocks), and two blocks of 6 megahertz each of unpaired spectrum (Lower D and E Blocks). The Lower A Block spectrum is adjacent to Channel 51 (692–698 MHz), which has been allocated for TV broadcast operations at power levels of up to 1000 kW.[2] The Lower A Block is also adjacent to the unpaired Lower 700 MHz E Block, where licensees (along with Lower 700 MHz D Block licensees) may operate at power levels up to 50 kW.[3] The Upper 700 MHz band (746–806 MHz) consists of the C Block, which is comprised of 22 megahertz of paired spectrum for commercial use, two guard bands, the public safety allocation, and the D Block, which consists of 10 megahertz of paired spectrum that will be reallocated for use by public safety entities, in accordance with the Middle Class Tax Relief and Job Creation Act of 2012.

8. *Assignment of Licenses in the 700 MHz Band.* The Commission has assigned licenses for the 700 MHz band through several auction proceedings. The Commission auctioned licenses for the guard bands in the Upper 700 MHz band in 2000, and it initially auctioned licenses in the Lower C and D Blocks in 2002. In 2008, the Commission auctioned licenses in the Lower 700 MHz band A, B, and E Blocks, as well as the Upper 700 MHz band C Block.

9. *Performance Requirements.* In adopting rules for the 700 MHz band, the Commission's goals included promoting commercial access to 700 MHz band spectrum, as well as providing licensees with flexibility in the services to be offered and the technologies to be deployed. For the Lower 700 MHz C and D Block licenses that were auctioned in 2002, the Commission required licensees to provide ''substantial service'' to their license service areas no later than the end of the license term. In 2007, the Commission adopted performance requirements for licenses in the 700 MHz band that subsequently were auctioned in 2008, including Lower 700 MHz A Block. Specifically, Cellular Market Area (CMA)-based and Economic Area (EA)-based licensees are required to provide service sufficient to cover 35 percent of the geographic area of their licenses within four years and 70 percent of this area within ten years (the license term), and Regional Economic Area Grouping (REAG) licensees must provide service sufficient to cover 40 percent of the population of their license areas within four years and 75 percent of the population within ten years. For licensees that fail to meet the applicable interim benchmark, the license term is reduced by two years, which would require that the end-of-term benchmark be met within eight years, and the Commission may take other enforcement action. At the end of the license term, licensees that fail to meet the end-of-term benchmark are subject to a ''keep what you use'' rule, which will make unused spectrum available to other potential users.

10. *Development of 3GPP Technical Standards.* Industry standards for Long-Term Evolution (LTE) wireless broadband technology are developed by the 3rd Generation Partnership Project (3GPP), a consensus-driven international partnership of industry-based telecommunications standards bodies. 3GPP, established in 1998, is an industry-based group and it is not associated with any governmental agency.[4] In the Lower 700 MHz band, there are two different 3GPP operating bands:[5] Band Class 12, which covers operations in the Lower A, B, and C Blocks, and Band Class 17, which covers operations in the Lower B and C Blocks only. The spectrum to which Band Class 17 applies is a subset of the spectrum covered by Band Class 12. Entities involved in the creation of Band

[2] 47 CFR 73.622(f)(8). Maximum ERP of 1000 kW is allowed if antenna HAAT is at or below 365 meters. For higher HAAT levels, lower maximum ERP is allowed according to the ''Maximum Allowable ERP and Antenna Height for DTV Stations on Channels 14–59, All Zones'' table.

[3] 47 CFR 27.50(c)(7). Lower 700 MHz C, D, and E Block fixed and base stations may operate at total power levels up to 50 kW ERP in their authorized 6 megahertz spectrum blocks. In the recent ATT-Qualcomm transaction, in which AT&T acquired all of the Lower 700 MHz D Block licenses and Lower 700 MHz E Block licenses covering 70 million people, the Commission conditioned the assignment of these licenses on AT&T's compliance with the requirements that: (1) It operates on the associated spectrum under the same power limits and antenna height restrictions that apply to the Lower 700 MHz A, B, and C Block licensees; (2) it does not use the acquired licenses for uplink transmission; and (3) its operations on the associated spectrum avoid undue interference to operations of other Lower 700 MHz A, B, and C Block licensees, as specified therein. Application of AT&T Inc. and Qualcomm Incorporated For Consent To Assign Licenses and Authorizations, *Order,* WT Docket No. 11–18, 26 FCC Rcd 17589, 17616–18 paras. 61–68 (2011) (*AT&T/Qualcomm Order*).

[4] Its world-wide partners come from Asia, Europe, and North America. 3GPP's many technical specification groups meet in various countries throughout the year to carry out the organization's mission. *See* 3GPP—About 3GPP, *http://www.3gpp.org/-About-3GPP* (last visited Mar. 12, 2012). For the schedules of the meetings, *see* 3GPP—3GPP Calendar, *http://www.3gpp.org/3GPP-Calendar* (last visited Mar. 12, 2012).

[5] Hereinafter, the Commission refers to each 3GPP LTE Operating Band as a ''Band Class.'' For example, the Commission refers to 3GPP LTE Operating Band 12 as ''Band Class 12.''

Class 17 during 3GPP proceedings assert that it was necessary to create a separate band class for Lower 700 MHz B and C Block licenses in order to avoid interference issues from DTV in Channel 51 and high power operations in the E Block. In the Upper 700 MHz band, the Band Class 13 specification provides for operations in the Upper C Block, and Band Class 14 provides for operations in the public safety spectrum (including the Upper 700 MHz D Block). 3GPP has adopted certain technical specifications for user equipment operating in different 700 MHz bands. Output power and the OOBE specifications for LTE equipment are the same for all commercial paired frequencies in the Lower 700 MHz band.[6] The 3GPP specifications differ for receiver blocking requirements. The 3GPP specified requirements for receiver blocking are the same for Band Class 13 and Band Class 14 equipment, but Band Class 12 and Band Class 17 each have different and distinct blocking requirements, due to differences in each band's relative proximity to neighboring high-powered operations in the E block.[7]

11. *700 MHz Interoperability Petition for Rulemaking.* In late 2009, an alliance comprised of four Lower 700 MHz A Block licensees (Petitioners) filed a petition for rulemaking, asking the Commission to ''assure that consumers will have access to all paired 700 MHz spectrum that the Commission licenses, to act so that the entire 700 MHz Band will develop in a competitive fashion, and to adopt rules that prohibit restrictive equipment arrangements that are contrary to the public interest.'' Petitioners request the Commission to require that all mobile units for the 700 MHz band be capable of operating over all frequencies in the band. Petitioners further request ''an immediate freeze on the authorization of mobile equipment that is not capable of operation on all paired commercial 700 MHz frequencies.'' The Wireless Telecommunications Bureau sought comment on the Petition in 2010. *See* 75 FR 9210. All future filings concerning RM–11592 should be made in this docket, WT Docket No. 12–69.

12. The Commission received 18 comments and 13 reply comments in response to the Petition. Commenters are divided on the merits of the relief sought in the Petition. Commenters in support of the Petition include smaller, regional 700 MHz licensees, a coalition including Sprint Nextel and T-Mobile, trade associations representing rural and smaller providers, a coalition of public interest groups, and public safety associations. These supporters assert that the mobile devices currently being developed for AT&T and Verizon Wireless preclude supporting operation on Lower A Block spectrum and that this is contrary to the public interest and anti-competitive. They argue that small providers that acquired Lower band 700 MHz Block A spectrum are left without viable and widely usable equipment options. Thus, they contend that unless Verizon Wireless and AT&T are required to support Band Class 12 in their devices, Lower A Block licensees will not be able to obtain devices with competitive economies of scale. They also argue that requiring full 700 MHz support will maximize roaming opportunities. Specifically, Petitioners assert that a prerequisite for negotiating roaming agreements is the availability of capable devices and that there is no basis for negotiation if there are no mobile devices that work across 700 MHz frequency blocks. While the Petition requests interoperability across the entire 700 MHz band, subsequent filings from some of the proponents of an interoperability requirement, including parties to the Petition, have asked the Commission to first focus on establishing an interoperability requirement for the Lower 700 MHz band.

13. In their initial comments, parties such as AT&T and Verizon Wireless, device manufacturers Motorola and Qualcomm, and TIA, a manufacturer trade association, opposed the Petition. They argued that without Band Class 17 filtering, Lower 700 MHz B and C licensees will face greater levels of harmful interference. Further, they suggested that an interoperability requirement at that time, spring 2010, would have unnecessarily delayed the deployment of 700 MHz mobile broadband devices. They contended that the existing 3GPP band classes were crafted through an open process and are responsive to the realities of the engineering and manufacturing constraints of the Commission-defined spectrum blocks. Further, AT&T asserted that nothing prevents 700 MHz A Block licensees from negotiating roaming deals with any provider offering services on other 700 MHz blocks. AT&T also argued that even if A Block licensees will have greater difficulty or face higher costs in developing handsets for use on the A Block, those disadvantages are fully reflected in the lower prices A Block licensees paid to obtain A Block spectrum.

14. *Workshop on Interoperability.* Last year, to update the record and gather additional information, the Wireless Telecommunications Bureau held a workshop on the status and availability of interoperable mobile user equipment across commercial spectrum blocks in the 700 MHz band. Panelists included a range of industry experts, including licensees holding spectrum in different portions of the 700 MHz band, as well as public interest advocates and equipment manufacturers. In addition to exploring solutions for promoting the development and availability of equipment for the 700 MHz band, the workshop discussed providers' technology choices, such as the planned deployment of LTE, and how these technology choices affect equipment availability, competition, and roaming. Panelists discussed the technical feasibility of an interoperability condition, as well as how an interoperability requirement might affect such factors as device cost and performance, and the need for additional development and testing.

15. *Other Developments Regarding the 700 MHz Band.* On March 15, 2011, CTIA and RCA filed a petition for rulemaking and request for licensing freezes on Channel 51, urging the Commission to facilitate the deployment of wireless broadband services in the Lower 700 MHz A Block by providing a stable interference environment that allows licensees to plan network deployments. The petition noted the potential for interference between Channel 51 broadcast and Lower 700 MHz A Block licensees. On March 28, 2011, the Media Bureau requested comment on the petition, and in August 2011, the Media Bureau adopted a freeze on the filing of certain applications with respect to operations on Channel 51. The freeze covers (1) applications for low power television, TV translator, replacement translators, and Class A television facilities on Channel 51, and displacement applications on this channel; and (2) applications for minor change for low power and full power television stations on Channel 51.

[6] *See* §§ 6.2.2, 6.6.2, and 6.6.2.2.3 of 3GPP TS 36.101 V9.9.0 (2011–09). The class 3 devices (UE) maximum transmit power is 23dBm for all bands with ±2dB tolerance, and Table 6.6.2.2.3–1 specifies the spectrum emission limits for available channel bandwidths.

[7] Receiver blocking requirements address a receiver's ability to receive at least 95% of the maximum throughput at its assigned channel in the presence of an unwanted interfering signal falling into the device receive band or into the first adjacent 15 megahertz. *See* Table 7.6.1.1–2, Section 7.6.1 of 3GPP TS 36.104 V9.9.0 (2011–09). Unlike Band Class 17, 3GPP determined that Band Class 12 cannot achieve the typical minimum specification for blocking interference from the Lower 700 MHz E Block, so this requirement was omitted from the Band 12 technical specification.

16. *AT&T/Qualcomm Transaction.* On January 13, 2011, AT&T and Qualcomm filed an application for Commission consent to the assignment or transfer of control of all eleven of Qualcomm's D and E Block licenses in the Lower 700 MHz band to AT&T. The Commission sought comment on the proposed transaction. Several parties asked the Commission to impose requirements relating to device interoperability as a condition of approving the transaction. After examination of the record, the Commission approved the assignment on December 22, 2011, but declined to adopt an interoperability condition. The Commission observed that even assuming that the lack of Lower 700 MHz interoperability causes significant competitive harm, such harm already existed independent of the license transfer applications. The Commission concluded that the better course would be to consider the numerous technical issues raised by the lack of interoperability through a rulemaking proceeding, which the Commission undertakes in this NPRM.

III. Discussion

A. Challenges To Achieving Interoperability

17. The Commission historically has been interested in promoting interoperability. Beginning with the licensing of cellular spectrum, the Commission has opined that consumer equipment should be capable of operating over the entire range of cellular spectrum as a means to ''insure full coverage in all markets and compatibility on a nationwide basis.'' Although the Commission did not adopt a rule to require band-wide interoperability for PCS, it again stressed the importance of interoperability by acknowledging industry efforts to establish voluntary interoperability standards and asserted that ''[t]he availability of interoperability standards will deliver important benefits to consumers and help achieve the Commission's objectives of universality, competitive delivery of PCS, that includes the ability of consumers to switch between PCS systems at low cost, and competitive markets for PCS equipment.'' The Commission also stated that if PCS technology did not develop in a manner to accommodate roaming and interoperability, it might consider ''what actions the Commission may take to facilitate the more rapid development of appropriate standards.''

18. *Availability of End-User Equipment.* According to the Petitioners, a lack of interoperability in the Lower 700 MHz band has cut off meaningful access for many Lower A Block licensees to cutting-edge devices, and even those that do have access are able to acquire only a fraction of what other 700 MHz licensees are able to procure. Petitioners and proponents of a near-term interoperability requirement make essentially two arguments. Specifically, Vulcan argues that equipment vendors currently first serve the needs of ''the unique band class that is dominated by AT&T'' and that this slows the time to market for Lower A Block licensees because they experience a lack of access to new devices and face delays in the development of standards, chipsets, and equipment. Similarly, RTG asserts that equipment manufacturers have little incentive to innovate and provide compatible devices for smaller markets, particularly when providing interoperable devices would run contrary to their largest customers' desires.

19. Petitioners and other proponents also claim that an interoperability requirement should enable Lower A Block licensees and other Lower 700 MHz licensees to benefit from economies of scale with respect to mobile devices, which in turn would promote greater affordability that can be passed along to consumers. RCA argues that even where Band Class 12 equipment can be made available, the costs are unnecessarily inflated by the limited scale resulting from the lack of interoperability across the 700 MHz spectrum. According to the record, Cellular South was able to find a manufacturer willing to supply it with devices that included, at a minimum, Band Class 12 frequencies, but ''the cost of obtaining such devices without the economies of scale available based upon demand for similar devices by a nationwide carrier made pursuing the opportunity not economically feasible.'' Cellular South asserts that the necessary ''scale'' to obtain pricing that would allow it to bring devices to market would be expected to involve more than one million devices and in any case no less than a half million devices.

20. Nationwide providers AT&T and Verizon Wireless respond that Lower 700 MHz A Block licensees are free to negotiate with device manufacturers. Verizon Wireless claims that ''those decisions have to be made by those carriers to meet their own individual business plans. Verizon Wireless has nothing to do with those decisions.'' Verizon Wireless also asserts that there are at least 33 companies that manufacture devices for the U.S. market and that Petitioners ''provide no evidence about their efforts (or the apparent lack thereof) to obtain the devices they want, either individually or through a consortium, from any of these potential suppliers.''

21. The Commission seeks comment on Petitioners' and other proponents' argument that an interoperability requirement in the 700 MHz band is necessary to obtain affordable, advanced mobile devices to deploy service to consumers in smaller, regional, and rural service areas. To what extent have any Lower A Block licensees successfully negotiated with equipment vendors to date? What efforts have other Lower A Block licensees undertaken to negotiate with equipment vendors? Would an interoperability requirement help enable Lower A Block licensees to benefit from economies of scale with respect to mobile devices, and what would be the benefits to consumers? Do manufacturers require a provider to purchase a minimum number of devices? If so, what is that number and is it prohibitive for a smaller provider to achieve such a scale? The Commission seeks data and evidence in support of all of these claims.

22. *Effect on the Deployment of Advanced Broadband Services.* The record to date suggests that, unless mobile user equipment is capable of operating on all paired commercial Lower 700 MHz spectrum, the deployment of facilities-based mobile broadband networks could be hampered, particularly in rural and unserved areas. The Commission notes that a significant number of Lower A Block licenses are held by smaller, rural, and regional licensees. Petitioners and proponents argue that requiring all Lower 700 MHz licensees to use interoperable equipment would increase the likelihood that these Lower A Block licensees can obtain the necessary financing to deploy networks and devices. They add that the inability of small and regional providers to obtain interoperable devices impedes their ability to compete in the provision of 4G services, makes it difficult to maintain current customers and acquire new ones, results in equipment costs that are higher than for other bands, and creates uncertainty for spectrum holders that could have adverse effects on investment in deployment of networks and devices. RCA and Triad argue that Lower A Block licensees' inability to obtain affordable end user devices could cause the A Block spectrum to remain fallow for an extended period of time.

23. AT&T responds that an interoperability requirement in the Lower 700 MHz spectrum would impose unreasonable burdens on

AT&T's ability to build out its Lower 700 MHz spectrum. Specifically, AT&T claims that such a requirement would create ''substantial disruption and delay to [its] current LTE deployment plans and significant additional costs.'' AT&T claims that if it were required to abandon plans to use Band Class 17 and deploy a network around Band Class 12, it would need to upgrade its LTE base stations and develop and obtain ''new chipsets, devices and radio equipment, a process that usually takes years to complete.'' It also asserts that adding Band Class 12 capabilities into its mobile devices along with Band Class 17 capabilities would make the devices substantially larger, likely shorten battery life, and potentially require the tradeoff of other uses, such as bands used for international roaming. In addition, as discussed below, AT&T's objections also stem from issues associated with potential interference concerns from Channel 51 operations and high power Lower E Block broadcasts.

24. The Commission asks commenters to submit additional detailed metrics to evaluate the effects of an interoperability requirement on competition. Specifically, would the use of interoperable equipment promote consumer choice by facilitating the portability of mobile devices between service providers, thereby allowing consumers to switch more easily between providers? At the same time, would deployment of Lower 700 MHz B and C Block service be delayed by a move towards interoperability, either by rule or industry agreement? What would be the relevant costs associated with possible Commission action? What costs would Lower 700 MHz B and C licensees who have already committed to Band Class 17, or who plan to do so, incur if the Commission adopts an interoperability rule in the Lower 700 MHz spectrum?

25. Would a requirement that mobile user equipment be capable of operating on all paired commercial Lower 700 MHz spectrum facilitate deployment of facilities-based mobile broadband networks in rural and unserved areas? Are Lower A Block licensees just as likely to obtain funding and obtain affordable mobile equipment without Commission action? The Commission also seeks specific data and anecdotal evidence to support claims that an interoperability obligation would require complete redesign and upgrade of devices and base stations. The Commission seeks additional information on the necessary changes to chipsets and the timeframes these changes will impose.

26. U.S. Cellular recently announced the planned launch of a 4G LTE network that will cover 25 percent of U.S. Cellular's customers and will use the 700 MHz licenses of its partner, King Street Wireless. C-Spire, in contrast, reportedly has delayed its previously announced launch of its 4G LTE network. The Commission asks Lower A Block licensees to provide detailed information on the effect that a lack of interoperability has had, if any, on their efforts to deploy service. Commenters should be as specific as possible and should, where possible, include data or affidavits.

27. *Roaming.* A number of commenters argue that an interoperability requirement would promote roaming among 700 MHz licensees. These proponents argue that requiring the use of interoperable equipment in the Lower 700 MHz band would promote the commercial availability of mobile device equipment for all Lower 700 MHz licensees. Without that equipment, Lower 700 MHz A Block licensees maintain they cannot build out their networks, which they claim is a prerequisite for the negotiation of roaming agreements. Petitioners also claim that they have no reason to expect such mobile devices to be available on a widespread, affordable basis in the 700 MHz band and without such devices, there is nothing to negotiate. Petitioners contend that small rural and regional carriers are in no position to place bulk orders for mobile devices that work in the Lower 700 MHz A Block and also work in other 700 MHz frequency blocks. They claim that AT&T and Verizon Wireless are the only ones who hold the market power with the device manufacturers and the two carriers currently are developing mobile devices that work exclusively on their bands. Without interoperable devices, Petitioners state that there will be no roaming in the 700 MHz band.

28. NTCA states that mobile customers rely on and expect a ''seamless experience'' that is made possible by roaming arrangements. Without roaming, NTCA explains that customers will experience ''isolated islands of service.'' Further, Petitioners and other supporters assert that even if Band Class 12 equipment were available, from a technical perspective, Band Class 17 device users would be unable to roam on Band Class 12 networks operating on Block A. They argue that a lack of interoperability leaves customers of small carriers ''without an option for a nationwide service, perpetually unable to roam on the networks of the large carriers.''

29. AT&T and Verizon Wireless respond that the Lower A Block licensees are not prevented from negotiating roaming arrangements with providers offering services on the other 700 MHz blocks. AT&T also responds that A Block licensees are free to negotiate with handset manufacturers to design, manufacture and deploy wireless handsets and other devices that operate within the spectrum bands that are needed based upon their spectrum holdings and business plans, including Band Class 12 or other commercial spectrum.'' AT&T argues that ''[t]he Commission should not take action to force carriers to utilize a certain spectrum band for roaming,'' but that carriers should be able ''to choose their roaming partners based on factors like network compatibility, price, coverage, and call quality.'' The Commission seeks comment on whether interoperability would promote reasonable roaming arrangements among 700 MHz providers and would increase the number of providers that are technologically compatible for roaming partnership.

B. Potential for Harmful Interference

30. Even if the record demonstrates that the existence of two distinct band classes in the Lower 700 MHz band is creating a device and network deployment problem, the Commission must ultimately resolve the central question as to whether a single band class would cause widespread harmful interference to Lower 700 MHz B and C Block licensees, who would otherwise use Band Class 17 devices rather than Band Class 12.

31. Interoperability issues are particularly relevant at this time, as licensees are in the process of deploying LTE in the Lower 700 MHz band. As of December 2011, AT&T has launched LTE service using its Lower 700 MHz B and C Block licenses in 15 markets. In addition, as noted above, U.S. Cellular recently announced the planned launch of an LTE network that will cover 25 percent of its customers and will use the 700 MHz licenses of its partner, King Street Wireless. As discussed earlier, there are two Lower 700 MHz band LTE standards for the Lower 700 MHz band, with 3GPP Band Class 17 spanning the B and C Blocks, and Band Class 12 spanning the A, B, and C Blocks. Some commenters have argued that this, in turn, fragments the device ecosystem for LTE devices that operate in the Lower 700 MHz band and prevents interoperability.

32. Commenters argue that there would be two primary interference concerns for providers operating in the

Lower 700 MHz B and C Blocks if these providers were to substitute Band Class 12 for Band Class 17 in newly-offered devices (as opposed to adding Band Class 12 capabilities into devices along with Band Class 17): (1) Reverse intermodulation interference from adjacent DTV Channel 51 operations; and (2) blocking interference from neighboring high-powered operations in the Lower 700 MHz E Block. The Commission focuses its technical analysis on these two primary issues. The Commission notes that some commenters also express concern regarding the need to deploy wider filters in order to migrate to Band Class 12. The Commission observes, however, that a transition from Band Class 17 to Band Class 12 does not necessitate a change to base station filtering. Operators deploying networks in the Lower 700 MHz B and C Blocks can continue to filter base station receivers as they would for Band Class 17, and thus interference from Channel 51 to B and C Block base stations is the same regardless of whether Band Class 12 devices or Band Class 17 devices are used. Commenters also raise other potential interference concerns, including interference from Band Class 12 devices into Channel 51 television receivers, and other interference issues that are specific to operations in the A Block. The Commission does not address those issues herein. The Commission focuses the scope of this proceeding to interference to Lower 700 MHz B and C Block operations that may result from the adoption of Band Class 12 devices by Lower 700 MHz B and C licensees, whether voluntarily or by regulatory mandate.

33. AT&T asserts that both reverse intermodulation and blocking interference are significant issues. It expects that managing and mitigating the interference from Channel 51 and any high power Lower E Block broadcasts to its network would account for the greatest expenses, and that its customers would not, on balance, benefit from AT&T migrating to Band Class 12. AT&T argues that if it were required to use Band Class 12 devices as opposed to Band Class 17 devices, its customers would be forced to use devices that would expose them to interference risks (from Channel 51 and the E Block) they otherwise would not face. Notwithstanding the foregoing, AT&T affirms that it does not object to supporting interoperability in the Lower 700 MHz band, assuming supply chain availability, if interference challenges from Channel 51 and the Lower 700 MHz E Block licensees are addressed to its satisfaction.

34. With regard to the Channel 51 interference concerns, Motorola's view in its original 3GPP proposal to create Band Class 17 was that reverse intermodulation interference could happen when Band Class 12 devices are close to high-powered Channel 51 transmission towers, which it believes could result in in-band interference because of the limited radio frequency (RF) filtering capability of Band Class 12 filters. According to Motorola's paper, ''the key issue'' in determining the possibility of such interference is ''the level of the DTV Channel 51 wideband signal that would be present at the UE antenna port based on a reasonable deployment scenario,'' but Motorola does not provide evidence showing the circumstances that could produce conditions suitable to create reverse intermodulation interference from Channel 51.

35. Proponents of an interoperability requirement argue that no reverse intermodulation interference would occur, and that if an operator does experience any such interference, solutions exist to mitigate Channel 51 interference concerns to Band Class 12 devices operating in the B and/or C Blocks. According to Cellular South and King Street Wireless, ''With [less than five megahertz] Tx bandwidth, any Channel 51–700 intermodulation products would not fall within the device receive blocks (no self-interference issue).'' They represent that this is because a strong signal from Channel 51 must mix with a full-power Lower 700 MHz B and C Block device transmission, but ''LTE base stations do not allow devices to transmit at full power with [greater than five megahertz] bandwidth due to a self-desense issue.'' Essentially, Cellular South and King Street Wireless argue that power amplifier linearity in a mobile device improves considerably when it is not transmitting at full power and that if the device transmitted bandwidth is less than five megahertz, then intermodulation products resulting from the combination of Channel 51 and Lower 700 MHz band C Block transmit frequencies would not cause intermodulation interference. Finally, they point out that if intermodulation interference is experienced, the wireless operator ''may deploy an LTE base station several hundred meters away from the Channel 51 station to control device transmit power and provide a stronger downlink desired signal.''

36. Vulcan performed lab and field tests to test the assertion that ''reverse intermodulation distortion caused by Channel 51 using a Band Class 12 device would create an interfering signal in the B Block receiver.'' Based on the results of lab tests, Vulcan concludes that a minimum signal level of 0 dBm from Channel 51 would be necessary to create an interference signal at the noise floor of the B Block receiver, and field measurements showed that Channel 51 transmissions were no stronger than -21 dBm. The report indicates that the strongest signal strength in the field measurements of DTV Channel 51 is typically much lower than necessary to generate noticeable reverse intermodulation interference. AT&T responds that the tests referenced by Vulcan do not represent real-world situations, because the tests occurred only within a two kilometer radius of the Channel 51 tower, whereas stronger signals from Channel 51 can occur at closer distances.

37. With regard to interference from Lower E Block operations, Motorola asserts that receiver blocking performance may be degraded when Band Class 12 devices are close to high-powered Lower E Block transmission towers, due to limited Band Class 12 device out-of-band blocking rejection. According to AT&T, Band Class 17, with an extra six megahertz of separation from the Lower E Block, was created to alleviate this concern, so that the device filter can provide sufficient attenuation of the E Block transmissions. It further asserts that Band Class 12 has sub-optimal filtering because of the lack of sufficient frequency separation between the Lower E Block and the starting frequencies of Band Class 12.

38. The Coalition for 4G asserts that network operators can eliminate potential interference from Lower E Block operations by deploying the A, B, or C Block base stations near the E Block transmitters. In support of its position that interference from Lower 700 MHz E Block transmitters is manageable for Band Class 12 devices operating in Lower 700 MHz B and C blocks, Vulcan's lab and field tests assess the severity of interference issues to Band Class 12 devices from high power 50 kW transmissions in the Lower 700 MHz E Block. The tests indicate that the Atlanta field measurements of the highest signal power ratios between the 50 kW Lower E Block and B Block are typically 15 to 30 dB lower than necessary to produce Lower B Block receiver blocking. The tests conclude that real-world tests found the anticipated interference circumstances are manageable and Band Class 17 is redundant. Vulcan also asserts that the test results confirm Band Class 12

devices performance would not be worse than Band Class 17 devices, and that Band Class 17 already has greater levels of internal interference from within the Lower B and C Blocks.

39. In response, AT&T disagrees generally with the effectiveness of these potential mitigation techniques, stating that (1) increasing the number of cell sites near E Block transmitters or Channel 51 towers would increase the cost of providing 4G service, which would eventually be passed on to consumers, and (2) given the limited number of available site locations, coordination alone is insufficient to solve Band Class 12 interference issues. AT&T also asserts that adequate coverage of a 50 kW mobile broadcast service in the market in which Vulcan conducted its testing would require at least thirteen Lower 700 MHz E Block transmitters, which would lead to higher signal levels compared to the four transmitters that were active when testing was conducted by Vulcan. It is unclear, however, how much higher the signal levels may be close to a Lower E Block transmitter that is surrounded by twelve additional E Block transmitters versus one that is surrounded by only three. Whereas more base stations will improve overall signal levels and coverage, basic engineering calculations would suggest that any increase to the signal levels close to each base station, where signals may be strong enough to cause in-band receiver blocking interference to neighboring bands, would be negligible.

40. The Commission seeks comment on these and any additional technical and operational factors that should be taken into consideration in any transition to an interoperable Lower 700 MHz band. The Commission asks interested parties to submit measurements and quantitative analyses regarding the magnitude and extent of the interference risk from adjacent Channel 51 and Lower Block E transmissions for Band Class 12 devices operating in the Lower B and C Blocks. How effective are existing mitigation measures, such as coordination between Lower 700 MHz and DTV Channel 51 licensees? Further, what innovative technical measures might be introduced in the near future, such as better performing RF duplexers and filters? What additional interoperability solutions exist or are being developed to address these interference concerns? The Commission also seeks comment on the performance of Band Class 12 devices compared to Band Class 17 devices, as well as on other factors relating to the operations in the Lower B and C Blocks. Furthermore, in the event unwanted harmful interference cannot be mitigated in some areas, the Commission seeks comment on whether the potential harm resulting from interference in those areas is outweighed by the public interest benefits that would result from interoperability in the Lower 700 MHz band, and what factors should be considered in balancing these concerns.

41. As noted above, should Band Class 12 be substituted in devices for Band Class 17, operational issues may arise to the extent that a single network must be capable of supporting more than one device band class. That is, if a licensee chooses to continue supporting its existing grandfathered Band Class 17 devices, the wireless network will need to support both Band Class 17 devices and Band Class 12 devices. The Commission seeks comment on possible ways to address this issue. Since the two Band Classes overlap in frequencies, the Commission thinks it is likely that there are relatively simple, cost effective solutions that will allow a single network to accommodate devices from both band classes. For example, would the Equivalent Home Public Land Mobile Network file (EHPLMN) update in devices allow the LTE network to support both Band Class 12 and Band Class 17 devices?

42. The Commission seeks comment on whether there are measures it should take to address Lower 700 MHz interference concerns that may be preventing the voluntary adoption of Band Class 12 by Lower B and C Block licensees. The Commission notes that AT&T asks it to ''modify the rules governing service in Channel 51 and in the 700 MHz Lower E Block to permit power levels, out of band emissions and antenna heights that are no greater than those currently permitted in the 700 MHz Lower A and B blocks, to allow downlink only in the Lower E Block and uplink only in Channel 51, and to relocate any incumbent high power broadcast operations out of Channel 51 and the Lower E Block.'' In approving AT&T's acquisition of Qualcomm's Lower 700 MHz licenses (comprising all of the Lower 700 MHz D Block licenses and five of the Lower E Block licenses), the Commission included a condition that AT&T operate under the same power limits and height restrictions applicable to Lower 700 MHz A and B Block licensees, which will reduce the instances of high-powered operations in the Lower D and E Blocks. Specifically, the Commission stated that ''AT&T must operate on the Lower D and E Block licenses consistent with the limits set forth in Section 27.50(c), excluding Subsection 27.50(c)(7).'' The Commission also conditioned the transaction on AT&T's use of this spectrum only for downlink transmissions. In addition, it conditioned the transaction on AT&T taking certain steps to mitigate possible interference caused by AT&T's use of the Lower D and E Blocks to the uplink operations of licensees operating in the Lower 700 MHz A, B, and C Blocks, including mitigating interference within 30 days after receiving written notice from the A, B, or C Block licensee.[8]

43. The Commission seeks comment on whether it should modify its rules for Lower 700 MHz D and E Block operations, using the technical conditions set forth in the AT&T/Qualcomm decision as a template. Modifying the Commission's rules in this manner would lead to consistency in the technical requirements for the Lower D and E Blocks and would help to address potential harmful interference from operations on the Lower E Block licenses that are not held by AT&T. Would these modifications adequately address concerns that Lower B and C Block licensees may experience harmful interference from Lower D and E Block operations if they transition to Band Class 12? As a practical matter, would modifying the Commission's rules in this manner encourage Lower B and C Block licensees to voluntarily adopt interoperable devices? The Commission also seeks comment on how such modifications would affect the operations and plans of Lower E Block licensees, other than AT&T. What other modifications to the Lower 700 MHz D and E Block technical operational rules should the Commission consider and what are the costs and public interest benefits of these alternative rules?

[8] *AT&T/Qualcomm Order,* 26 FCC Rcd at 17617 para. 67. Specifically, the condition requires AT&T to ''(1) coordinate with the A, B, or C Block licensee to mitigate potential interference; (2) mitigate interference to A, B, or C Block operations within 30 days after receiving written notice from the A, B, or C Block licensee; and (3) ensure that D/E Block transmissions in areas where another licensee holds the A, B, or C Block license are filtered at least to the extent that D/E Block transmissions are filtered in markets where AT&T holds the A, B, or C Block license, as applicable.'' *Id.* U.S. Cellular urges the Commission to seek comment on and adopt a rule that imposes conditions on Lower E Block licensees consistent with the power limit restrictions, requirement for downlink-only transmissions, and interference mitigation requirements in the conditions adopted in the *AT&T/Qualcomm Order.* U.S. Cellular asserts that ''[i]mposition of such conditions will serve the public interest by helping to accelerate the further development of the Lower 700 MHz ecosystem.'' Letter from Grant B. Spellmeyer, Executive Director, Federal Affairs and Public Policy, U.S. Cellular, to Marlene H. Dortch, FCC, filed March 15, 2012, at 1.

44. With respect to potential interference as a result of Channel 51 operations, are there steps the Commission could take to reduce the threat of such potential interference that would balance the needs and rights of Channel 51 incumbents with Lower 700 MHz licensees? What role, if any, should the passage of the Middle Class Tax Relief and Job Creation Act of 2012, which gives the Commission authority to conduct incentive auctions, including in the television broadcast bands, have in the Commission's approach to potential interference from Channel 51 to the Lower 700 MHz band licensees? Could any measures be implemented without causing an undue burden on existing licensees? What is the likelihood that Channel 51 licensees will experience interference from operations in the Lower 700 MHz band? Vulcan asserts that ''Band Class 12 device interference into TV receivers is a claim that has never been substantiated,'' and that the potential for Channel 51 licensees to cause interference to A Block base stations ''is a deployment issue to be managed by the Lower A Block licensees.'' Aside from regulatory measures, what steps should the Commission take to encourage voluntary industry efforts to find solutions to interference concerns?

45. *Other Issues.* Commenters are concerned that if a provider adds Band Class 12 capabilities into mobile devices along with Band Class 17 (as opposed to substituting Band Class 12 for Band Class 17 in newly offered devices), the devices will be adversely affected with respect to form factor, cost, and battery life. The Commission seeks comment on these assertions. What network-specific issues would arise, and how could licensees address those issues? How difficult or costly would it be for licensees to address any network-specific issues? Are there interim as well as long-term solutions that might be employed, and what is their timing? Are there any roaming or legacy device support issues that one solution may address that another may not? Given the highly technical and complex nature of this proceeding, the Commission seeks qualitative and quantitative data and engineering analyses to support commenters' claims.

46. Finally, the Commission seeks comment on whether its efforts should be focused exclusively—as they are now—on interoperability in the Lower 700 MHz band, as opposed to the entire band. As the Commission noted above, although the Petition initially requests an interoperability requirement that requires mobile equipment to be capable of operating on all paired commercial frequency blocks in both the Upper and Lower 700 MHz bands, subsequent filings from some of the proponents of an interoperability requirement focus on requiring the use of Band Class 12 devices in the Lower 700 MHz band.[9] The Commission notes that there are unique interference environments and different technology-related issues, including the ability of equipment to accommodate multi-band interoperability, that are specific to the Lower versus Upper 700 MHz bands, as well as additional issues pertaining to consideration of requiring equipment to accommodate multi-band interoperability.[10]

C. Promoting Interoperability

47. Assuming the Commission concludes that concerns regarding harmful interference to Lower 700 MHz B and C Block licensees are not a reasonable obstacle to interoperability or can be mitigated through industry efforts and/or Commission action, the Commission seeks comment on whether there is likely to be a timely industry solution to interoperability in the Lower 700 MHz band, or whether additional regulatory measures will be necessary to promote interoperability across the Lower 700 MHz band. Commenters currently supporting Band Class 17 suggest that resolving interference concerns would encourage the use of Band Class 12. For example, Verizon asserts that it ''fully supports commercial development of Band Class 12 devices,'' and that ''actions addressing interference issues would spur evolution of the device market toward full Lower 700 MHz interoperability.'' AT&T asserts that, if interference challenges from high power broadcasts in Channel 51 and in the Lower 700 MHz E Block are addressed satisfactorily, it will not object to supporting interoperability in the Lower 700 MHz band. Further, AT&T contends that ''these challenges can and should be addressed.'' Absent a regulatory mandate to implement interoperability, will Lower 700 MHz licensees voluntarily ensure that all of the Lower 700 MHz spectrum used for mobile transmit is included in their mobile equipment?

48. In what timeframe would a voluntary migration to interoperable devices reasonably take place? The Commission notes that while U.S. Cellular recently announced that it has impending plans to launch 4G LTE service, together with its partner King Street Wireless L.P., it nevertheless asserts that ''the Commission must still act quickly to address issues related to interoperability within the lower 700 MHz bands.'' Similarly, proponents of an interoperability requirement argue that action must be taken by the end of 2012. Aside from the widespread and exclusive adoption of Band Class 12 in devices, which would necessitate only a single duplexer solution, what other solutions exist that might address interoperability concerns without regulatory intervention and within a reasonable timeframe? What would be a reasonable timeframe for a path to interoperability, and how will this timing affect consumers and competition?

49. The Commission thinks that an industry solution to the question of interoperability in the Lower 700 MHz band would be preferable because such a solution allows the market greater flexibility in responding to evolving consumer needs and dynamic and fast-paced technological developments. At the same time, the Commission recognizes that if the industry fails to move timely toward interoperability once interference concerns are adequately addressed (by regulatory action or otherwise), additional regulatory steps might be appropriate to further the public interest. The Commission staff will remain vigilant in monitoring the state of interoperability in the Lower 700 MHz band to ensure that the industry is making sufficient progress. What metrics and quantifiable data can the Commission use to measure whether the industry is making adequate progress towards achieving interoperability in the Lower 700 MHz band? In the event that such steps are warranted, the Commission seeks

[9] The Commission notes that certain recent ex parte filings urge it to consider interoperability across the entire 700 MHz band in light of the recent passage of the Spectrum Act, either now or in a future proceeding. *See, e.g.,* Letter from Harold Feld, Legal Director, Public Knowledge, to Marlene H. Dortch, FCC, filed March 13, 2012 at 2; Letter from Kathleen O'Brien Ham, Vice President, Federal Regulatory Affairs, T–Mobile USA, Inc., to Marlene H. Dortch, FCC, filed March 13, 2012 at 1, 4. The Commission's focus on the Lower 700 MHz band in this NPRM does not preclude the Commission from considering broader interoperability issues, including interoperability across the entire 700 MHz band, in the future.

[10] The recent technical study submitted by a consortium of several Lower 700 MHz A Block licensees focuses on interference issues associated with the use of Band Class 17 versus Band Class 12 in the Lower 700 MHz Band. *See* Letter from Mark W. Brennan, Hogan Lovells, Counsel to Vulcan, to Marlene H. Dortch, FCC, filed Nov. 25, 2011, Attachment, ''Study to Review Interference Claims that have Thwarted Interoperability in the Lower 700 MHz Band.'' The Commission notes that requiring interoperability in the Upper 700 MHz Band would introduce additional and unique interference scenarios, particularly technical issues related to implementing both Band Class 13 and Band Class 14 in a single device, as well as the use of such a device while also protecting GPS receivers and Public Safety Narrowband operations.

comment on whether it would be necessary to mandate interoperability in the Lower 700 MHz band or whether there are other, flexible regulatory measures that the Commission should consider.

50. In the event that interference concerns are reasonably addressed and the Commission is left with no other option to maximize innovation and investment in the Lower 700 MHz band besides mandating mobile device interoperability, one approach would be to require Lower 700 MHz A, B, or C Block licensees, with respect to their networks operating in this spectrum, to use only mobile user equipment that has the capability to operate across all of these blocks. For example, those licensees deploying LTE in the Lower 700 MHz band would no longer be allowed to offer mobile units operating on Band Class 17, which provides for operation on only the Lower 700 MHz B and C Blocks. Those licensees deploying LTE in the Lower 700 MHz band would substitute Band Class 17 with Band Class 12. The Commission notes that this approach focuses on mobile user device interoperability and would not require modifications to Lower 700 MHz B and C Block licensees' base stations beyond those necessary to support Band Class 12 devices operating on these licensees' authorized Lower 700 MHz frequencies only. In other words, the Commission is not contemplating requiring licensees to implement base station operations on frequencies they do not have the potential to use, in order to spur production of base station elements that can be used only by licensees operating on other frequencies. The Commission seeks comment on this approach and how, if adopted, it would promote key public interest objectives, including competition and consumer choice among mobile broadband service providers, the widespread deployment of 4G networks, particularly in rural and unserved areas, the availability of additional innovative 4G devices, and increased roaming opportunities. In order to facilitate a smooth transition to interoperable mobile equipment use in the Lower 700 MHz band, the Commission would propose a reasonable transition period of no longer than two years after the effective date of an interoperability requirement, thereby minimizing the possibility of stranded investments in existing equipment. Furthermore, the Commission would propose to grandfather the use of devices already in use by consumers as of the transition deadline, so that consumers using existing Band Class 17 equipment would not be adversely affected. The Commission seeks comment on this approach—as well as on any alternative approaches, including associated costs and benefits—that might equally satisfy the Commission's public interest objectives in promoting the widespread deployment of broadband service and increased competition and consumer choice in the mobile broadband marketplace.

51. The Commission notes that, in considering whether to adopt rules to promote the development of interoperable equipment in the Lower 700 MHz band, the Commission will consider a number of factors, including the costs or burdens that any such new obligation would impose on licensees or others, and whether the costs would be offset by benefits to consumers, including those that would result from innovation in the marketplace, increased investments in networks, or additional competition. The Commission therefore requests comment on the costs and the benefits of adopting rules that would promote interoperability. The Commission also seeks comment on the costs and benefits of an industry-based solution to interoperability in the Lower 700 MHz band. Are there cost savings to consider, or conversely, are there costs that Lower 700 MHz licensees would incur if the industry resolved the interoperability issue without a regulatory mandate?

52. Commenters should quantify the costs of implementing any proposed solutions to the interference issues discussed above. The Commission seeks comment on costs that Lower 700 MHz B and C licensees are likely to incur in order to comply with a device interoperability requirement, including quantification of the costs to develop and obtain new compatible chipsets or front ends; design and manufacture new mobile devices; and develop any hardware or software changes necessary to implement an interoperability requirement. How much will the costs and prices of devices change as a result of an interoperability requirement? The Commission seeks comment on the revenue implications an interoperability requirement would have for providers and device manufacturers. The Commission also seeks comment on quantifiable ways in which licensees may benefit from a sunset of devices capable of operating only on a subset of paired Lower 700 MHz frequencies. For example, will Lower 700 MHz licensees achieve economies of scale in devices? The Commission seeks quantification of these economies of scale. What cost savings might result from an interoperability rule? The Commission also seeks comment on the potential costs associated with interoperability if interference cannot be mitigated in some areas. In these areas, will the public interest benefits from interoperability outweigh the costs?

53. The Commission seeks data on consumer benefits that may result from interoperability, including greater affordability and availability of 4G equipment, increasing consumer choice in equipment, promoting the widespread deployment of broadband services, providing greater options in selecting a service provider, and facilitating greater roaming opportunities. How would a rule requiring interoperability affect innovation and investment, both in the near term and in the longer term? Would such a requirement foster additional competition, and how would any increase in competition be measured?

54. What are the particular benefits to consumers or others that would result from a device interoperability requirement that includes a reasonable transition period (*e.g.,* two years) and grandfathers the use of existing, non-interoperable devices after the transition deadline? The Commission seeks comment on the costs that licensees may incur in continuing to offer service for non-interoperable devices. How long will such devices need to be supported? Are there any classes of customers that will require longer-term support than others? Further, the Commission seeks comment on the extent to which the proposed transition period minimizes or alleviates any adverse economic impact to licensees and device manufacturers. Is there an optimal transition period that would reduce costs to the extent practicable while maximizing benefits?

55. In providing responses to these questions, the Commission asks commenters to take into account only those costs and benefits that directly result from the implementation of particular rules that could be adopted. Commenters should identify the various costs and benefits associated with a particular requirement. Further, to the extent possible, commenters should provide specific data and information, such as actual or estimated dollar figures for each specific cost or benefit addressed, including a description of how the data or information was calculated or obtained, and any supporting documentation or other evidentiary support.

56. *Legal authority.* Finally, the Commission seeks comment on its authority to mandate a device interoperability requirement should

interference concerns be reasonably addressed and there be no industry solution in place. The record is divided on this issue. On the one hand, Petitioners argue that the Commission should find the current contractual arrangements between wireless providers and equipment providers unlawful under Section 201(b), which prohibits unjust or unreasonable practices in connection with communications services, and Section 202(a), which prohibits unjust or unreasonable discrimination. Petitioners also claim that a device interoperability requirement would fall within the purview of Section 1 of the Communications Act, which directs the Commission to establish policies that promote the provision of communications service to all people of the United States, without discrimination. Petitioners argue that, at a minimum, ''Section 1 can be combined by the Commission with other 'express delegations of authority' to enable the Commission to exercise ancillary jurisdiction over issues that are reasonably related to the policies stated in Section 1.'' Commenters also reference additional sections of the Communications Act as support for Commission authority, including: Section 4(i), which specifies that the Commission ''may * * * make such rules and regulations * * * as may be necessary in the execution of its functions;'' Section 254(b)(3), which sets forth universal service principles; Section 303(g), to ''encourage the larger and more effective use of radio in the public interest;'' Section 303(r), which directs the Commission to prescribe such restrictions and conditions as necessary to carry out the provisions of the Act; Section 307(b), which directs the Commission to consider a ''fair, efficient and equitable'' distribution of radio services in applications for licenses, modifications, and renewals; and Section 706, which encourages the reasonable and timely deployment of advanced telecommunications capability to all Americans through ''measures that promote competition in the local telecommunications market, or other regulating methods that remove barriers to infrastructure investment.''

57. On the other hand, other commenters argue that Petitioners fail to cite a valid legal basis to adopt such an interoperability requirement. Both Verizon and AT&T argue that Sections 201 and 202 prohibit providers from unreasonable practices or discrimination among consumers. Verizon and AT&T also argue that the other provisions referenced by supporters of an interoperability requirement do not grant the Commission the authority to regulate equipment, or else are not substantive grants of authority for Commission action.

58. The Commission observes that, under Title III of the Communications Act, the Commission has broad and extensive authority to manage the use of spectrum.[11] This authority includes the power and obligation to condition the Commission's licensing actions on compliance with requirements that the Commission deems consistent with the public interest, convenience, and necessity,[12] including operational requirements, if the condition or obligations will further the goals of the Communications Act without contradicting any basic parameters of the agency's authority.[13] It also includes the powers to ''prescribe the nature of the service to be rendered by each class of licensed stations and each station within any class,'' [14] to ''generally encourage the larger and more effective use of radio in the public interest,'' [15] and to modify licenses if, in the judgment of the Commission, such action will promote the public interest, convenience, and necessity.[16] Furthermore, the Communications Act provides the Commission with broad powers under such provisions as Section 302(a) to promulgate regulations designed to address radio frequency (RF) interference, including the regulation of devices that are capable of emitting RF energy,[17] and Section 303(e) and (f), which empower the Commission to regulate licensees and the equipment and apparatus they use.[18]

59. The Commission seeks comment on its statutory authority to adopt a device interoperability requirement. The Commission notes that it has previously required interoperability across licensed spectrum as a means to ''insure full coverage in all markets and compatibility on a nationwide basis.'' [19] In addition, by promoting the availability of subscriber handsets and network buildout of Lower 700 MHz A Block licenses an interoperability requirement of the type discussed here can facilitate the provision of roaming services, which is subject to Commission rules.[20] The Commission

[11] *See, e.g.,* 47 U.S.C. 301 (stating that ''[i]t is the purpose of this Act, among other things, to maintain the control of the United States over all the channels of radio transmission; and to provide for the use of such channels, but not the ownership thereof, by persons for limited periods of time, under licenses granted by Federal authority, and no such license shall be construed to create any right, beyond the terms, conditions, and periods of the license'').

[12] *See, e.g.,* 47 U.S.C. 301 (authorizing the Commission to issue licenses for use of radio spectrum); 47 U.S.C. 304 (stating that ''[n]o station license shall be granted by the Commission until the applicant therefore shall have waived any claim to the use of any particular frequency or of the electromagnetic spectrum as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise''); 47 U.S.C. 307(a) (stating that Commission shall grant licenses ''if public convenience, interest, or necessity will be served thereby, subject to the limitations of [the Communications Act]''); 47 U.S.C. 309(j)(3) (requiring the Commission to design and conduct competitive bidding systems for issuance of licenses to promote the purposes of section 1 of the Act and specified statutory objectives, including ''the development and rapid deployment of new technologies, products, and services for the benefit of the public, including those residing in rural areas'').

[13] *See, e.g.,* 47 U.S.C. 303(r) (stating that if ''the public convenience, interest, or necessity requires [, the Commission] shall * * * prescribe such restrictions and conditions, not inconsistent with law, as may be necessary to carry out the provisions of this Act''); *Schurz Communications, Inc.* v. *FCC,* 982 F.2d 1043 (7th Cir. 1992) (Communications Act invests Commission with ''enormous discretion'' in promulgating licensee obligations that the agency determines will serve the public interest).

[14] 47 U.S.C. 303(b).

[15] 47 U.S.C. 303(g). *See also* 47 U.S.C. 151 (creating the Commission for the purpose of regulating communications in order to make available to all people of the United States a rapid, efficient, nationwide and world-wide communication service with adequate facilities at reasonable prices).

[16] *See* 47 U.S.C. 316(a)(1) (stating that ''[a]ny station license or construction permit may be modified by the Commission either for a limited time or for the duration of the term thereof, if in the judgment of the Commission such action will promote the public interest, convenience, and necessity''); *see also Committee for Effective Cellular Rules* v. *FCC,* 53 F.3d 1309 (DC Cir. 1995).

[17] *See, e.g.,* 47 U.S.C. 302a(a) (providing Commission with authority, consistent with the public interest, convenience and necessity, to make reasonable regulations ''governing the interference potential of devices which in their operation are capable of emitting radio frequency energy by radiation, conduction, or other means in sufficient degree to cause harmful interference to radio communications'').

[18] *See, e.g.,* 47 U.S.C. 303(e) (providing Commission with authority to ''[r]egulate the kind of apparatus to be used with respect to its external effects and the purity and sharpness of the emissions from each station and from the apparatus therein'') and 47 U.S.C. 303(f) (providing Commission with authority to ''[m]ake such regulations not inconsistent with law as it may deem necessary to prevent interference between stations and to carry out the provisions of this Act'').

[19] Inquiry Into the Use of the Bands 825–845 MHz and 870–890 MHz for Cellular Communications Systems; and Amendment of Parts 2 and 22 of the Commission's Rules Relative to Cellular Communications Systems, CC Docket No. 79–318, *Report and Order,* 86 FCC 2d 469, 482 (1981).

[20] *See* 47 U.S.C. 303(r). The Commission has imposed voice roaming requirements for interconnected CMRS providers under, *inter alia,* its Title II authority, and requirements to promote the availability of data roaming arrangements under, *inter alia,* its Title III authority. *See, e.g.,* Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers and Other Providers of Mobile Data Services, WT Docket No. 05–265, *Order on Reconsideration and*

Continued

seeks comment on its analysis of these Title III statutory provisions as a basis for its authority to take the actions proposed herein.

IV. Conclusion

60. In this *Notice of Proposed Rulemaking,* the Commission is focused primarily on resolving a long-running dispute over the threat of interference to Lower 700 MHz B and C Block licensees either by agreement on the part of these licensees to be interoperable with the Lower 700 MHz A Block licensees, or by a regulatory mandate for such interoperability. Should the Commission find that interference concerns are truly minimal or can be reasonably mitigated, then the Commission, along with industry, must determine the next best steps to ensure interoperability. The Commission's aim is to explore various options through this proceeding that help achieve the ultimate goal of interoperability.

V. Procedural Matters

Initial Regulatory Flexibility Analysis

61. As required by the Regulatory Flexibility Act of 1980, as amended (the RFA),[21] the Commission has prepared this Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact of the policies and rules proposed in the Notice of Proposed Rulemaking (NPRM) on a substantial number of small entities. Written public comments are requested on the IRFA. Comments must be identified as responses to the IRFA and must be filed by the deadline for comments on the NPRM provided in the item. The Commission will send a copy of the NPRM, including this IRFA, to the Chief Counsel for Advocacy of the Small Business Administration (SBA).[22] In addition, the NPRM and IRFA (or summaries thereof) will be published in the **Federal Register**.[23]

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

62. Certain Lower 700 MHz A Block licensees have asserted that the development of two distinct band classes within the Lower 700 MHz band has hampered their ability to have meaningful access to a wide range of advanced devices. The Commission initiates this rulemaking proceeding to promote interoperability in the Lower 700 MHz band. The Commission states that the Communications Act directs it to, among other things, promote the widest possible deployment of communications services, ensure the most efficient use of spectrum, and protect and promote vibrant competition in the marketplace. In this NPRM, the Commission's objective is to evaluate whether the customers of Lower 700 MHz B and C Block licensees would experience harmful interference, and if so to what degree, if the Lower 700 MHz were interoperable. Assuming that interoperability would cause limited or no harmful interference to Lower 700 MHz B and C Block licensees or that such interference can reasonably be mitigated through industry efforts and/or through modifications to the Commission's technical rules or other regulatory measures, the Commission asks whether there is likely to be a timely industry solution to interoperability in the Lower 700 MHz band, or whether additional regulatory measures will be necessary to promote interoperability across the Lower 700 MHz band, such as requiring Lower 700 MHz A, B, or C Block licensees, with respect to their networks operating in this spectrum, to use only mobile user equipment that has the capability to operate across all of these paired commercial 700 MHz blocks.

63. The Commission considers whether a requirement that mobile user equipment be capable of operating on all paired commercial Lower 700 MHz spectrum could foster deployment of facilities-based mobile broadband networks, particularly in rural and unserved areas. The Commission also considers whether such a requirement would increase the likelihood that the Lower A Block licensees can obtain the necessary financing to deploy networks and devices, particularly in smaller and regional areas. The Commission considers the extent to which Lower A Block licensees have successfully negotiated with equipment vendors, whether an interoperability requirement will enable the A Block licensees to benefit from economies of scale with respect to mobile devices and whether manufacturers require a provider to purchase a minimum number of devices. The Commission considers whether interoperability would promote reasonable roaming arrangements among 700 MHz providers and would increase the number of providers that are technologically compatible for roaming partnership.

64. With respect to the technical issues, the Commission states that it must ultimately resolve the central question as to whether a single band class would cause widespread harmful interference to Lower 700 MHz B and C Block licensees, who would otherwise use Band Class 17 devices rather than Band Class 12. The Commission's goal is to determine the extent of two primary interference concerns for providers operating in the Lower 700 MHz B and C Blocks if these providers substitute Band Class 12 for Band Class 17 in newly-offered devices: (1) Reverse intermodulation interference from adjacent DTV Channel 51 operations; and (2) blocking interference from neighboring high-powered operations in the Lower 700 MHz E Block. The Commission considers and seeks comment on the extent of the interference risk from adjacent Channel 51 and Lower Block E transmissions for Band Class 12 devices operating in the Lower B and C Blocks, the effectiveness of existing mitigation measures, and the extent of any innovative technical measures in the near future, or that can be developed. The Commission also considers how licensees can continue to support its existing grandfathered Band Class 17 devices and Band Class 12 devices.

65. Through the NPRM, the Commission's objective is to develop a record to determine whether there are measures it should take to address Lower 700 MHz interference concerns that may be preventing a voluntary adoption of Band Class 12 by Lower B and C Block licensees. For instance, the Commission seeks comment on whether to modify its technical rules for Lower 700 MHz D and E Block operations. In addition, the Commission considers steps to take to reduce the threat of potential interference to balance the needs and rights of Channel 51 incumbents with Lower 700 MHz licensees.

66. The Commission thinks that an industry solution to the question of interoperability in the Lower 700 MHz band would be preferable to a regulatory approach because such a solution allows the market greater flexibility in responding to evolving consumer needs and dynamic and fast-paced technological developments. The Commission considers what would be a reasonable timeframe for a voluntary migration to interoperability and how such timing may affect consumers and competition.

Second Further Notice of Proposed Rulemaking, 25 FCC Rcd 4181, 4184 para. 5 (2010) (based on Commission's Title II authority); Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers and Other Providers of Mobile Data Services, WT Docket No. 05–265, *Second Report and Order,* 26 FCC Rcd 5411, 5439–46 paras. 61–68 (2011) (based on Commission's Title III authority).

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

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

[23] *Id.*

67. However, the Commission recognizes that if the industry fails to move timely toward interoperability once interference concerns are adequately addressed, by regulation or otherwise, additional regulatory steps might be appropriate to further the public interest. If interference concerns are reasonable addressed and the Commission is left with no other option to maximize innovation and investment in the Lower 700 MHz band besides mandating mobile device interoperability, one approach to achieve the Commission's goals would be to require Lower 700 MHz A, B, or C Block licensees, with respect to their networks operating in this spectrum, to use only mobile user equipment that has the capability to operate across all of these blocks. For example, the Commission considers whether to prohibit those licensees deploying LTE in the Lower 700 MHz band from offering mobile units that operate on Band Class 17, which provides for operation on only the Lower 700 MHz B and C Blocks. In order to facilitate the goal of a smooth transition to interoperable mobile equipment use in the Lower 700 MHz band, the Commission would propose a transition period of no longer than two years after the effective date of an interoperability requirement. The Commission also would propose to grandfather the use of devices already in use by consumers as of the transition deadline, so that consumers using existing Band Class 17 equipment would not be adversely affected.

B. Legal Basis

68. The authority for the actions taken in this Notice is contained in Sections 1, 2, 4(i), 4(j), 301, 302(a), 303(b), 303(e), 303(f), 303(g), 303(r), 304, 307(a), 309(j)(3), and 316(a)(1) of the Communications Act of 1934, as amended, 47 U.S.C. 151, 152, 154(i), 154(j), 301, 302a(a), 303(b), 303(e), 303(f), 303(g), 303(r), 304, 307(a), 309(j)(3), and 316(a)(1), and Sections 1.401 *et seq.* of the Commission's rules. 47 CFR 1.401 *et seq.*

C. Description and Estimate of the Number of Small Entities to Which the Proposed Rules Will Apply

69. The RFA directs agencies to provide a description of, and, where feasible, an estimate of, the number of small entities that may be affected by the proposed rules, if adopted. The RFA generally defines the term ''small entity'' as having the same meaning as the terms ''small business,'' ''small organization,'' and ''small governmental jurisdiction.'' [24] In addition, the term ''small business'' has the same meaning as the term ''small business concern'' under the Small Business Act.[25] A ''small business concern'' is one which: (1) Is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (SBA).[26]

70. In the following paragraphs, the Commission further describes and estimates the number of small entity licensees that may be affected by an interoperability rule. Implementing a mobile user equipment interoperability requirement in the Lower 700 MHz band affects 700 MHz spectrum licensees.

71. This IRFA analyzes the number of small entities affected on a service-by-service basis. When identifying small entities that could be affected by the Commission's new rules, this IRFA provides information that describes auction results, including the number of small entities that were winning bidders. However, the number of winning bidders that qualify as small businesses at the close of an auction does not necessarily reflect the total number of small entities currently in a particular service. The Commission does not generally require that licensees later provide business size information, except in the context of an assignment or a transfer of control application that involves unjust enrichment issues.

72. *Wireless Telecommunications* Carrier (*except satellite*). The appropriate size standard under SBA Rules is for the category Wireless Telecommunications Carriers. The size standard for that category is that a business is small if it has 1,500 or fewer employees.[27] Census Bureau data for 2007, which now supersede data from the 2002 Census, show that there were 3,188 firms in this category that operated for the entire year. Of this total, 3,144 had employment of 999 or fewer, and 44 firms had employment of 1,000 employees or more. Thus, under this category and the associated small business size standard, the Commission estimates that the majority of wireless telecommunications carriers (except satellite) are small entities that may be affected by its proposed action.[28]

73. *Upper 700 MHz Band Licensees.* In the *700 MHz Second Report and Order,* the Commission revised its rules regarding Upper 700 MHz licenses.[29] On January 24, 2008, the Commission commenced Auction 73 in which several licenses in the Upper 700 MHz band were available for licensing: 12 Regional Economic Area Grouping licenses in the C Block, and one nationwide license in the D Block.[30] The auction concluded on March 18, 2008, with 3 winning bidders claiming very small business status (those with attributable average annual gross revenues that do not exceed $15 million for the preceding three years) and winning five licenses.

74. *Lower 700 MHz Band Licensees.* The Commission previously adopted criteria for defining three groups of small businesses for purposes of determining their eligibility for special provisions such as bidding credits.[31] The Commission defined a ''small business'' as an entity that, together with its affiliates and controlling principals, has average gross revenues not exceeding $40 million for the preceding three years.[32] A ''very small business'' is defined as an entity that, together with its affiliates and controlling principals, has average gross revenues that are not more than $15 million for the preceding three years.[33]

[24] 5 U.S.C. 601(6).

[25] 5 U.S.C. 601(3) (incorporating by reference the definition of ''small-business concern'' in the Small Business Act, 15 U.S.C. 632). Pursuant to 5 U.S.C. 601(3), the statutory definition of a small business applies ''unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the **Federal Register.**''

[26] 15 U.S.C. 632.

[27] 13 CFR 121.201, NAICS code 517110.

[28] *See http://factfinder.census.gov/servlet/IBQTable?_bm=y&-fds_name=EC0700A1&-geo_id=&-_skip=600&-ds_name=EC0751SSSZ5&-_lang=en.*

[29] Service Rules for the 698–746, 747–762 and 777–792 MHz Band, WT Docket No. 06–150, Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, CC Docket No. 94–102, § 68.4(a) of the Commission's Rules Governing Hearing Aid-Compatible Telephone, WT Docket No. 01–309, Biennial Regulatory Review—Amendment of Parts 1, 22, 24, 27, and 90 to Streamline and Harmonize Various Rules Affecting Wireless Radio Services, WT Docket No. 03–264, Former Nextel Communications, Inc. Upper 700 MHz Guard Band Licenses and Revisions to Part 27 of the Commission's Rules, WT Docket No. 06–169, Implementing a Nationwide, Broadband Interoperable Public Safety Network in the 700 MHz Band, PS Docket No. 06–229, Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State, and Local Public Safety Communications Requirements Through the Year 2010, WT Docket No. 96–86, Declaratory Ruling on Reporting Requirement Under Commission's Part 1 Anti-Collusion Rule, WT Docket No. 07–166, *Second Report and Order,* 22 FCC Rcd 15289 (2007) (*700 MHz Second Report and Order*).

[30] *See* Auction of 700 MHz Band Licenses Closes, *Public Notice,* 23 FCC Rcd 4572 (WTB 2008).

[31] *See* Reallocation and Service Rules for the 698–746 MHz Spectrum Band (Television Channels 52–59), *Report and Order,* 17 FCC Rcd 1022 (2002).

[32] *See id.,* 17 FCC Rcd at 1087–88 para. 172.

[33] *See id.*

Additionally, the lower 700 MHz Service had a third category of small business status for Metropolitan/Rural Service Area (MSA/RSA) licenses—''entrepreneur''—which is defined as an entity that, together with its affiliates and controlling principals, has average gross revenues that are not more than $3 million for the preceding three years.[34] The SBA approved these small size standards.[35] An auction of 740 licenses (one license in each of the 734 MSAs/RSAs and one license in each of the six Economic Area Groupings (EAGs)) was conducted in 2002. Of the 740 licenses available for auction, 484 licenses were won by 102 winning bidders. Seventy-two of the winning bidders claimed small business, very small business or entrepreneur status and won licenses.[36] A second auction commenced on May 28, 2003, closed on June 13, 2003, and included 256 licenses.[37] Seventeen winning bidders claimed small or very small business status, and nine winning bidders claimed entrepreneur status.[38] In 2005, the Commission completed an auction of 5 licenses in the Lower 700 MHz band. All three winning bidders claimed small business status.

75. In 2007, the Commission reexamined its rules governing the 700 MHz band in the 700 MHz Second Report and Order.[39] An auction of A, B and E Block 700 MHz licenses was held in 2008.[40] Twenty winning bidders claimed small business status (those with attributable average annual gross revenues that exceed $15 million and do not exceed $40 million for the preceding three years). Thirty three winning bidders claimed very small business status (those with attributable average annual gross revenues that do not exceed $15 million for the preceding three years).

76. *Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing.* The Census Bureau defines this category as follows: ''This industry comprises establishments primarily engaged in manufacturing radio and television broadcast and wireless communications equipment. Examples of products made by these establishments are: transmitting and receiving antennas, cable television equipment, GPS equipment, pagers, cellular phones, mobile communications equipment, and radio and television studio and broadcasting equipment.'' [41] The SBA has developed a small business size standard for Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing, which is: all such firms having 750 or fewer employees. According to Census Bureau data for 2007, there were a total of 939 establishments in this category that operated for part or all of the entire year. According to Census Bureau data for 2007, there were a total of 919 firms in this category that operated for the entire year. Of this total, 771 had less than 100 employees and 148 had more than 100 employees.[42] Thus, under that size standard, the majority of firms can be considered small.

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

77. This NPRM proposes no new reporting or recording keeping requirements.

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

78. The RFA requires an agency to describe any significant alternatives that it has considered in developing its approach, which may include the following four alternatives (among others): (1) The establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance or reporting requirements under the rule for small entities; (3) the use of performance, rather than design, standards; and (4) an exemption from coverage of the rule, or any part thereof, for small entities.[43]

79. As an alternative to a regulatory approach, the Commission considers the impact of a timely voluntary industry solution to interoperability in the Lower 700 MHz band. The Commission considers how this alternative approach may affect consumers and competition. The Commission seeks comment on the economic impact of this approach on licensees, including small entities. In addition, the Commission seeks comment on other alternative approaches to interoperability in the Lower 700 MHz band that would reduce or eliminate economic adversity on licensees, including small entities.

80. Whether the Commission implements an interoperability requirement, or an industry solution, it seeks comment on the relevant costs and benefits on small entities. The Commission considers the potential benefits to consumers, innovation, and investment. In addition, it considers the revenue implications, cost savings, or adverse economic impact of an interoperability rule or an industry-based solution for Lower 700 MHz providers and device manufacturers.

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

81. None.

VI. Other Procedural Matters

A. Ex Parte Rules

82. The proceeding initiated by this Notice of Proposed Rulemaking shall be treated as a ''permit-but-disclose'' proceeding in accordance with the Commission's *ex parte* rules. Persons making *ex parte* presentations must file a copy of any written presentation or a memorandum summarizing any oral presentation within two business days after the presentation (unless a different deadline applicable to the Sunshine period applies). Persons making oral *ex parte* presentations are reminded that memoranda summarizing the presentation must: (1) List all persons attending or otherwise participating in the meeting at which the *ex parte* presentation was made; and (2) summarize all data presented and arguments made during the presentation. If the presentation consisted in whole or in part of the presentation of data or arguments already reflected in the presenter's written comments, memoranda, or other filings in the proceeding, the presenter may provide citations to such data or arguments in his or her prior comments, memoranda, or other filings (specifying the relevant page and/or paragraph numbers where such data or arguments can be found) in lieu of summarizing them in the memorandum. Documents shown or given to Commission staff during *ex parte* meetings are deemed to be written *ex parte* presentations and must be filed consistent with rule 1.1206(b). In proceedings governed by rule 1.49(f) or for which the Commission has made available a

[34] *See id.,* 17 FCC Rcd at 1088 para. 173.

[35] *See* Letter from Aida Alvarez, Administrator, SBA, to Thomas Sugrue, Chief, Wireless Telecommunications Bureau, FCC (Aug. 10, 1999).

[36] *See* Lower 700 MHz Band Auction Closes, *Public Notice,* 17 FCC Rcd 17272 (2002).

[37] *See* Lower 700 MHz Band Auction Closes, *Public Notice,* 18 FCC Rcd 11873 (2003).

[38] *See id.*

[39] *700 MHz Second Report and Order,* 22 FCC Rcd at 15359 n.434.

[40] *See* Auction of 700 MHz Band Licenses Closes, *Public Notice,* 23 FCC Rcd 4572 (2008).

[41] The NAICS Code for this service is 334220. *See* 13 CFR 121.201. *See also http://factfinder.census.gov/servlet/IBQTable?_bm=y&-fds_name=EC0700A1&-geo_id=&-_skip=300&-ds_name=EC0731SG2&-_lang=en.*

[42] *See http://factfinder.census.gov/servlet/IBQTable?_bm=y&-geo_id=&-fds_name=EC0700A1&-_skip=4500&-ds_name=EC0731SG3&-_lang=en.*

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

method of electronic filing, written *ex parte* presentations and memoranda summarizing oral *ex parte* presentations, and all attachments thereto, must be filed through the electronic comment filing system available for that proceeding and must be filed in their native format (e.g., .doc, .xml, .ppt, searchable .pdf). Participants in this proceeding should familiarize themselves with the Commission's *ex parte* rules.

B. Filing Requirements

83. Pursuant to §§ 1.415 and 1.419 of the Commission's rules, interested parties may file comments and reply comments on or before the dates indicated on the first page of this document. Comments may be filed using: (1) The Commission's Electronic Comment Filing System (''ECFS''), (2) the Federal Government's eRulemaking Portal, or (3) by filing paper copies.

• *Electronic Filers:* Comments may be filed electronically using the Internet by accessing the ECFS: *http://www.fcc.gov/cgb/ecfs/* or the Federal eRulemaking Portal: *http://www.regulations.gov.*

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

Filings can be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail. All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission.

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

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

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

84. Comments, reply comments, and *ex parte* submissions will be available for public inspection during regular business hours in the FCC Reference Center, Federal Communications Commission, 445 12th Street SW., CY–A257, Washington, DC, 20554. These documents will also be available via ECFS. Documents will be available electronically in ASCII, Microsoft Word, and/or Adobe Acrobat.

85. To request information in accessible formats (Braille, large print, electronic files, audio format), send an email to *fcc504@fcc.gov* or call the FCC's Consumer and Governmental Affairs Bureau at (202) 418–0530 (voice), (202) 418–0432 (TTY). This document can also be downloaded in Word and Portable Document Format (PDF) at: *http://www.fcc.gov.*

86. For additional information on this proceeding, contact Brenda Boykin of the Spectrum and Competition Policy Division, Wireless Telecommunications Bureau, at (202) 418–2062.

C. Initial Regulatory Flexibility Act Analysis

87. As required by the Regulatory Flexibility Act of 1980 (''RFA''), the Commission has prepared an Initial Regulatory Flexibility Analysis (IRFA) relating to this NPRM. The IRFA is attached to this NPRM. Written public comments are requested on the IRFA. These comments must be filed in accordance with the same filing deadlines as comments filed in response to this Notice of Proposed Rulemaking as set forth on the first page of this document and have a separate and distinct heading designating them as responses to the IRFA.

D. Paperwork Reduction Act

88. This document does not contain proposed information collection(s) subject to the Paperwork Reduction Act of 1995 (PRA), Public Law 104–13. In addition, therefore, it does not contain any new or modified information collection burden for small business concerns with fewer than 25 employees, pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107–198, *see* 44 U.S.C. 3506(c)(4).

VII. Ordering Clauses

89. Accordingly, *it is ordered,* pursuant to sections 1, 2, 4(i), 4(j), 301, 302(a), 303(b), 303(e), 303(f), 303(g), 303(r), 304, 307(a), 309(j)(3), and 316(a)(1) of the Communications Act of 1934, as amended, 47 U.S.C. 151, 152, 154(i), 154(j), 301, 302(a), 303(b), 303(e), 303(f), 303(g), 303(r), 304, 307(a), 309(j)(3), and 316(a)(1), and § 1.401 *et seq.* of the Commission's rules, 47 CFR 1.401 *et seq.,* that this Notice in WT Docket No. 12–69 IS *adopted.*

90. *It is further ordered* that the Petition for Rulemaking of the 700 MHz Block A Good Faith Purchaser Alliance *is granted* to the extent described herein.

91. *It is further ordered* that the proceeding in RM–11592 is hereby terminated.

92. *It is further ordered* that the Commission's Consumer & Governmental Affairs Bureau, Reference Information Center, *shall send* a copy of this Notice, including the Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

Federal Communications Commission.

Bulah P. Wheeler,

Deputy Manager.

[FR Doc. 2012–7760 Filed 3–30–12; 8:45 am]

BILLING CODE 6712–01–P

DEPARTMENT OF TRANSPORTATION

Federal Motor Carrier Safety Administration

49 CFR Parts 385, 390, and 395

[Docket No. FMCSA–2010–0167]

RIN 2126–AB20

Electronic On-Board Recorders and Hours of Service Supporting Documents

AGENCY: Federal Motor Carrier Safety Administration (FMCSA), DOT.

ACTION: Notice of public listening session.

SUMMARY: FMCSA announces that it will hold a public listening session to solicit information, concepts, ideas, and comments on Electronic On-Board Recorders (EOBRs) and the issue of driver harassment. Specifically, the Agency wants to know what factors, issues, and data it should consider as it addresses the distinction between productivity and harassment: What will prevent harassment from occurring; what types of harassment already exist; how frequently and to what extent harassment happens; and how an electronic device such as an EOBR, capable of contemporaneous transmission of information to a motor carrier, will guard against (or fail to guard against) harassment. Additionally, the Agency will solicit concepts, ideas, and comments from enforcement personnel on the hours-of-service (HOS) information they would need to see on the EOBR display screen to effectively enforce the HOS rules at the roadside and the type of evidence they would need to retain in order to support issuing drivers citations for HOS