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SPECTRUM POLICY TASK FORCE SEEKS PUBLIC COMMENT ON ISSUES RELATED TO COMMISSION'S SPECTRUM POLICIES

ET Docket No. 02-135

Comment Date: July 8, 2002
Reply Comment Date: July 23, 2002

Chairman Powell has formed a Spectrum Policy Task Force charged with conducting a systemic evaluation of existing spectrum policies and with making recommendations as to possible improvements. This Public Notice presents the Task Force's tentative work plan and elicits public comment on a range of issues relevant to spectrum policy.

The Spectrum Policy Task Force's tentative work plan for this inquiry is as follows:

- Public Notice seeking comment on spectrum policy, issued June 6, 2002.
- Comments filed by July 8, 2002.
- Reply comments filed by July 23, 2002.
- Multiple workshops conducted by the Spectrum Policy Task Force to facilitate debate regarding spectrum policies. July 2002 to August 2002.
- Spectrum Policy Task Force provides report to Commission by October 2002.

To assist with the review of current spectrum policies, the Task Force is requesting that interested parties submit written comments. We welcome comments from all interested parties, including, but not limited to, academia, private industry, consumers, and all levels of government. To provide guidance to the public, we are including, as part of this Public Notice, specific questions relating to spectrum policy. These questions are intended to promote discussion and comment across a range of spectrum-related issues and are not intended, in any way, to limit the scope of the comments filed in response to this Public Notice. In this regard, parties are encouraged to file comments on spectrum-related issues even if they do not respond directly to any particular question posed. For convenience, we have divided the questions into

the following five categories: (1) Market-oriented Allocation and Assignment Policies; (2) Interference Protection; (3) Spectral Efficiency; (4) Public Safety Communications, and (5) International Issues. Questions related to each of these categories will be presented in turn.

Market-Oriented Allocation and Assignment Policies

Through the years, the Commission has implemented various spectrum allocation and assignment policies and models aimed at fostering more flexible use of the radio spectrum so that this important resource can be put to its best and highest value use. For example, two models have been used for transitioning to a more market-oriented spectrum policy. Under one model, the Commission has granted existing licensees additional flexibility so that incumbents can migrate spectrum to its highest value use. A second model has involved the Commission reallocating bands for flexible use with geographic service areas and auctioning "overlay licenses and unassigned "white space" spectrum to new and existing licensees. This approach may also include rules to require or facilitate band-clearing negotiations between new licensees and incumbents.

We request comment on both the relative effectiveness of the approaches the Commission has employed for facilitating optimal spectrum use and their applicability across different bands with different incumbents' rights. We are seeking suggestions regarding ways in which the Commission can expand its use of these or other policy approaches. In particular,

1. What specific policy and rule changes are needed to migrate from current spectrum allocations to more market-oriented allocations?

2. Should current, restrictive service and operating rules applicable in many bands be changed to provide licensees with greater flexibility? If so, in which bands and how?

    a. Should incumbent users be given flexibility within their existing spectrum?

    b. Should "site" licenses (*e.g.*, broadcasting, private land mobile) be converted to geographic area licenses? If so, how should such licenses be defined (*e.g.*, by power limits at geographic and frequency boundaries)?

    c. How should spectrum not currently licensed by geographic areas be assigned or re-assigned, *e.g.*, by auctioning Commission-defined "overlays" or by other means?

    d. What are the relative efficiencies and inefficiencies of different licensing models?

    e. How would the interference rights of incumbents and new licensees be redefined under flexibility?

    f. What, if anything, should the Commission do to facilitate efficient restructuring of spectrum held by new licensees and incumbents, *i.e.*, reduce transactions costs, avoid strategic holdouts, and create greater certainty about costs?

3. Should spectrum policy be different in different portions of the spectrum or in different geographic areas?

   a. For instance, should the more congested region of the spectrum (*i.e.*, that below 3 GHz) be governed by different policies than the less congested portions of the spectrum? Should different licensing concepts be applied to upper millimeter wave spectrum where propagation characteristics limit the range and small wavelengths enable very narrow beams?

   b. Should spectrum policies vary by geographic area according to the relative level of spectrum congestion or use? For instance, should the rules be different in urban areas where spectrum is generally in high demand, than in rural areas where the demand for spectrum is typically low, or in the transition areas – where spectrum demand is somewhere between high and low demand regions?

   c. How can spectrum use, congestion and demand be accurately measured and predicted?

4. Are there circumstances under which adopting more market-oriented allocation and assignment policies would affect other important Commission objectives? For example, could the optimal provision of radio services to or by public safety and public service entities be helped or hindered by more market-oriented spectrum policies? Are there specific market failures that would produce such adverse affects, and what should the Commission do to address these market failures?

5. Should more spectrum be set aside for operating unlicensed devices? Should the kinds of permissible unlicensed operations be expanded? What changes, if any, should be made to the rules to accomplish this? Because of the commons aspects of unlicensed use, is there concern that, as congestion rises, spectrum may not be put to its highest valued use? If so, what policies might be considered to anticipate this problem?

6. How can the Commission better facilitate the experimentation, innovation and development of new spectrum-based technologies and services through, for example, changes in its experimental licensing rules, increased use of developmental authorizations or promoting demonstration projects?

Interference Protection

According to many observers, the radio spectrum is becoming increasingly congested. As a result, in considering changes in spectrum policy, it is important to consider the ramifications of technological limits on radio operation, particularly with regard to control of interference between radio systems operating in the same area. Because the issue of what constitutes acceptable interference becomes more important with more intensive use of the radio spectrum, the Task Force seeks comment on these issues:

7. Are new definitions of "interference" and "harmful interference" needed? If so, how should these terms be defined?

8. What is the impact, if any, of increased flexibility on how harmful interference should be defined and understood?

9. Are more explicit protections from harmful interference of incumbent users required?

10. Does defining power limits (in-band and at service area boundaries) and coordination procedures in the Commission's rules provide sufficient control over interference as new uses are introduced by licensees? What other regulatory measures are needed, if any?

11. Does defining power limits and other measures in the Commission's rules designed to protect against harmful interference affect innovation?

12. As technology advances, should what the Commission defines as unacceptable or "harmful" interference correspondingly change in the future? How should rights and obligations of spectrum users be defined to facilitate such changes as well as innovation?

13. If the Commission adopts new policies to address interference, should the rights of new spectrum users be defined differently from those of the present incumbents? If yes, how?

14. Should the Commission consider developing receiver standards or guidelines for each radio service that would be used in judging harmful interference? For example, should such standards or guidelines aim to protect receivers that meet or exceed the standards or guidelines, but allow users to use less robust receivers at their own risk? If so,

    a. What criteria should be considered in drafting these standards/guidelines?

    b. How should the Commission consider protecting legacy receivers?

    c. Should these standards/guidelines differ among the various radio services

15. In lieu of, or to complement, technical rules related to interference, are there processes that the Commission could consider that would allow private parties to more expeditiously resolve interference issues and disputes, for example, through negotiated agreements, mediation, arbitration or case-by-case adjudication?

16. Some parties assert that the Commission should adopt rules for interference that are based on economics, and not purely technical, in nature. They argue that efficient interference management should involve an economic balancing between the parties using the spectrum. Would greater use of these types of alternatives lead to more certain and expeditious resolution of interference issues?

Spectral Efficiency

Due to the ever increasing spectrum demand, increased spectral efficiency will be needed to accommodate future growth. To this end, it is important that spectrum policies create positive incentives to make "efficient" use of the spectrum resource and to continue the development of spectrally efficient technologies. At the same time, regulations should remain technologically neutral, without directly or indirectly determining the success or failure of particular technologies and services. The Task Force seeks comment and information on the following questions on how to promote and measure spectral efficiency:

17. What mechanisms or policies might be considered as a means of promoting a proper level of spectral efficiency either through regulatory mandates or economic incentives? Are there mechanisms that other countries use that should be applied in the United States as well?

18. Do any existing Commission rules inhibit efficient use of the spectrum? If so, how should they be changed?

19. What new technologies exist that, if deployed, could improve spectral efficiencies and utilization? What are the barriers to their deployment?

20. Should the Commission consider ways to quantify or benchmark spectral efficiency in a way that permits fair and meaningful comparisons of different radio services, and if so, how would such comparisons be used in formulating spectrum policy?

    a. How could the Commission define and quantify spectral efficiency?

    b. How could the Commission meaningfully compare efficiencies across different radio services?

    c. Should spectrum efficiency be analyzed subjectively as opposed to quantitatively? If yes, how?

    d. To what extent should any rules, standards or guidelines regarding spectral efficiency take into account the relative scarcity of different uses and different geographic areas as well as the cost of spectrum-conserving technologies?

    e. What data and other information is necessary for the Commission to evaluate spectral efficiency?

21. How, if at all, can the Commission provide incentives for operators to use spectrum efficiently? For example, how could to the implementation of fees (*e.g.*, on the basis of Hz per square mile per minute or Hz per population coverage) or receiver standards affect spectrum efficiencies?

Public Safety Communications

Public safety and public service agencies at the federal, state and local levels, as well as critical infrastructure industries, require highly reliable radio-based communications services. Like other users of the radio spectrum, the spectrum needs of these specialized users are increasing. We seek comment on how to best preserve and protect the ability of public safety, public service and critical infrastructure entities to do their important jobs in light of the increasing spectrum demands for these and all other services.

22. What mechanisms can be developed to ensure the availability of dependable, interoperable and cost-efficient radio-based and other Communications services among local and state public safety and federal government agencies in their use of spectrum for public safety, law enforcement, homeland security, and critical infrastructure protection?

23. Recognizing that many of these special needs for communications capacity are highly variable in time and location but generally low in average traffic level, should the Commission and these users consider novel sharing mechanisms for such spectrum that might be appropriate and what criteria (*e.g.*, very high reliability) would need to be used to determine whether such sharing is advisable?

24. How should the amount of spectrum dedicated for the support of public safety and related functions be determined?

International Issues

The United States' domestic spectrum allocation and assignment policies exist within the broader context of international spectrum agreements and coordinations, especially with Canada and Mexico. The Task Force seeks comment on the following:

25. What role should international/global considerations play in spectrum policy in the United States? And conversely, how should U.S. preparations for regional and international meetings on spectrum policy take into account domestic spectrum policy decisions?

26. How should the requirements for international coordination of satellite systems affect the U.S. assignment of satellite orbits and frequencies for domestic and international service?

27. Does the International Telecommunications Union (ITU) spectrum allocation process, as codified in the ITU Radio Regulations, facilitate or impede development of domestic spectrum policies?

28. Are there ways in which the Commission can or should improve the coordination process with Canada and Mexico? If so, how?

Interested parties may file comments no later than July 8, 2002. Reply comments are due July 23, 2002. All filings should refer to ET Docket No. 02-135 and, to the extent applicable, when addressing a particular question included in this public notice, comments should reference the relevant number associated with the question.

An original and four copies of all documents must be filed with the Commission's Secretary, Marlene H. Dortch, 445 12th Street, S.W., TW-A325, Washington, D.C. 20554, in accordance with Section 1.51(c) of the Commission's rules, 47 C.F.R. § 1.51(c). [1] **In addition, one copy of each document must be delivered to each of the following locations:** (1) the Commission's duplicating contractor, Qualex International ("Qualex"), 445 12th Street, S.W., Room CY-B402, Washington, D.C. 20554; (2) Office of Media Relations, Reference Operations Division, 445 12th Street, S.W., Room CY-A257, Washington, D.C. 20554; (3) Lauren M. Van Wazer, Special Counsel, Office of Engineering and Technology, 445 12th Street, S.W., Room 7-C257, Washington, D.C. 20554.

Copies of the comments and reply comments filed in this matter may be obtained from Qualex, 445 12th Street, S.W., Room CY-B402, Washington, D.C. 20554, telephone (202) 863-2893. The documents are also available for public inspection and copying during normal reference room hours at the FCC Reference Information Center, 445 12th Street, S.W., Room CY-A257, Washington, D.C. 20554.

Instead of filing paper comments, parties may file comments using the Commission's Electronic Comment Filing System (ECFS). *See* Electronic Filing of Documents in Rulemaking Proceedings, 63 Fed. Reg. 24,121 (1998). Comments filed through the ECFS can be sent as an electronic file via the Internet to http://www.fcc.gov/e-file/ecfs.html. Only one copy of an electronic submission must be filed. In completing the transmittal screen, commenters should include their full name, Postal Service mailing address, and the applicable docket number. Parties may also submit an electronic comment by Internet e-mail. To get filing instructions for e-mail comments, commenters should send an e-mail to ecfs@fcc.gov, and should include the following words in the body of the message, "get form <your e-mail address>." A sample form and directions will be sent in reply.

For further information, contact Lauren M. Van Wazer, Special Counsel, Office of Engineering and Technology, at (202) 418-0030.

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[1] On October 17-18, 2001, the Commission announced modified procedures for parties wishing to hand-deliver, or deliver by overnight courier, documents to the FCC's Office of the Secretary. *See* Public Notice Nos. DA 01-2430, DA 01-2436 and DA 01-2451.