

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

In the Matter of)	
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Effects of Communications Towers on Migratory)	
Birds)	WT Docket No. 03-187
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NOTICE OF INQUIRY

Adopted: August 8, 2003

Released: August 20, 2003

Comment Date: [60 days from publication in the Federal Register]

Reply Comment Date: [90 days from publication in the Federal Register]

By the Commission: Chairman Powell issuing a statement.

I. INTRODUCTION

1. The Commission is initiating this inquiry to gather comment and information on the impact that communications towers may have on migratory birds. As explained further below, we seek information that is supported by evidence concerning the number of migratory bird collisions with communications towers and the role that specific factors associated with communications towers may have in increasing or decreasing the incidence of such collisions. Such factors may include lighting, height, and particular type of antenna structure (including guyed and unguyed structures), meteorological conditions, location, physiographic features of sites, and known migratory bird migration corridors. We further request information on whether any current or proposed research may provide useful data regarding the subjects of this inquiry, and what other actions may be necessary to spur additional, necessary research. We also seek comment on whether certain measures might minimize any adverse impacts of communications tower siting and construction on migratory birds, whether any such measures are supported by adequate and reliable empirical and/or scientific evidence, and how the use of such measures may affect the ability of licensees and other parties to provide efficient and reliable communications services. Depending on the record developed in this proceeding, the Commission will consider whether the current state of research would support further action by the Commission in this area, including possible amendments of its environmental rules.¹

2. This inquiry is designed to gather comments on scientific research and other related data

¹ See 47 C.F.R. §§ 1.1301-1.1319.

relevant to migratory bird collisions with communications towers, and on whether such research would support changes within the structure of our current rules and processes specifically related to protection of migratory birds.

II. BACKGROUND

3. Communications towers and other structures that support antennas provide the infrastructure for services licensed by the Commission, including broadcast television and radio, cellular, Personal Communications Service (PCS), Specialized Mobile Radio (SMR), and other advanced and emerging services. Communications towers also are used for the provision of private radio services used by business and government, and for public safety purposes.

4. Migratory birds breed throughout the United States and Canada and, in the fall of each year, migrate to the southern United States, Mexico, and Central and South America for the winter.² Currently, 836 species are on the list of migratory birds maintained by the United States Fish and Wildlife Service (FWS).³ Birds that have been documented as vulnerable to collisions with communications towers include approximately 350 species of neotropical migratory songbirds, which generally migrate at night and may be most susceptible to collisions with lit towers on nights with low visibility due to fog, rain, or low cloud ceilings.⁴ At least one researcher has suggested that an estimated four to five million birds or more may be killed each year due to collisions with communications towers.⁵ Reports of bird deaths at single locations on a single day have included instances involving hundreds or even thousands of birds.⁶ However, to our knowledge there have been no studies sufficient to support a reliable estimate of the number of migratory birds that may have died as a result of collisions with an extensive number of communications towers located, for example, over wide geographic areas. In addition, while some literature suggests that certain factors – such as tower height, lighting systems, type of antenna support structure, and location – may increase or decrease the hazards that towers pose to migratory birds, there does not appear to be systematic research on an adequate scale regarding exactly how and to what extent, if at all, these factors contribute to any risk to migratory birds.⁷

² See Federal and State Roles, U.S. Fish & Wildlife Service, Division of Migratory Bird Management, at <http://migratorybirds.fws.gov/mgmt/fedrole.html> (last visited August 14, 2003).

³ See 50 C.F.R. § 10.13 (list of migratory bird species protected by Migratory Bird Treaty Act); see also Revised List of Migratory Birds, 66 Fed. Reg. 52,282 (October 12, 2001).

⁴ See Manville, A.M. II, *The ABCs of Avoiding Bird Collisions at Communications Towers: the Next Steps*, Proceedings of the Avian Interactions Workshop, December 2, 1999, Charleston, S.C., Electric Power Research Institute, available at <http://migratorybirds.fws.gov/issues/towers/abcs.html> (Aug. 31, 2000) (Manville) (discussing known and suspected causes of bird collisions with communications towers). Communications towers also may have an impact on migratory birds during their daily movements within an area, and on shorebirds, waterfowl, raptors, other songbirds, and other bird groups.

⁵ *Id.*

⁶ See, e.g., *id.* (discussing deaths of estimated 5,000-10,000 migratory songbirds at or in vicinity of three communications towers and a natural gas pumping facility in Kansas).

⁷ Cf. Manville (stating that research concerning the presumed or suspected causes of bird collisions with towers “is sorely lacking.”).

A. Licensing and Regulation of Radio Communications Services and Antenna Structures

5. The Commission was created to regulate communications by wire and radio in the United States.⁸ Section 1 of the Communications Act, as amended (Act), requires the Commission to regulate commerce in communications to “make available, so far as possible, to all people of the United States . . . a rapid, efficient, Nation-wide, and world-wide wire and radio communication service with adequate facilities”⁹ When Congress amended the Communications Act in the Omnibus Budget Reconciliation Act of 1993, it directed “the development and rapid deployment of new technologies, products, and services for the benefit of the public . . . [and] efficient and intensive use of the electromagnetic spectrum.”¹⁰ The Telecommunications Act of 1996 was intended “to promote competition and reduce regulation in order to secure lower prices and higher quality services for American telecommunication consumers and encourage the rapid deployment of new telecommunications technologies.”¹¹ Congress also has provided that all television broadcasting in the United States will be by digital technology by the end of the transition to digital television (DTV) on December 31, 2006.¹² In addition, the Commission is authorized to assign frequencies to classes of stations, and has designated spectrum for public safety use.¹³ The Wireless Communications and Public Safety Act of 1999 (911 Act) directs the Commission to make 911 the universal emergency number for wireless and wireline telephone service and, among other matters, to encourage and support the development of comprehensive emergency communications throughout the United States so that all jurisdictions offer seamless networks for prompt emergency service.¹⁴

6. As part of its responsibilities, the Commission issues licenses and permits relating to communications services and, pursuant to statute, requires antenna structures to conform to painting and lighting requirements. Section 301 of the Act requires the issuance of a license for radio communications,¹⁵ and construction permits from the Commission are required for certain services.¹⁶

⁸ See 47 U.S.C. § 151.

⁹ 47 U.S.C. § 151.

¹⁰ See *id.* § 309(j)(3)(A), (D).

¹¹ Preamble to Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 (1996) (1996 Act).

¹² See 47 U.S.C. § 309(j)(14)(A)-(B). The DTV transition period may be extended by the Commission. 47 U.S.C. § 309(j)(14)(B). The Commission has adopted rules to permit the nation’s broadcasters to implement the conversion to digital television in accordance with the 1996 Act. See *Advanced Television Systems and Their Impact upon the Existing Television Broadcast Service, Fifth Report and Order*, 12 FCC Rcd 12809 (1997).

¹³ See 47 U.S.C. § 303(c); 47 C.F.R. §§ 90.15-90.22.

¹⁴ See *Wireless Communications and Public Safety Act of 1999*, Pub. L. No. 106- 81, enacted Oct. 26, 1999, 113 Stat. 1286, amending the Communications Act of 1934, §§ 222, 251 (911 Act). The Commission has taken steps to implement the 911 Act. Implementation of 911 Act, *Fifth Report and Order, Memorandum Opinion and Order on Reconsideration*, 16 FCC Rcd 22264 (2001).

¹⁵ 47 U.S.C. § 301.

¹⁶ Section 319 of the Act provides that “[n]o license shall be issued under the authority of this chapter for the operation of any station unless a permit for its construction has been granted by the Commission.” 47 U.S.C. § 319(a). Construction permits are defined as “instrument[s] of authorization required by this chapter or the rules (continued....)”

Section 307(b) of the Act charges the Commission with the duty to distribute broadcast licenses "among the several States and communities as to provide a fair, efficient, and equitable distribution of radio service to each of the same."¹⁷ Section 303(q) of the Act provides that the Commission shall have "authority to require the painting and/or illumination of radio towers if and when in its judgment such towers constitute, or there is a reasonable possibility that they may constitute, a menace to air navigation."¹⁸ Section 303(q) further provides that the "permittee or licensee, and the tower owner in any case in which the owner is not the permittee or licensee, shall maintain the painting and/or illumination of the tower as prescribed by the Commission pursuant to this section."¹⁹ To implement Section 303(q), the Commission has provided in its rules that the owner of any proposed or existing antenna structure that requires notice of proposed construction to the Federal Aviation Administration (FAA) must register the structure with the Commission prior to construction.²⁰ Specifically, such notification and registration is required for antenna structures that meet certain height and location criteria (generally towers more than 60.96 meters (200 feet) in height or located within certain distances of an airport, as specified in the Commission's rules). As of June 1, 2003, approximately 92,454 antenna structures were registered with the Commission.²¹ The Commission's rules further require that tower owners paint and light their antenna structures in accordance with the FAA's advisory specifications for air navigation safety purposes.²²

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and regulations of the Commission . . . for the construction of a [radio] station . . ." *Id.* § 153(12). Construction permits are required for broadcast stations, unless the Commission has by regulation determined that a permit shall not be required for minor changes in the facilities of authorized broadcast stations. *Id.* § 319(d). Construction permits are not required for government, amateur, and mobile stations, and the Commission may waive the requirement for certain other licenses if it finds that the public interest, convenience or necessity would be served. *Id.* The Commission has provided that certain applicants in the public mobile services do not require a construction permit, *see* Revision and Update of Part 22 of the Public Mobile Radio Services Rules, *Report and Order*, 95 FCC 2d 769, 773-74 ¶ 16 (1987), and may construct facilities prior to the grant of their application. *See* 47 C.F.R. § 22.143. In contrast, construction permits are required for broadcast service applicants. *See* 47 C.F.R. § 73.3533.

¹⁷ 47 U.S.C. § 307(b). In keeping with its statutory mandate, the Commission presumes that every community of "appreciable size," *Plainview Radio*, *Decision*, 24 FCC 405, 421 ¶ 13 (1958), needs at least one radio station for local self-expression. *Bie Broadcasting Co.*, *Decision*, 81 FCC 2d 1, 26 ¶ 47 (Rev. Bd. 1980), *rev. denied*, *Memorandum Opinion and Order*, 87 FCC 2d 490 (1981). The Commission's broadcast allotment criteria thus attempt to avoid undue concentration of broadcast stations – and, incidentally, broadcast transmission towers – in any area, particularly in urban areas. *See Pasadena Broadcasting Co. v. FCC*, 555 F.2d 1046, 1050 (D.C. Cir. 1977).

¹⁸ 47 U.S.C. § 303(q).

¹⁹ *Id.*

²⁰ 47 C.F.R. § 17.4(a).

²¹ This includes antenna structures that currently exist, or that have been proposed to be built or modified.

²² 47 C.F.R. §§ 17.6(a), 17.22, 17.23, and note preceding 47 C.F.R. § 17.45 (High Intensity White Obstruction Lighting).

B. Environmental Statutes and Regulations

7. The National Environmental Policy Act (NEPA) is the basic national charter for protection of the environment, and requires federal agencies to establish procedures to identify and account for the environmental impact of projects they undertake or authorize.²³ NEPA provides that “to the fullest extent possible . . . all agencies of the Federal Government shall . . . include in every recommendation or report on . . . major Federal actions significantly affecting the quality of the human environment” a detailed statement on the environmental impact of the proposed action and any adverse environmental impacts that cannot be avoided if the proposal is implemented.²⁴ The Council on Environmental Quality’s (CEQ) regulations provide that “human environment” shall be “interpreted comprehensively to include the natural and physical environment and the relationship of people with that environment.”²⁵ NEPA also requires all Federal agencies to consult with and obtain the comments of expert Federal agencies before taking any major action significantly affecting the quality of the human environment.²⁶

8. The Endangered Species Act (ESA) prohibits the taking of any endangered species by any person unless authorized by FWS.²⁷ The ESA also provides that “[e]ach Federal agency shall, in consultation with and with the assistance of the Secretary [of the Department of the Interior], insure that any action authorized, funded, or carried out by such agency . . . is not likely to jeopardize the continued existence” of any endangered species or threatened species or result in the “destruction or adverse modification of habitat of such species which is determined by the Secretary . . . to be critical”²⁸ The Migratory Bird Treaty Act (MBTA) makes it “unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill, attempt to take, capture or kill . . . any migratory bird” unless permitted by FWS.²⁹ Although certain species of migratory birds are protected under the ESA, many additional species are protected under the MBTA and not the ESA.³⁰

²³ 42 U.S.C. §§ 4321-4335.

²⁴ *Id.* § 4332(2)(c).

²⁵ 40 C.F.R. § 1508.14.

²⁶ 42 U.S.C. § 4332(2)(c).

²⁷ 16 U.S.C. § 1538(a)(1)(B). Under the ESA, “take” means “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” *Id.* § 1532(19). The ESA authorizes the Secretary of the Interior to permit any otherwise prohibited “taking” if “such taking is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity.” *Id.* § 1539(a)(1)(B).

²⁸ *Id.* § 1536(a)(2). “Federal agency” includes any “department, agency, or instrumentality of the United States.” *Id.* § 1532(7).

²⁹ *See* 16 U.S.C. §§ 703, 704(a). FWS does not issue permits for incidental or accidental takes under the MBTA.

³⁰ In addition, executive branch agencies are subject to Executive Order 13,186, which requires Federal agencies “taking actions that have, or are likely to have, a measurable negative effect on migratory bird populations” to develop and implement a Memorandum of Understanding (MOU) with FWS that “shall promote the conservation of migratory bird populations.” Exec. Order No. 13,186, 66 Fed. Reg. 3,853 (Jan. 10, 2001). Section 2(g) of Exec. Order No. 13,186 defines “Federal agency” to mean “an executive department or agency, (continued....)”

C. The Commission's Environmental Rules

9. The Commission has implemented Subpart I of NEPA in Part 1, Subpart I of its rules.³¹ Under these rules, any Commission action deemed to have a significant effect upon the quality of the human environment requires the preparation of an Environmental Impact Statement (EIS).³² Any action deemed potentially to have a significant environmental effect under categories specified in Section 1.1307(a)(1)-(8) and (b) of the rules requires the preparation of an Environmental Assessment (EA).³³ In addition, the Commission will require the preparation of an EA if it is determined that a particular action, which is otherwise categorically excluded under the rules, may have a significant environmental impact.³⁴ Actions that are deemed individually and cumulatively to have no significant effect on the quality of the human environment are categorically excluded from environmental processing, and do not require the

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but does not include independent establishments as defined by 5 U.S.C. 104.” *Id.* The Executive Order does not apply to the Commission, which is an “independent establishment.” *See* 5 U.S.C. §§ 101, 104.

³¹ *See* 47 C.F.R. § 1.1301; Amendment of Environmental Rules in Response to New Regulations Issued by the Council on Environmental Quality, *Report and Order*, 60 R.R. 2d 13 (1986) (*Order Amending Environmental Rules*).

³² 47 C.F.R. § 1.1305.

³³ *Id.* § 1.1307(a)(1)-(8), (b). Section 1.1307(a) provides that Commission action with respect to the following types of facilities may significantly affect the environment and therefore require an EA: (1) facilities that are to be located in an officially designated wilderness area; (2) facilities that are to be located in an officially designated wildlife preserve; (3) facilities that may affect listed threatened or endangered species or designated critical habitats, or are likely to jeopardize the continued existence of any proposed endangered or threatened species or likely to result in the destruction or adverse modification of proposed critical habitats, as determined by the Secretary of the Interior; (4) facilities that may affect districts, sites, buildings, structures or objects that are listed, or are eligible for listing, in the national Register of Historic Places; (5) facilities that may affect Indian religious sites; (6) facilities to be located in a flood plain; (7) facilities whose construction will involve significant change in surface features, such as wetland fill, deforestation or water diversion; and (8) antenna towers and/or supporting structures that are to be equipped with high intensity white lights which are to be located in residential neighborhoods, as defined by applicable zoning law. Section 1.1307(b) provides that Commission actions granting construction permits, licenses to transmit or renewals thereof, equipment authorizations, or modifications in existing facilities require the preparation of an EA if the particular facility, operation or transmitter would cause human exposure to levels of radiofrequency (RF) emissions in excess of the limits that the Commission has adopted. *See* 47 C.F.R. §§ 1.1310, 2.1093. An explanation of RF energy may be found in the Commission's OET Bulletin 56, *Questions and Answers About Biological Effects and Potential Hazards About Radiofrequency and Electromagnetic Fields* (4th Ed., August 1999), available at http://www.fcc.gov/Bureaus/Engineering_Technology/Documents/bulletins/oet56/oet56e4.pdf (Aug. 1999).

³⁴ *See* 47 C.F.R. § 1.1307(c), (d). Under Section 1.1307(c), an interested person may petition the Bureau responsible for processing a particular action to require environmental consideration as part of the decision-making process, where such consideration would not otherwise be required by the rules. If the Bureau determines that the action may have a significant environmental impact, it will require that an EA be prepared. Under Section 1.1307(d), the Bureau staff that is responsible for processing an action that may not otherwise require an EA shall, on its own motion, require the preparation of an EA, if the Bureau determines that the proposal may have a significant environmental impact.

preparation of an EA by the applicant or the preparation of an EIS by the agency.³⁵

10. Prior to construction, all tower owners are required to evaluate whether towers that require registration fall within one of the specified categories of facilities with potential significant environmental impact, to file an EA if they do, and to certify compliance with the environmental rules on the Antenna Structure Registration application form.³⁶ Similarly, license and certain other permit applicants are required to certify compliance with the environmental rules on the appropriate application form, depending on the particular service.³⁷ If an EA is not required, the party may proceed with the project without providing any environmental documentation to the Commission. However, if there would be such a potential impact, an EA must be submitted and a Finding of No Significant Impact or Environmental Impact Statement issued before construction.³⁸

11. Section 1.1307(a)(3) provides that an EA is required for proposed facilities that may affect listed threatened or endangered species or designated critical habitats, or are likely to jeopardize the continued existence of any proposed endangered or threatened species or likely to result in the destruction or adverse modification of proposed critical habitats, as determined by the Secretary of the Interior pursuant to the ESA.³⁹ Thus, applicants and licensees are routinely required to evaluate their construction

³⁵ 47 C.F.R. § 1.1306(a). *See also* 40 C.F.R. § 1507.3(b)(2)(ii) (CEQ's rules providing that agency procedures shall identify those typical classes of action that normally do not require either an environmental impact statement or an environmental assessment, *i.e.*, categorical exclusions); *see also* 40 C.F.R. § 1508.4 (definition of "categorical exclusion"); 40 C.F.R. §§ 1500.4(p) and 1500.5(k) (federal agencies shall reduce excessive paperwork and delay by using categorical exclusions to define categories of actions that do not individually or cumulatively have a significant effect on the human environment).

³⁶ *See* 47 C.F.R. § 17.4; Streamlining the Commission's Antenna Structure Clearance Procedure, *Report and Order*, 11 FCC Rcd 4272 (1995); FCC Form 854 (Application for Antenna Structure Registration) Item 38.

³⁷ *See, e.g.*, FCC Form 601 (Application for Wireless Telecommunications Bureau Radio Service Authorization); FCC Forms 301 and 301-CA (Application for Construction Permit for Commercial Broadcast Station; Application for Authority to Make Changes in a Class A Television Broadcast Station); FCC Form 340 (Application for Construction Permit for Reserved Channel Noncommercial Educational Broadcast Station). The Commission's rules provide that for facilities that require no Commission authorization prior to construction, the licensee or applicant is to ascertain whether the proposed facility may have a significant environmental impact or is categorically excluded under the Commission's environmental rules. 47 C.F.R. § 1.1312(a). If the proposed facility may have a significant environmental impact, appropriate environmental processing shall be completed prior to construction. *See id.* § 1.1312(b). If the proposed facility is categorically excluded under the Commission's environmental rules, construction and operation of the facility may proceed in accordance with the applicable licensing rules and procedures. *Id.* § 1.1312(c).

³⁸ *See* 47 C.F.R. § 1.1308. The Commission's rules provide that if an EA is required to be prepared, it "shall deal specifically with any feature of the site which has special environmental significance (e.g., . . . natural migration paths for birds and other wildlife . . .)." 47 C.F.R. § 1.1311(b). In adopting its initial comprehensive environmental rules in 1974, which have since been amended, *see Order Amending Environmental Rules*, the Commission stated that the location of antenna towers exceeding 500 feet in height along favored bird migration routes should be avoided, if possible and, if not, should be discussed by the applicant. Implementation of the National Environmental Policy Act of 1969, *Report and Order*, 49 FCC 2d 1313, 1328 ¶ 38 (1974), *on recons.*, 56 FCC 2d 635 (1975).

³⁹ 47 C.F.R. § 1.1307(a)(3).

projects for potential adverse effects on birds that are endangered, threatened, or otherwise subject to Section 1.1307(a)(3), and to file an EA if the terms of Section 1.1307(a)(3) are met. The Commission's rules require the solicitation and consideration of comments of the Department of Interior with respect to actions specified in Section 1.1307(a)(3) of our rules.⁴⁰ With respect to other birds, routine evaluation is not required, but an EA shall be required under Section 1.1307(c) or (d) if the relevant Bureau finds, in response to a petition or on its own motion, that the proposed construction may have a significant environmental impact other than impacts specified under Sections 1.1307(a)(1)-(8) and (b) of our rules. The Commission has acted under Section 1.1307(c) to consider the impact that proposed construction would have on migratory birds.⁴¹

D. Developments Relating to Migratory Birds and the Construction of Communications Towers

12. A Communication Tower Working Group (CTWG) consisting of representatives from the scientific, federal and state agency, environmental, consulting, and industry communities was formed under the auspices of FWS to help develop research on the effect that communications facilities may have on migratory birds. The research issues include the roles that certain factors associated with communications towers, including lighting, height, and the type of tower, may have on migratory birds. The CTWG also has sought to examine the potential for research into measures that may minimize migratory bird collisions with towers. On September 14, 2000, FWS issued its "Service Guidance on the Siting, Construction, Operation and Decommissioning of Communications Towers," which includes voluntary, interim guidelines to be used by FWS personnel and recommended for use by the communications tower industry in considering proposed tower sitings for their impacts on endangered species and migratory birds.⁴² The guidelines are to be used by FWS personnel until the CTWG's research is "completed, or until research efforts uncover significant new mitigation measures."⁴³ The guidelines are based on research conducted in several Eastern, Midwestern, and Southern states, and

⁴⁰ *Id.* § 1.1308 note; *see id.* § (a)(3).

⁴¹ *See* County of Leelanau, Michigan, *Memorandum Opinion and Order*, 9 FCC Rcd 6901, 6903 ¶ 8 & n.11 (1994) (addressing whether proposed tower would have a significant, adverse impact on migratory bird population as part of overall obligations to consider the impact of authorized facilities on the environment); Caloosa Television Corp., *Memorandum Opinion and Order*, 3 FCC Rcd 3656, 3658 ¶ 11 (1988), *recons. denied*, *Memorandum Opinion and Order*, 4 FCC Rcd 4762 (1989) (considering the impact of a proposed tower on area's migratory bird population); *see also* Letter from Linda Blair, Acting Chief, Audio Services Division, Mass Media Bureau, to Tanja L. Kozicky, Esq., 11 FCC Rcd 4163, 4166 n.10 (Audio Serv. Div. 1996) (Division addressing concerns regarding proposed construction on migratory birds consistent with Commission's overall obligations to consider the impact of authorized facilities on the environment); Baltimore County, Maryland, *Memorandum Opinion and Order*, 4 FCC Rcd 5068, 5071 ¶¶ 23-25 (Private Radio Bureau 1989), *review denied*, *Memorandum Opinion and Order*, 5 FCC Rcd 5615 (1990) (Bureau finding that proposed tower would not have a significant effect on the environment due to bird mortality).

⁴² *See* Memorandum from Jamie Rappaport Clark, Director, U.S. Fish and Wildlife Service, U.S. Department of the Interior, to FWS Regional Directors (*FWS Tower Siting Guidelines*), available at <http://migratorybirds.fws.gov/issues/towers/comtow.html> (Sept. 14, 2000).

⁴³ *Id.* *See* Section III.C., *infra* (discussing content of *FWS Tower Siting Guidelines*).

refined through FWS regional review.⁴⁴

III. REQUEST FOR COMMENTS

A. Current State of Scientific Information

13. The impact that communications towers may have on migratory birds has been the subject of study or other analysis for decades, and several reports have shown bird deaths at individual locations during a single day or over multiple years.⁴⁵ Nevertheless, it appears that current knowledge about both the extent to which towers kill migratory birds and the specific factors that may contribute to any danger is limited.⁴⁶ For example, a March 2000 review of recent literature and research in progress that was prepared for FWS, Office of Migratory Bird Management,⁴⁷ found, among other matters, that: (a) for the 5-year period 1995-1999, very little research was published or conducted that is relevant to the bird-communications tower collision issue; (b) since certain “major reviews” of the late 1970s and early 1980s, there has been little research on the subject; and (c) for the period before 1985, there is a body of literature on the issue, but most of it is anecdotal and the literature itself has not been examined analytically.

14. We seek comment on and analysis of existing scientific research and studies relating to the impact that communications towers may have on migratory birds. As previously discussed, at least one source suggests that an estimated four to five million birds may be killed each year due to collisions with communications towers,⁴⁸ and another suggests that the number may be higher.⁴⁹ In addition, there are reports of bird deaths at individual locations during one day or over time.⁵⁰ We seek comment on the

⁴⁴ *FWS Tower Siting Guidelines* (introductory letter). The guidelines were not adopted through notice and comment procedures.

⁴⁵ See, e.g., Robert L. Crawford and R. Todd Engstrom, *Characteristics of Avian Mortality at a North Florida Television Tower: A 29-Year Study*, *Field Ornithology* (Apr. 20, 2001, Allen Press) (Tall Timbers) (29-year study of birds killed at a television tower in Florida); Kemper, C., *A Study of Bird Mortality at a West Central Wisconsin TV Tower from 1957-1995*, *Passenger Pigeon* 58:219-235 (1996) (Kemper) (study over a 38-year period; single day event also described); Morris, S., Clark, A., Bhatti, L., and Glasgow, J., *Television Tower Mortality of Migrant Birds in Western New York and Youngstown, Ohio*, *Northeastern Naturalist* 10(1):67-76 (2003).

⁴⁶ Lighting on towers appears to have been documented as an attractant for migratory birds. See, e.g., Cochran, W.W. and R.R. Graber, *Attraction of nocturnal migrants by lights on a television tower*, *Wilson Bull.* 70: 378-380 (1958) (Cochran and Graber).

⁴⁷ Paul Kerlinger, *Avian Mortality at Communications Towers: A Review of Recent Literature, Research, and Methodology*, Prepared for the United States Fish and Wildlife Service, Office of Migratory Bird Management (2000) (Kerlinger), available at <http://migratorybirds.fws.gov/issues/towers/review.pdf> (Mar. 2000).

⁴⁸ See Manville (asserting that four to five million birds killed per year is a conservative estimate).

⁴⁹ See Kerlinger at 4 (claiming that estimates of birds killed annually by communications towers range between 4 and 10 million).

⁵⁰ See, e.g., Tall Timbers; Kemper; Manville (5,000-10,000 birds killed in single incident in Kansas); Erickson, *et al.*, *Avian Collisions with Wind Turbines: A Summary of Existing Studies and Comparisons to Other* (continued....)

extent of migratory bird deaths that may be attributable to collisions with communications towers, the species and geographic locations involved, and what the raw numbers mean in terms of survival of species or in other relevant contexts. We ask that comments thoroughly discuss the methods that are used to quantify any information provided on this matter.

15. We also seek comment on the adequacy and reliability of scientific research on the impact of towers on migratory birds, including whether the parties that conducted the research are considered to be experts in the field,⁵¹ and whether the research was conducted in a scientifically-acceptable and rigorous manner. Comments should address whether the research was performed over an adequate period of time. Specifically, how many years and migration seasons were studied, and why is the length of time either adequate or inadequate to support the empirical conclusion? With respect to the scope of the study and research, was it conducted in a manner that allowed all relevant variables to be considered? We generally expect that variables affecting the impact that towers may have on migratory birds are likely to fall within two categories: (a) those that may be within the control of the tower owner or licensee, such as tower lighting, height, type of tower structure, and location; and (b) those that are the result of natural phenomena, such as weather, low cloud ceilings, and fog. We seek comment on the extent to which research has considered these or other variables, and whether the research has considered the appropriate combination of variables in order to achieve reliable results. For example, were a sufficient number of towers studied in order to provide an adequate sampling and a reliable indication of the impact of towers on migratory birds? Were the towers located at different sites, and did they include a range of different towers with different variables including: height; location in different geographic settings, including proximity to migratory bird flyways; different lighting systems; and different tower structures, including the use of guy wires? Have studies used Geographic Information Systems (GIS), radar, acoustical monitoring, or other methods to assess migratory bird presence, help conduct risk assessments, and determine high bird density areas or areas of critical importance to birds? On the other hand, is it necessary for research to examine different towers in order to reflect these and other variables? For example, does a study that is conducted at a single location over a long period of time provide reliable scientific results for the Commission to use to propose changes in its rules and processes, or is it necessary for numerous towers at different locations to be studied?

16. We also seek comment on whether the research included effective protocols to account for the actual numbers of birds killed at specific towers. Specifically, did the research employ standard metrics to count dead birds at individual towers in order to provide a uniform analysis of results from all towers for comparative purposes, or was some other method used? How often and at what times of day were searches conducted, and what other methods were used to promote searcher efficiency and control

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Sources of Avian Collision Mortality in the United States, National Wind Coordinating Committee, at 11 (2001) (NWCC Report), http://www.nationalwind.org/pubs/avian_collisions.pdf (Aug. 2001).

⁵¹ The Commission has relied on other expert agencies with respect to determining appropriate standards in the environmentally sensitive area of health and safety RF emissions guidelines, when it lacked expertise to develop such guidelines on its own. See *Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation*, *Report and Order*, 11 FCC Rcd 15123, 15124 ¶¶ 1-2 & n.1, 15134-35 ¶ 28, 15150 ¶ 71 (1996), *on recons.*, *Second Memorandum Opinion and Order*, 12 FCC Rcd 13494 (1997), *aff'd*, *Cellular Phone Taskforce v. FCC*, 205 F.3d 82 (2d Cir. 2000), *cert. denied*, 531 U.S. 1070 (2001) (adopting guidelines based substantially on recommendations of the U.S. Environmental Protection Agency, the Food and Drug Administration, and on criteria published by the National Council on Radiation Protection and Measurements (NCRP) and by the American National Standards Institute/Institute of Electrical Engineers, Inc. (ANSI/IEEE); see also 47 C.F.R. § 1.1307(b).

scavenger removal (e.g., clearing of areas around the base of the tower or use of netting)? Comments should also address any other measures that were or were not used to account or control for other relevant variables, such as whether efforts were made to reduce lighting located near but not on the towers that otherwise could attract migratory birds. We seek a critical analysis of the research, which examines both the adequacies and inadequacies of the research, its methodologies, findings, and conclusions.

1. Tower Lighting

17. Lighting may be an important factor in attracting and/or disorienting migratory birds at communications towers.⁵² Particularly in inclement weather, including cloudy nights, birds entering an illuminated area may be reluctant to leave and may be susceptible to colliding with lighted towers, their supporting guy wires, or each other.⁵³ It has been suggested that the color of tower lights, such as white, white with ultraviolet, or a specific color like red, and the duration of any pulse in the lights, such as strobe, slow flash, or steady pulse, may be factors that can alter the attraction of lighting to migratory birds.⁵⁴ The intensity of light, e.g., in lumens, also may play a role. Some reports suggest that white strobe lights may be less attractive to neotropical migratory species than steady or flashing red incandescent lights,⁵⁵ while the attraction of red strobe lights to migratory birds is currently unknown.

18. We seek comment on whether and why lighted towers attract birds, and whether different lighting systems increase the potential for migratory bird collisions with communications towers. We seek information on whether studies document any difference in risk posed by lighting systems that use lights of different color or different rates of flash, pulse, or strobe (including red or white strobe). Comments also should address the effects of lighting color, duration, intensity, and type (e.g., incandescent, strobed, neon, or laser) on bird attraction, especially at night during inclement weather and

⁵² See Manville, citing Crawford, R.L. and Engstrom, R.T., Remarks on Lights, Towers, and Avian Mortality: Where is the Science at 117th Meeting of the Am. Ornithologist's Union at Cornell Univ., Conference on Avian Mortality at Communication Towers (Aug. 11, 1999), available at <http://migratorybirds.fws.gov/issues/towers/engstrom.html> (last visited August 14, 2003); Cochran and Graber.

⁵³ See Manville, citing Graber, R.R., *Nocturnal Migration in Illinois -- Different Points of View*, Wilson Bull. 80: 36-71 (1968). The Tall Timbers research controlled its study to account for cloud ceiling height, which it asserts was the most important weather factor in causing bird deaths at the location. See Tall Timbers at 381, 385.

⁵⁴ See Manville, citing Beason, R.C., Remarks on The Bird Brain: Magnetic Cues, Visual Cues, and Radio Frequency (RF) Effects at 117th Meeting of the Am. Ornithologist's Union at Cornell Univ., Conference on Avian Mortality at Communication Towers (Aug. 11, 1999), available at <http://migratorybirds.fws.gov/issues/towers/beason.html> (last visited August 14, 2003). Although further research may be necessary, the retina of a bird's eye is sensitive to red and ultraviolet spectra, and thus birds may be attracted to red lights. See Manville.

⁵⁵ See Manville, citing Gauthreaux, S.A., Jr. and Belser, C.G., Remarks on the Behavioral Responses of Migrating Birds to Different Lighting Systems on Tall Towers at 117th Meeting of the Am. Ornithologist's Union at Cornell Univ., Conference on Avian Mortality at Communication Towers (Aug. 11, 1999), available at <http://migratorybirds.fws.gov/issues/towers/gauttalk.html> (last visited August 14, 2003). See also *FWS Tower Siting Guidelines* No. 5 (stating that current research indicates that solid or pulsating (beacon) red lights attract night-migratory birds at a higher rate than white strobe lights). However, evidence relating to which form of lighting may be attractive to neotropical migratory birds may not apply to seabirds or other species.

during spring and fall migrations. In addition, we ask that commenters take into consideration, where appropriate, the impact of different tower lighting systems on human communities. Further, are particular lighting systems or colors more or less attractive to migratory birds based on differing tower heights? We also ask that commenters recommend specific lighting systems to minimize migratory bird collisions with towers, to the extent supported by scientific findings.

19. Air safety and navigation issues are related to the painting and lighting of towers. The FAA has established painting and lighting advisory specifications for air safety and navigation purposes, and our rules require that the owners of communications towers paint and light their antenna structures in accordance with those advisory specifications.⁵⁶ We seek comment on the impact, if any, that our painting and lighting requirements may have on migratory bird collisions with towers. Comments should address and suggest solutions to any conflicts that may exist between the advisory specifications and other related rules on the one hand, and causes of migratory bird collisions on the other. Comments and suggestions also should consider air safety and navigation concerns relating to towers and their lighting and marking (*e.g.*, towers are marked and lighted to be visible to pilots), and the obligations of the Commission with respect to air safety and navigation.

2. Tower Height

20. The height of towers may contribute to the extent of their impact on migratory birds. One report suggests that an important analysis would be to compare towers of different heights, that there have been relatively few studies of towers less than 400 feet in height, and that certain literature, although perhaps only suggestive, does not generally implicate such shorter towers in a significant number of bird deaths.⁵⁷ Research conducted at two specific locations suggests that taller towers, and the structures associated with them, may increase avian mortality at those sites.⁵⁸ However, it has been suggested that these and other studies do not definitively establish that tall towers are responsible for more bird deaths than shorter towers,⁵⁹ and the apparent lack of mortality studies at short towers may make it premature to assume that short towers cause fewer bird deaths than tall towers.⁶⁰

21. We seek comment on the role of tower height as a cause of collisions by migratory birds with communications towers. Are there reliable scientific studies that compare the impacts on migratory birds of towers of different heights, and do they control for other variables such as geographic location, proximity to bird movement corridors, and prevailing weather conditions? If there are such studies, what

⁵⁶ See 47 C.F.R. §§ 17.6(a), 17.22, 17.23, and note preceding 47 C.F.R. § 17.45.

⁵⁷ See Kerlinger at 30.

⁵⁸ See Kemper at 230 (identifying tower height of at least 400 feet as one of several major factors that cause severe problems for migratory birds); Tall Timbers at 380, 383 (finding that far fewer birds were killed when tower was 94 meters (approximately 300 feet) than when the tower was in the 200-300 meter range of height); Kerlinger at 14-15 summarizing Kemper (noting that dead birds were found only after the height of the tower was increased from 500 to 1,000 feet, and that height, guy wires, and weather were responsible for the bird deaths).

⁵⁹ See Kerlinger at 2 (discussing certain studies).

⁶⁰ Cf. Kerlinger at 30 (discussing that literature is nearly devoid of information about bird deaths and collisions at small towers (less than 400 feet)).

are the results and the significance, if any, for determining the height of tower that may pose the greatest or least risk to migratory birds? Do studies examine whether short towers have less impact on migratory birds than tall towers, and do they identify the heights of the towers that were studied? The comments should consider and document, to the extent possible, whether there is a height threshold at which avian mortality becomes significant to an avian population, and any other factors that may lead to a determination of critical tower height for purposes of minimizing migratory bird collisions with towers, including whether the critical height threshold may be different in different geographic locations or weather conditions. We also ask that comments address the relationship, if any, of tower height with other factors, such as lighting, and whether there are situations where tower height could be limited to deter collisions by birds with towers yet still allow the provision of reliable communications services.

3. Type of Antenna Structure

22. The type of antenna support structure may be another important factor in the extent to which communications towers have an impact on migratory birds. For example, guy wires could create a level of risk to migratory birds that is not present with unguyed towers.⁶¹ We seek comment on what impact, if any, different tower structures may have on migratory birds. Comments should include any studies or research on this issue, and should address the relative impact on migratory birds of guyed towers, self-supporting lattice towers, monopole towers, or other structures such as “hidden” towers that are made to resemble trees, for example. Are there factors that may make a particular type of tower structure more or less of a risk to migratory birds? For example, would guyed towers pose more of a risk than other tower structures to migratory birds at night in inclement weather? We also seek comment on whether particular tower designs or potential deterrent devices such as visual markers may deter migratory birds from towers.

4. Location of Antenna Structures and Other Factors

23. We seek comment on research or other data relating to any other matters within the scope of this inquiry. For example, is there information concerning the impact on migratory birds of communications towers located in or near specific habitats, such as wetlands, which may be a possible location of migratory bird populations? Do towers on ridges, mountains, or other high ground have a differential impact on migratory bird populations and, if so, are there scientifically rigorous studies that address such effects and their causes? We seek comment on the impact on migratory birds, if any, of locating towers in areas with a high incidence of fog, low clouds, or similar obscuration, in proximity to coastlines and major bird movement corridors, or either clustered near or dispersed from other towers. Comments on the role of any of these factors should consider the extent of any such impact during migration seasons. We also seek comment on any other factors that may influence the impact of communications towers on migratory birds. In addition, are data available from studies of non-communications facilities which may be relevant on the issue of the impact of communications facilities on migratory birds? If such information is relied upon, commenting parties should establish the relevance of that information and the relationship of facilities used in those other industries to facilities used in the communications industry.

24. Certain migratory bird species may hold particular cultural or religious significance to Indian Tribes. The Commission has made a commitment to consult with federally recognized Indian tribes to the

⁶¹ See Kemper at 230 (presence of guy wires supporting tower is a major danger factor to birds); Manville (Known and Suspected Problems).

extent practical prior to implementing any regulatory action or policy that will significantly or uniquely affect Tribal governments, their land and resources.⁶² Consistent with that commitment, we specifically seek comments from the Tribes and other parties on whether any of the questions raised in this inquiry will significantly impact Tribal governments, their land, and resources.

B. Need for and Scope of Additional Study

25. In the event that parties believe that existing research is insufficient to permit the Commission to address fully the issue of migratory bird collisions with towers, we seek comment on what additional study or studies may be needed. We ask for comment on what variables the research should address, including possible lighting regimes, tower height, type of structure, location, and impact of different weather conditions. Comments should discuss the specific scope and parameters of recommended studies, including: the number of towers; different lighting regimes to be studied; whether a range of towers with different heights should be included; the geographic positioning of towers, including such factors as the incidence of inclement weather, topography, and proximity to areas that may be attractive to migrating birds, such as wetlands; and the different tower structures such as guyed or unguyed, including monopole, lattice, or other structures. We also seek comment on what types of procedures should be used to monitor birds that may be killed at communications towers during these studies.⁶³ In addition, we request comment on whether studies can be structured specifically to research potential methods of reducing the potential for migratory bird collisions with towers.

26. Commenters should consider how much time would be needed to complete a new study or studies. Specifically, how many fall and spring migration seasons should be covered by any research, and how many summer seasons, if any, would be needed to monitor impacts on breeding, nesting, and local resident avian species? We seek comment on the factors that would impact the length of any study, including the number of towers that would be the subject of the research, and the particular testing procedures that would be used. In addition, there may be unpredictable factors, such as weather, that affect the time that it would take to complete a study. Estimates of the length of a study also should identify whether the estimates include the preparation of smaller pilot studies that may be needed to obtain meaningful data that would be used to design a broader and more in-depth study. We also seek comment on whether pilot studies followed by one or more larger studies are necessary, or whether one or more smaller studies could yield sufficient information on which the Commission could base future actions respecting migratory bird issues. If one or more smaller studies alone would be adequate, comments should address the relevant protocols. We further seek comment on the potential value of monitoring bird deaths at particular towers outside the context of a formal study, either in addition to or in lieu of such studies.

27. We also seek comment on the appropriate party or parties to design and conduct a study. The Commission is not an expert in the area of migratory birds, and we seek comment on what other entity might appropriately oversee any research that could be used to establish relevant standards for the Commission's use. In this regard, we note that the FWS is the lead federal agency for managing and conserving migratory birds, and its Division of Migratory Bird Management undertakes a number of

⁶² See Statement of Policy on Establishing a Government-to-Government Relationship with Indian Tribes, *Policy Statement*, 16 FCC Rcd 4078, 4081 (2000).

⁶³ See *supra* ¶ 16 (discussion relating to monitoring tower sites for dead birds).

surveys in conjunction with the FWS Regional Offices.⁶⁴ We also seek comment on any ongoing or planned studies with which the Commission might coordinate in order to achieve synergies and avoid duplication of effort.

28. Another important consideration is the cost of a study and the source of funding. Cost can vary widely depending, in part, on the length of the study, the number of towers to be included, the extent of the geographic area, and particular tower features such as height and lighting. Sources for funding such studies have been difficult to identify.⁶⁵ Comments should address both the estimated cost of any studies and potential sources of funding.

C. Suggested Methods to Minimize Impacts

29. We seek comment on whether existing studies or research address the use of particular methods to minimize any impact of communications towers on migratory birds. For example, would particular lighting systems, devices located on or near facilities to deter migratory birds, or other measures help to minimize bird collisions with communications towers? Comments should identify any particular methods, discuss the extent to which they have been used on communications towers or other similar relevant structures, and quantify the results of their use. In addition, would alternative siting of towers to avoid particular areas be a reasonable method to minimize impacts, and are there alternate technologies available that would permit fewer and/or shorter towers to be built, yet still permit communications needs to be met? On the other hand, would the use of alternate siting be constrained by existing technology, the need for communications carriers to provide coverage for their services, build-out requirements under the Commission's rules, or any other requirements? In addition, do certain parts of towers, e.g., top, middle, or lower sections, pose more or less of a potential for collisions with migratory birds and, if so, are there specific construction techniques, deterrent actions, or other methods that would be useful to minimize impacts?

30. The *FWS Tower Siting Guidelines* encourage certain measures that FWS says will "provide significant protection for migratory birds pending completion" of the CTWG's recommendations.⁶⁶ The voluntary guidelines, which FWS recommends for use by all companies, license applicants, or licensees proposing new tower sitings, include to the extent feasible: collocation of antennas on existing towers or other structures rather than new tower construction; where collocation is not feasible, construction of new towers that are no taller than 199 feet above ground level without guy wires or lighting; siting new towers within existing tower farms; and use of the minimum acceptable amount of pilot warning and obstruction avoidance lighting recommended by the FAA for towers that require lights for aviation safety.⁶⁷ As described above, FWS intended the guidelines for interim use, and they were established in anticipation

⁶⁴ See FWS, Div. of Migratory Bird Mgmt., About Us, at <http://migratorybirds.fws.gov/INTROMSG.HTML> (last visited August 14, 2003); FWS, Div. of Migratory Bird Mgmt., Bird Monitoring, at <http://migratorybirds.fws.gov/statsurv/mntrtbl.html> (last revised Aug. 21, 2001).

⁶⁵ A possible source of funding may be matching funds from the National Fish and Wildlife Foundation. See National Fish and Wildlife Foundation, Foundation Grant Programs, at <http://www.nfwf.org/programs/programs.htm> (last visited August 14, 2003).

⁶⁶ *FWS Tower Siting Guidelines*.

⁶⁷ *Id.*

of further action by the CTWG.⁶⁸ Further, FWS states that the guidelines would be "updated as new information becomes available."⁶⁹ Thus, these guidelines were not adopted as final measures, but were developed with the understanding that determining the appropriate methods to minimize the impact of communications towers on migratory birds would be an ongoing process.⁷⁰

31. We request comment on the scientific basis for these guidelines, the general use of the guidelines and the use of each of the specific guidelines, and any other potential measures to minimize impacts on migratory birds within the scope of our current rules. For example, comments could consider whether an MOU or other agreement between the Commission and other agencies, such as the FWS, could be used to specify the process to review potential impacts of antenna support structures on migratory birds, or to help facilitate any necessary research on the matters addressed in this inquiry.⁷¹ Comments also should address whether the current state of scientific knowledge on causes of bird collisions with communications towers supports the use of any or all of the *FWS Tower Siting Guidelines*. Further, does current scientific evidence support a finding that particular towers do not significantly pose a threat to migratory birds? For example, does such evidence exist relating to towers of a particular height, *e.g.*, unlit towers that are less than 200 feet in height, or towers that use particular lighting, *e.g.*, towers with primarily white strobe lighting? Commenters in particular should address the relationship of any measures they support or oppose with the current state of scientific knowledge. Comments also should consider how best to implement any of these matters within the current structure of our rules.

32. Particular guidelines intended to minimize impacts on migratory birds may, depending on their application, have an impact on Commission licensees, applicants, or other parties with respect to tower design and engineering, the ability to provide necessary communications services, liability, and costs. We seek comment on what effects, if any, the recommended FWS guidelines or other efforts to minimize impacts have had in these areas. Specifically, comments should address whether current or potential increased application of any of the guidelines would contribute to delay in tower construction, the provision of Commission-licensed services, or the transition to digital television. Comments should address advantages and disadvantages associated with different means of implementing the FWS guidelines, possible revisions to those guidelines, or other measures.

33. The Commission licenses and regulates the use of radio transmitters by state and local governments in public safety activities. We seek comment on the impact that restrictions or guidelines regarding tower siting and construction to protect migratory birds may have on the use of radio transmission for public safety. What would be the effect on the coverage provided by towers used to provide public safety service if those towers were, for example, subject to restrictions on height or other features in order to protect migratory bird populations? We also seek comment on what impact tower construction restrictions may have on homeland security objectives. In addition, are there other potential conflicts between potential measures to minimize impacts of communications towers on migratory birds

⁶⁸ See *supra* ¶ 12.

⁶⁹ *FWS Tower Siting Guidelines*.

⁷⁰ In addition, we note that FWS did not seek formal public comment on the guidelines. Therefore, all parties with a potential interest may not have had the opportunity to participate in the development of the guidelines and present their own relevant scientific data.

⁷¹ As noted above, the Commission is not required to enter into an MOU with FWS under Executive Order 13,186 with respect to migratory birds. See *supra* note 30.

and the availability of communications towers to address security concerns?

34. The Commission is committed to serving all parties interested in the impact that communications towers may have on migratory birds as well as resources allow. To this end we seek comment on ways that the Commission can do so better. What can the Commission do to meet its responsibilities under relevant statutes and rules better? Should the Commission develop additional staff expertise on avian mortality issues? Would the expertise of an ecologist or environmental biologist be helpful? What staff backgrounds are most important? What additional training should be made available for existing staff? Are there Commission procedures or rules that impede industry's or environmental groups' efforts to address issues related to avian mortality? For example, are there aspects of our EA requirements that could be improved with respect to migratory bird issues? Is there data that the Commission collects that could be of assistance to researchers in this field?

IV. PROCEDURAL ISSUES

A. *Ex Parte* Presentations

35. This is an exempt proceeding in which *ex parte* presentations are permitted (except during the Sunshine Agenda period) and need not be disclosed.⁷²

B. Filing of Comments and Reply Comments

36. We invite comment on the issues and questions set forth above. Pursuant to applicable procedures set forth in sections 1.415 and 1.419 of the Commission's rules, 47 C.F.R. §§ 1.415, 1.419, interested parties may file comments on or before **60 days after the date of publication of a summary of the Notice of Inquiry in the Federal Register**, and reply comments on or before **90 days after the date of publication of a summary of the Notice of Inquiry in the Federal Register**.

37. Comments may be filed using the Commission's Electronic Comment Filing System (ECFS) or by filing paper copies.⁷³ Given recent changes in the Commission's mail delivery system, parties are strongly urged to use the ECFS to file their pleadings. Comments filed through the ECFS can be sent as an electronic file via the Internet to <<http://www.fcc.gov/e-file/ecfs.html>>. Generally, only one copy of an electronic submission must be filed. In completing the transmittal screen, electronic filers 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 receive filing instructions for e-mail comments, commenters should send an email 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.

38. Parties who choose to file by paper must file an original and four copies of each filing. All filings by mail (including U.S. Postal Service Express Mail, Priority Mail and First Class Mail) must be sent to the Commission's Secretary, Marlene H. Dortch, Federal Communications Commission, Office of the Secretary, 445 12th Street, S.W., Washington D.C. 20054. All filings sent to the Commission by overnight delivery, *e.g.*, Federal Express (other than by U.S. Postal Service Express Mail and Priority Mail), must be sent to the Commission's Secretary, Marlene H. Dortch, Federal Communications Commission, Office of the Secretary, 9300 East Hampton Drive, Capitol Heights, MD 20743. All hand-

⁷² 47 C.F.R. § 1.1204(b)(1).

⁷³ See Electronic Filing of Documents in Rulemaking Proceedings, 63 Fed. Reg. 24,121 (May 1,1998).

delivered or messenger-delivered filings must be delivered to the Commission's filing location at 236 Massachusetts Avenue, N.E., Suite 110, Washington, D.C. 20002-4913. The filing hours at this facility are 8:00 a.m. to 7:00 p.m. All hand deliveries must be held together with rubber bands or fasteners. Any envelopes must be disposed of before entering the building.

39. Parties who choose to file by paper should also submit their comments on diskette to: G. William Stafford, Commercial Wireless Division, Wireless Telecommunications Bureau, Federal Communications Commission, 445 12th Street, S.W., Washington, D.C. 20554. The required diskette copies of submissions should be on 3.5-inch diskettes formatted in an IBM compatible format using Microsoft Word or compatible software. Each diskette should be accompanied by a cover letter and should be submitted in "read only" mode. The diskette should be clearly labeled with the commenter's name, proceeding, type of pleading (comment or reply comment), date of submission, and the name of the electronic file on the diskette. The label should also include the following phrase "Disk Copy – Not an Original." Each diskette should contain only one party's pleadings, preferably in a single electronic file. In addition, commenters must send diskette copies to the Commission's copy contractor, Qualex International, Portals II, 445 12th Street S.W., CY-B402, Washington, D.C. 20554.

40. Regardless of whether parties choose to file electronically or by paper, parties should also serve the following with either one copy of each filing via e-mail or two paper copies: (1) Qualex International, Portals II, 445 12th Street, S.W., Room CY-B402, Washington, D.C., 20554 (telephone (202) 863-2893; facsimile (202) 863-2898) or e-mail at qualexint@aol.com; and (2) G. William Stafford, Federal Communications Commission, Room 6329, 445 12th Street, S.W., Washington, D.C. 20554, or e-mail at Bill.Stafford@fcc.gov.

41. Comments and reply comments will be available for public inspection during regular business hours in the FCC Reference Information Center, Federal Communications Commission, 445 12th Street, S.W., Room CY-A257, Washington, D.C. 20554. These documents also will be available electronically from the Commission's Electronic Comment Filing System. Copies of filings in this proceeding may be obtained from Qualex International, Portals II, 445 12th Street, S.W., Room CY-B402, Washington, D.C., 20554, telephone (202) 863-2893, facsimile (202) 863-2898, or via e-mail at qualexint@aol.com. To request materials in accessible formats for people with disabilities (braille, large print, electronic files, audio format), send an e-mail to fcc504@fcc.gov or call the Consumer & Governmental Affairs Bureau at 202-418-0531 (voice), 202-418-7365 (tty).

V. ORDERING CLAUSES

42. Accordingly, IT IS ORDERED that, pursuant to the authority contained in Sections 1, 4(i), 303(r) of the Communications Act, 47 U.S.C. Sections 151, 154(i), and 303(r), this Notice of Inquiry is ADOPTED.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch
Secretary