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

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FCC Mail Room

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 PROPOSED RULEMAKING

Adopted: November 3, 2006 **Released: November 7, 2006**

Comment Date: (60 days from publication in the Federal Register)
Reply Comment Date: (90 days from publication in the Federal Register)

By the Commission: Commissioners Copps, Adelstein, and McDowell issuing separate statements.

TABLE OF CONTENTS

Heading Paragraph #

I. INTRODUCTION 1
II. BACKGROUND 4
A. Environment Protection Statutes and Regulations 7
B. The Notice of Inquiry (*NOI*) 12
C. The Avatar Report and Comments 22
D. Studies at Michigan Public Safety Communications System (MPSCS) Towers 30
III. DISCUSSION 32
A. Legal Framework 33
B. Possible Need for Commission Action 36
C. Possible Commission Actions 38
1. Lighting requirements 38
2. Use of Guy Wires 48
3. Tower Height 56
4. Tower Location 59
5. Collocation 60
6. Section 1.1307 61
7. Other Possible Actions. 65
IV. PROCEDURAL MATTERS 66
A. *Ex Parte* Rules – Permit-But-Disclose Proceeding 66
B. Initial Regulatory Flexibility Act Analysis 67
C. Initial Paperwork Reduction Act of 1995 Analysis 68
D. Comment Period and Procedures 69
E. Further Information 70

V. Ordering Clauses 71
APPENDIX A – Initial Regulatory Flexibility Analysis
APPENDIX B – List of Commenters

I. INTRODUCTION

1. This Notice of Proposed Rulemaking seeks comment on whether the Commission should take measures to reduce the number of instances in which migratory birds collide with communications towers. In the Migratory Bird Notice of Inquiry (*NOI*), released in August 2003, the Commission launched an inquiry regarding the impact that collisions with communications towers may have on migratory birds. The *NOI* requested information supported by scientific evidence on a number of topics in three general categories: the number of migratory bird collisions with communications towers; the role that certain factors, such as lighting, height and type of antenna structure, weather, location, and migration paths, might play in the incidence of such collisions; and the effectiveness of any measures to mitigate migratory bird collisions with communications towers. The Commission stated that based on the record developed in response to the *NOI*, it would consider whether further Commission action is warranted, including possible amendments of the environmental rules.[1]

2. In response to the *NOI*, the Commission received comments and *ex parte* submissions from a variety of telecommunications companies, tower companies, trade associations, federal and state government agencies, environment protection organizations, and American Indian tribes, as well as from concerned citizens.[2] Representatives of the communications industry generally argue there is no statutory or regulatory authority, nor sufficient, reliable, scientific research, to support the Commission's adoption of new measures to protect migratory birds. Other commenters, however, argue there is sufficient evidence of mass bird mortalities at communications towers to support, or require, the adoption of lighting and other requirements to protect migratory birds. To assist the Commission in evaluating the quality and sufficiency of the existing research, the agency hired an environmental consulting firm, Avatar Environmental LLC (Avatar). After Avatar furnished a report with its findings and recommendations, the Wireless Telecommunications Bureau issued a Public Notice seeking comments and reply comments in response to the report.[3]

3. We tentatively conclude that, for communications towers subject to our Part 17 rules, medium intensity white strobe lights for nighttime conspicuity is to be considered the preferred system

[1] In the Matter of Effects of Communications Towers on Migratory Birds, *Notice of Inquiry*, WT Docket No. 03-187, 18 FCC Rcd 16938 ¶ 1 (2003) (*NOI*).

[2] Citations to Comments and Reply Comments filed in response to the *NOI* are designated "[Name of Party] *NOI* Comments (or Reply Comments) at [page number]." A list of commenters can be found in Appendix B. In addition to the names on that list, more than three thousand concerned citizens, most of whom are members of the National Audubon Society, filed brief comments both during and after the formal comment periods asking the Commission to: comply with federal environmental statutes; immediately implement the U.S. Fish and Wildlife Service voluntary guidelines; and undertake extensive research into the impact that communications towers have on migratory birds. The complete record in this proceeding (WT Docket No. 03-187) is available in the Electronic Comment Filing System located at http://www.fcc.gov/searchtools.html.

[3] "Wireless Telecommunications Bureau Seeks Comment on Avatar Environmental, LLC, Report Regarding Migratory Bird Collisions with Communications Towers," *Public Notice*, 19 FCC Rcd 24007 (WTB 2004) (*Avatar Public Notice*). Citations to Comments and Reply Comments filed by a party in response to the *Avatar Public Notice* are designated "[Name of Party] *Avatar PN* Comments (or Reply Comments) at [page number]." These commenters are also listed in Appendix B.

over red obstruction lighting systems to the maximum extent possible without compromising safety. We seek comment on whether scientific evidence supports such a requirement and, if so, how it should be implemented. In addition, we request comment on the possible adoption of various other measures that might serve to mitigate the impact of communications towers on migratory birds.

II. BACKGROUND

4. Communications towers are part of the infrastructure necessary to provide many of the services licensed by the Commission, such as broadcast television and radio, cellular, Personal Communications Services ("PCS"), public safety systems and other advanced and emerging services. Although new communications antennas can often be collocated on existing towers or other structures such as buildings, in many instances the deployment of services requires construction of new antenna structures. Several factors, such as construction costs, government regulations, the availability of a willing landowner, and the engineering requirements of a service provider, can influence the decision whether to collocate a new communications antenna on an existing structure or construct a new tower. Designs of communications towers may differ. For instance, communications towers may be supported by guy wires or can be self-supporting, again potentially depending on various engineering, economic, environmental, or historic preservation factors.[4] Communications towers range widely in height, with many being under 100 feet above ground level (AGL), others over 1,000 feet AGL, and different heights in-between.

5. The Commission and the FAA each has statutory responsibilities related to ensuring that antenna structures do not present a hazard to air safety.[5] Specifically, Section 303(q) of the Communications Act of 1934, as amended (Communications Act), authorizes the Commission to prescribe painting and/or illumination of radio towers when there is a "reasonable possibility" that an antenna structure may cause a hazard to air navigation, and requires permittees, licensees, and tower owners to maintain such lighting and/or illumination.[6] Section 1501 of the Federal Aviation Act authorizes the FAA to require that persons proposing to erect a structure provide notice to the FAA, when such notice will promote air safety.[7] Under current rules, each tower owner proposing to construct or alter an antenna structure that is more than 200 feet (60.96 meters) in height, or that may interfere with the approach or departure space of a nearby airport runway, must notify the FAA of the proposed construction and must register the tower with the Commission.[8] The FAA considers whether the proposed structure constitutes a potential hazard, and may recommend appropriate painting and lighting for the structure.[9] The Commission requires that each owner or constructor of a proposed structure providing such notice to the FAA must, in turn, register the structure in the Commission's database, at

[4] For example, in some circumstances tower designs that present more intrusive profiles may be disfavored due to matters such as historic properties, wetlands, or endangered species.

[5] Streamlining the Commission's Antenna Structure Clearance Procedure, *Report and Order,* 11 FCC Rcd 4272 (1995) (*Antenna Structure Procedure Order*).

[6] 47 U.S.C. § 303(q); *Antenna Structure Procedure Order*, 11 FCC Rcd at 4274 ¶ 3; *see also* 47 U.S.C. § 503(b)(5) (providing that non-licensee antenna structure owners may be subject to forfeiture for violations of painting or lighting requirements as specified by the Commission).

[7] 49 U.S.C. § 44718.

[8] *See* 14 C.F.R. § 77.13 (FAA rules); 47 C.F.R. § 17.7 (FCC rules).

[9] 14 C.F.R. § 77.19(b); *see Antenna Structure Procedure Order* at 4274 ¶ 3.

which time the Commission imposes specific marking and lighting requirements on the tower owner.[10] Although the Commission ordinarily prescribes marking and lighting based on the FAA's recommendations, the Commission retains, consistent with statutory authority, the ability to specify different requirements when appropriate.[11] As of November 2, 2006, approximately 104,703 antenna structures were registered with the Commission.[12]

6. The Department of the Interior's United States Fish and Wildlife Service (FWS) is the federal agency with primary authority to enforce federal statutes intended to protect migratory birds and other wildlife.[13] FWS currently lists 711 species of migratory birds.[14] It estimates that 350 species of neo-tropical songbirds on the list of migratory birds breed in the temperate climates of the United States and in Canada and, in the fall of each year, travel long distances to as far as South America for the winter.[15] In 2002, FWS published a report in which it estimated that "a minimum of 10 billion birds breed in North America" and that the population level of migratory birds during the fall season could be about 20 billion.[16] FWS has also estimated that the number of migratory birds killed each year as a result of collisions with communications towers could range from 4 to 50 million.[17]

A. Environment Protection Statutes and Regulations

7. Federal statutes that may be pertinent to the Commission's obligation to protect migratory birds include the National Environmental Policy Act of 1969 (NEPA),[18] the Endangered Species Act (ESA),[19] and the Migratory Bird Treaty Act (MBTA).[20] Although NEPA does not mandate

[10] 47 C.F.R. §§ 17.4, 17.23. A fuller discussion of the statute and regulations pertinent to compliance with FAA lighting specifications is set forth in para. 37, *infra*. The registration process is generally completed online at the Commission's Antenna Structure Registration website http://wireless.fcc.gov/antenna/. This website provides comprehensive information about the registration process and the Part 17 rules.

[11] *See* 47 U.S.C. § 303(q); 47 C.F.R. § 17.23 (tower owner shall comply with FAA's painting and lighting recommendations "[u]nless otherwise specified by the Commission").

[12] This includes antenna structures that currently exist or that have been proposed to be built or modified.

[13] 16 U.S.C. § 701.

[14] In 2003, when the Commission released the *Migratory Bird NOI*, FWS had listed 836 migratory bird species. In 2004, Congress enacted the Migratory Bird Treaty Reform Act that required, among other things, a delisting of nonnative bird species that have been introduced by humans into the United States or its territories and to which the Migratory Bird Treaty Act (MBTA) does not apply. Migratory Bird Treaty Reform Act of 2004 (Division E, Title I, Sec. 143 of the Consolidated Appropriations Act, 2005), Pub. L. 108-447. To comply with that statute, FWS reduced its list of species protected by the MBTA to 711. Final List of Species to Which the Migratory Bird Treaty Act Does Not Apply, 70 Fed. Reg. 12710 (rel. March 15, 2005).

[15] *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). According to this report, neo-tropical songbirds are particularly vulnerable to collisions with communications towers.

[16] CTIA *NOI* Comments at Exhibit B (U.S. Fish & Wildlife Service, Migratory Bird Mortality: Many Human Caused Threats Afflict our Bird Populations, at 1 (Jan. 2002)).

[17] FWS *NOI* Comments at 3.

[18] 42 U.S.C. §§ 4321-4335.

[19] 16 U.S.C. § 1531 *et seq.*

[20] 16 U.S.C. § 703 *et seq.*

particular substantive actions to protect the environment,[21] it requires federal agencies to establish procedures to identify and take into account the environmental impact of actions that they undertake or authorize.[22] Federal agencies must prepare an environmental impact statement (EIS) before taking any "major federal action[] significantly affecting the quality of the human environment."[23] Federal agencies must also obtain the comments of expert Federal agencies before taking any major action significantly affecting the quality of the human environment.[24] The Council on Environmental Quality (CEQ),[25] which Congress created to provide guidance on NEPA, has issued regulations that permit an agency to prepare a more limited Environmental Assessment (EA) in order to determine whether an EIS is necessary for a particular action.[26] An agency that decides, pursuant to an EA, that no EIS is required must issue a "finding of no significant impact" (FONSI).[27] A federal agency may also determine, pursuant to agency procedures, that certain types of actions are "categorically excluded," because such actions do not individually or cumulatively have a significant effect on the human environment, and therefore such actions normally do not require an EIS or EA.[28]

8. The ESA prohibits the taking of any endangered species by any person unless authorized by FWS.[29] The ESA also provides that "[e]ach Federal agency shall, in consultation with and with the assistance of the Secretary [of the Interior], ensure 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 . . . ."[30] The 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.[31] Certain species of migratory birds are protected under the

[21] *Department of Transportation v. Public Citizen*, 541 U.S. 752, 756 (2004); *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989).

[22] 42 U.S.C. §§ 4321-4335; *Public Citizen*, 541 U.S. at 756; *Methow Valley Citizens Council*, 490 U.S. at 350.

[23] 42 U.S.C. § 4332(2)(C). CEQ's regulations define the "human environment" to include the natural and physical environment and the relationship of people with that environment. 40 C.F.R. § 1508.14.

[24] 42 U.S.C. § 4332(2)(C).

[25] 42 U.S.C. § 4321.

[26] 40 C.F.R. §§ 1501.3, 1508.9.

[27] 40 C.F.R. § 1501.4(e).

[28] 40 C.F.R. §§ 1501.4(a), 1508.4.

[29] 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).

[30] *Id.* § 1536(a)(2). "Federal agency" includes any "department, agency, or instrumentality of the United States." *Id.* § 1532(7).

[31] *See* 16 U.S.C. §§ 703, 704(a). Although FWS issues migratory bird "take" permits for certain activities, it does not issue permits, under the MBTA, for incidental or accidental takes in the course of activities undertaken for purposes unrelated to migratory birds. U.S. Fish & Wildlife Service Manual, Part 724, Section 2 (dated August 6, 2003) (providing for permits to qualified applicants for the following types of migratory bird-related activities: import/export, scientific collecting, taxidermy, waterfowl sale and disposal, educational use, game bird propagation, salvage, falconry, raptor propagation, rehabilitation, control of depredating migratory birds, and special purpose activities).

ESA, and many additional species are protected under the MBTA and not the ESA.[32]

9. The Commission has implemented NEPA and CEQ's procedural requirements in Part 1, Subpart I of its rules.[33] Under these rules, any action that would have a significant effect upon the quality of the environment requires the preparation of an EIS.[34] 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 EA.[35] All other actions are deemed individually and cumulatively to have no significant effect on the quality of the human environment and are categorically excluded from environmental processing, and thus do not ordinarily require the preparation of an EA by the applicant or the preparation of an EIS by the agency.[36] Even if a proposed action is of the type that is categorically excluded under the rules, however, the Commission will require the preparation of an EA if it determines that particular action may have a significant environmental impact.[37]

10. Section 1.1307(a)(3) provides that an EA is required for proposed facilities, including

[32] In addition, executive branch agencies are subject to Executive Order 13186, 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. 13186, 66 Fed. Reg. 3853 (Jan. 10, 2001). Section 2(g) of Exec. Order No. 13186 defines "Federal agency" to mean "an executive department or agency, 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.

[33] 47 C.F.R. § 1.1301 *et seq*; 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).

[34] 47 C.F.R. § 1.1305. The Commission has identified no common fact pattern which would enable it to specify actions that automatically require an EIS. *Id.*

[35] 47 C.F.R. § 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 are 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 guidelines that the Commission has adopted. *See* 47 C.F.R. §§ 1.1310, 2.1093.

[36] 47 C.F.R. § 1.1306(a).

[37] 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, 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 shall, on its own motion, require the preparation of an EA, if the Bureau determines that the proposal may have a significant environmental impact.

communications towers, 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 are 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.[38] Thus, applicants and licensees are routinely required to evaluate their tower projects, prior to construction, for 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 authorize Commission licensees and applicants and their representatives to contact the Department of the Interior to determine whether their facilities will affect threatened or endangered species or designated critical habitats.[39] With respect to other birds, such as migratory birds, routine evaluation is not required, but an EA shall be required pursuant to Section 1.1307(c) or (d) if the Bureau processing an otherwise categorically excluded action finds, in response to a petition or on its own motion, that the proposed construction may have a significant environmental impact. The Commission has acted, under Section 1.1307(c), to consider the impact that proposed construction would have on migratory birds.[40]

11. Thus, the Commission's environmental rules require licensees, license applicants, and others subject to those provisions to evaluate, prior to construction, whether a proposed tower within one of the specified categories of facilities may have significant environmental impact.[41] In those instances where a site-by-site license, construction permit, or antenna structure registration is required for the facility, the entity must certify compliance with the environmental rules on the appropriate application form.[42] If an EA is not required, the party may proceed with the project without providing any

[38] 47 C.F.R. § 1.1307(a)(3).

[39] *See id.* § (a)(3); 47 C.F.R. § 1.1308 note; Letter from Susan H. Steiman, Associate General Counsel to Steve Williams, Director, U.S. Fish and Wildlife Service, U.S. Department of Interior, dated July 9, 2003.

[40] *See* State of Ohio Department of Administrative Services – Application for Antenna Structure Registration – Deersville, OH, *Memorandum Opinion and Order,* 19 FCC Rcd 18149, 18150-53 ¶¶ 6-14 (WTB/SCPD 2004) (reviewing whether a tower would have a significant impact on migratory bird species and endangered species); 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) (addressing concerns regarding effect of 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) (finding that proposed tower would not have a significant effect on the environment due to bird mortality).

[41] 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, and if so, must file and await Commission processing of an EA prior to construction. 47 C.F.R. § 1.1312(a), (b).

[42] *See, e.g.*, FCC Form 854 (Application for Antenna Structure Registration), Item 38; FCC Form 601 (Application for Wireless Telecommunications Bureau Radio Service Authorization), General Certification Statement 6; FCC Form 301 (Application for Construction Permit for Commercial Broadcast Station), General Environmental Worksheet; FCC Form 301-CA (Application for Authority to Make Changes in a Class A Television Broadcast (continued....)

environmental documentation to the Commission.[43] However, if there would be a potential environmental impact, an EA must be submitted with the application for the Commission to determine if the action would have a significant impact on the environment.[44] If the Commission makes a FONSI, the environmental review process is complete. If the Commission finds the proposed construction would have a significant effect upon the quality of the human environment, the applicant may not proceed until the Commission prepares an EIS.[45]

B. The Notice of Inquiry (*NOI*)

12. The Commission's *NOI*, released in August 2003, initiated an inquiry to gather comment and information on the impact that communications towers may have on migratory birds. Specifically, the Commission sought comment on three general areas: the current state of scientific information about the impact that communications towers may have on migratory bird populations; the need for and scope of additional study; and suggested methods to minimize impacts of communications towers on migratory birds.[46]

13. To the extent commenting parties identified scientific research on migratory bird deaths attributable to collisions with communications towers, the *NOI* asked whether the research was conducted in a scientifically rigorous manner and included effective protocols and standard metrics that could provide a uniform analysis of results from all towers for comparative purposes.[47] The *NOI* also asked whether there was scientific research regarding the role that specific factors, such as lighting, height and type of antenna structure, weather, location, physiographic features of sites, and migration paths, may have with respect to increasing or decreasing the incidence of such collisions.[48]

14. The *NOI* next inquired whether additional research is necessary, and if so, how it should be conducted. For example, the *NOI* asked what variables the research should address, including lighting schemes, tower height, antenna structure, location, and different weather conditions. The *NOI* requested information on how many migration seasons should be studied and what types of procedures and protocols should be used to monitor bird deaths. The *NOI* also sought comment on who should be the appropriate party to fund, design, and conduct any study.[49]

15. Finally, the *NOI* requested comment on particular methods that could minimize the impact communications towers might have on migratory birds. The *NOI* asked commenters to identify particular mitigation methods and discuss the extent to which they have been used on communications

(Continued from previous page)
Station), Certification Item 12; FCC Form 340 (Application for Construction Permit for Reserved Channel Noncommercial Educational Broadcast Station), General Environmental Worksheet.

[43] 47 C.F.R. §§ 1.1306, 1.1312(e).

[44] *See* 47 C.F.R. § 17.4(c) (environmental processing required before antenna structure can be registered); *Antenna Structure Procedure Order*, 11 FCC Rcd 4272.

[45] 47 C.F.R. §§ 1.1305, 1.1314-1.1319.

[46] *NOI*, 18 FCC Rcd at 16946 ¶ 14, 16951 ¶ 25, 16952 ¶ 29. The *NOI* requested that interested parties file comments by November 12, 2003. Reply comments were due no later than December 13, 2003. *Id.* at at 16954 ¶ 36.

[47] *Id.* at 16947 ¶¶ 15-16.

[48] *Id.* at 16948-16950 ¶¶ 17-24.

[49] *Id.* at 16951-16952 ¶¶ 25-28.

towers or other similar structures, and quantify the results of their use. The *NOI* also sought comment specifically about the guidelines that the FWS developed, and recommended for voluntary use by companies, in an effort to minimize the impact of communications towers on migratory birds.[50] The FWS Guidelines advise, 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 lighting that the FAA recommends for aviation safety. The *NOI* asked whether the current state of scientific knowledge supports the use of the FWS Guidelines generally, or any specific parts of them. The *NOI* inquired whether those Guidelines or other measures to protect migratory birds might impact the delivery of communications services such as the transition to digital television and the use of radio transmitters by state and local public safety entities. The *NOI* also sought comment on whether imposing guidelines or restrictions might impact homeland security objectives.[51]

16. *Parties supporting Commission action.* FWS argues that the broad statutory language of the MBTA prohibits any unintended death of even one migratory bird caused by a collision with a communications tower.[52] With regard to the state of scientific information, FWS acknowledges that there is no standard research protocol to study mortality events at communications towers[53] and contends that only a broad cumulative impacts study would assess the whole situation.[54] FWS claims, however, there has been a recent dramatic increase in migratory bird deaths as a result of the exponential growth in communications tower construction that began in the 1990s.[55] The agency estimates that collisions with communications towers are responsible for at least 4 to 5 million bird deaths per year, and that if a proper cumulative impact study were conducted it might indicate the number to be closer to 50 million per year.[56] With regard to measures to reduce migratory bird deaths, FWS urges communications tower constructors and licensees to comply with its voluntary tower construction guidelines.[57]

17. The American Bird Conservancy, Forest Conservation Council, and Friends of the Earth filed a joint comment in which they contend that, by not taking steps to mitigate migratory bird collisions, the Commission has failed to comply with NEPA, the MBTA, and the ESA.[58] These groups argue that NEPA requires the Commission to prepare a Programmatic Environmental Impact Statement concerning the impact of communications tower collisions on migratory birds.[59] They further urge the

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[50] Memorandum from Jamie Rappaport Clark, Director, U.S. Fish and Wildlife Service, U.S. Department of the Interior, to FWS Regional Directors, Subject: Service Guidance on the Siting, Construction, Operation and Decommissioning of Communications Towers, available at

http:// migratorybirds.fws.gov/issues/towers/comtow.html (Sept. 14, 2000) (FWS Guidelines).

[51] *Id.* at 16952-16953 ¶¶ 29-33.

[52] FWS *NOI* Comments at 1.

[53] *Id.* at 3, 5, 8.

[54] *Id.* at 3, 13.

[55] *Id.* at 2, 3, 4.

[56] *Id.* at 3, 4.

[57] *Id.* at 10.

[58] American Bird Conservancy, Forest Conservation Council, and Friends of the Earth *NOI* Comments at 1 (American Bird Conservancy *NOI* Joint Comments).

[59] *Id.* at 2.

Commission to add migratory birds to the list of impacts for which EAs are required under 47 C.F.R § 1.1307.[60] The groups assert that, over the years, scientists have reported several instances of mass avian mortality at communications towers, and "that reported kills represent only the tip of an iceberg as the vast majority of tower sites are never checked for mortality."[61] They also contend that in poor visibility conditions, migratory birds are especially attracted to red steady lights.[62] To minimize migratory bird collisions with communications towers, the groups contend that the FCC should adopt the measures in the FWS guidelines.[63]

18. In their responses to the *NOI*, the Chickasaw Nation and Eastern Band of Cherokee Indians assert that migratory birds are important to these tribes because of their cultural or religious significance.[64] The Nunakauyak Traditional Council explains that migratory birds are an important part of that tribe's diet during the spring and summer seasons. Consequently, the tribe is concerned about migratory bird kills because the declining populations are resulting in hunting and egg gathering restrictions.[65] Therefore, these tribes support Commission rules and efforts to protect migratory birds.[66]

19. *Parties opposing Commission action.* Licensees, tower owners and constructors, and trade associations responding to the *NOI* oppose any amendments to the Commission's rules, or imposition of other restrictions on tower siting and construction, in order to mitigate migratory bird collisions with communications towers. As an initial matter, these commenters generally contend that the MBTA should not be interpreted so broadly as to prohibit incidental bird deaths at communications towers.[67] CTIA and NAB further argue that the Communications Act does not give the Commission authority to impose tower siting and construction restrictions to protect migratory birds. They also claim that neither NEPA nor the ESA authorizes any Commission action because those environment protection statutes apply only to federal actions and tower siting and construction are primarily private actions.[68]

20. Addressing the substance of the inquiry, CTIA and NAB contend that NEPA does not provide the Commission with a sufficient legal basis for acting because it applies only to actions that "significantly affect the environment" and the record does not establish that the impact of communications towers on migratory birds significantly affects the environment.[69] CTIA and NAB state that, even assuming that FWS is correct that communications towers cause 5 million migratory bird

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[60] *Id.* at 6.

[61] *Id.* at 7-12.

[62] Id. at 14.

[63] *Id.* at 15-19. In its comments, the National Wildlife Foundation agrees that there is sufficient information for the Commission to adopt the FWS Guidelines. National Wildlife Foundation *NOI* Comments at 3.

[64] Chickasaw *NOI* Comments at 1; Eastern Band of Cherokee *NOI* Comments at 1.

[65] Nunakauyak *NOI* Comments at 1.

[66] The Kenaitze Indian Tribe is not aware of any issues or problems involving migratory birds colliding with communications towers within its jurisdictional area of the Kenai Peninsula, Alaska. Kenaitze *NOI* Comments at 1.

[67] Cingular and SBC *NOI* Comments at 4-6; CTIA and NAB *NOI* Comments at 23-24; PCIA *NOI* Reply Comments at 4-6; NATE *NOI* Comments at 3-4.

[68] CTIA and NAB *NOI* Comments at 22-23. PCIA contends that the Commission's registration of antenna structures does not trigger any obligations under NEPA or the ESA. PCIA *NOI* Reply Comments at 4-6.

[69] CTIA and NAB *NOI* Comments at 9.

deaths per year, FWS also estimates that there are at least 10 billion migratory birds nationwide. Using those estimates, CTIA and NAB calculate that communications towers would account for only a 0.05 percent reduction of the migratory bird population each year, and argue that is not a significant enough impact on the environment to support any requirements under NEPA.[70]

21. CTIA and NAB submitted a study prepared by Woodlot Alternatives, Inc., an environmental consulting firm, to further support their argument that existing evidence is insufficient to show that collisions with towers have a significant impact on migratory birds. The Woodlot study found, among other things, that the quality of the information in the existing studies varied widely and there did not appear to be any standard method for collecting data.[71] Woodlot notes that certain factors, such as weather, lighting, and seasonal migration patterns, are reported to be more significant than others, but "[d]ue to the incidental and biased nature of these reports it is not possible to examine specific factors that have contributed to avian mortality."[72] AT&T Wireless, Cingular, SBC, PCIA, Sprint, and NATE agree with CTIA and NAB that there is insufficient scientific evidence to support Commission action to protect migratory birds.[73]

C. The Avatar Report and Comments

22. To assist the Commission in its evaluation of the scientific studies and comments received in response to the *NOI* – as well as to identify and help the Commission assess additional studies that were available – the Commission retained Avatar, an environmental risk consulting firm, in May 2004. The Commission asked Avatar to determine if the studies were sufficient to support any conclusions about the three overarching issues raised by the *NOI*: (1) whether collisions with communications towers have an adverse impact on the viability of migratory bird species; (2) what role certain factors (*i.e.*, migration patterns, bird behavior, tower configuration, tower siting, tower lighting, and weather) have on the increasing or decreasing number of such collisions; and (3) whether certain measures might minimize the impacts of tower construction on migratory birds. Avatar submitted its findings and recommendations in September 2004.[74]

23. Avatar explained that "[a]lthough most of the causes and possible solutions for increased avian mortalities associated with communication structures remain speculative, a few conclusions have been advanced with some degree of confidence within the scientific community studying this problem."[75]

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[70] *Id.* at 14. Similarly, Sprint argues that FWS's estimate of 5 million annual migratory bird deaths due to collisions with communications towers is insignificant when compared to FWS's high-end estimated migratory bird population of 20 billion. Sprint *NOI* Comments at 3-4.

[71] CTIA and NAB *NOI* Comments, Exhibit A, Woodlot Alternatives, Inc., "An Assessment of Factors Associated with Avian Mortality at Communications Towers – A Review of Existing Scientific Literature and Incidental Observations: Technical Comments prepared in response to the August 20, 2003, Notice of Inquiry Issued by the Federal Communications Commission (FCC) WT Docket No. 03-187" (Woodlot *NOI* Technical Study) at 3, 16, 38.

[72] *Id.* at 38.

[73] AT&T Wireless *NOI* Comments at 2; Cingular and SBC *NOI* Comments at 6-7, 12; PCIA *NOI* Comments at 4-5; Sprint *NOI* Comments at 3-9; NATE *NOI* Comments at 2-6.

[74] *See generally* Notice of Inquiry Comment Review Avian/Communication Tower Collisions, Final, Prepared for Federal Communications Commission, by Avatar Environmental, LLC (filed December 10, 2004) (*Avatar Report*), WT Docket No. 03-187.

[75] *Avatar Report* at 5-1.

Specifically, Avatar opined that the existing state of knowledge tends to support the following:

(1) The greatest bird mortality tends to occur on nights with low visibility conditions, especially fog, low cloud ceiling, or other overcast conditions.

(2) All other things being equal, taller towers with lights tend to represent more of a hazard to birds than shorter, unlit towers.

(3) Towers with guy wires create higher risks than self-supporting towers.

(4) Two collision mechanisms appear to be a factor in bird collisions: (1) blind collision and (2) illuminated sphere of influence.[76]

(5) Certain avian families tend to be more affected than others, among them vireos, warblers, and thrushes.

(6) The seasonal pattern exhibits a pronounced collision spike during fall migration and another smaller spike during spring migration. However, bird collisions with towers can occur any time of the year under any weather condition.

(7) There are no studies to date that demonstrate an unambiguous relationship between avian collisions with communications towers and population decline of migratory bird species.

(8) Although biologically significant tower kills have not been demonstrated in the literature, the potential does exist, especially for threatened and endangered species.

(9) More research is warranted in order to identify specific causes and possible solutions to this problem.[77]

24. Avatar made a number of short-term and long-term recommendations for the Commission in order to promote meaningful research into the factors that contribute to migratory bird collisions with communications towers, and ultimately translate the results of that research into action.[78] The short-term recommendations included: continue to work with the Communications Tower Working Group;[79] initiate dialogue with research entities and the telecommunications industry to identify the most appropriate research approaches and mechanisms to develop standardized methods and metrics for data collection and monitoring; study how differences between bird species might contribute to the susceptibility of certain bird species to tower collisions; and encourage research on potential measures

[76] "Blind collision" refers to a bird flying in such poor visibility conditions it does not see the tower in time to avoid it. An "illuminated sphere of influence" can occur when lights on a tower refract off water particles in the air. This tends to happen during foggy conditions.

[77] *Id.* at 5-1 to 5-2.

[78] *Id.* at 5-4 to 5-12.

[79] FWS formed the Communications Tower Working Group in 1999 to develop research on the effect that communications facilities may have on migratory birds. It consists of representatives from the scientific, federal and state agency, environmental, consulting, and industry communities and meets on an irregular basis.

that might mitigate avian mortality, particularly mass mortality, at communications towers.[80] Avatar's long-term recommendations included: incorporate the results of current studies into the Commission's review of tower applications; conduct laboratory-controlled studies into avian vision; and adapt the Potential Impact Index, which FWS uses to assess the impact of the locations of wind turbines on the environment, for use with communications towers.[81]

25. In December 2004, the Wireless Telecommunications Bureau issued a Public Notice requesting comment on Avatar's findings and recommendations.[82] The comment period elicited 22 responses.[83] In these comments, FWS, bird advocates, licensees, tower owners, and constructors alike state that Avatar's findings do not change their respective initial positions in response to the *NOI* as to whether the Commission should modify its rules to minimize the impact that communications tower collisions have on migratory birds.

26. FWS agrees with many of Avatar's findings and recommendations, particularly Avatar's proposal for a comprehensive guidance document that would provide standardized research approaches, protocols, and problem-solving tools.[84] FWS also concurs with Avatar's recommendation that researchers must develop baseline information on migratory bird vision traits, densities, movements, altitudes, and behaviors during migration near tower sites.[85] FWS contends, however, that Avatar's conclusion that "biologically significant tower kills have not been demonstrated" is ambiguous and can be misinterpreted.[86] Given the existence of documented instances in which thousands of birds have been killed at one communications tower, and in the absence of meaningful study as to the impact of such incidents on migratory bird populations, FWS argues that Avatar should have been more cautious in suggesting that evidence fails to show a relationship between avian collisions with communications towers and population decline of migratory bird species.[87]

27. The American Bird Conservancy, Forest Conservation Council, Humane Society, and Defenders of Wildlife, in their joint comments on the Avatar report, attach a technical report from an environment consulting firm, Land Protection Partners (LPP), that similarly criticizes aspects of the Avatar report. LPP contends that Avatar failed to present a coherent analysis before defining the term "biological significance."[88] LPP argues that Avatar should have assessed biological significance per species. LPP presents an analysis in which it concludes that "for the ten avian species killed most frequently at towers, total annual mortality is estimated to be from 490,000 to 4.9 million birds for each species." In arriving at its estimates, LPP begins with a 2000 report, provided by the American Bird

[80] *Avatar Report* at 5-4 to 5-12.

[81] *Id.*

[82] *Avatar Public Notice*, 19 FCC Rcd 24007.

[83] See Appendix B for the complete list.

[84] FWS *Avatar PN* Comments at 1, 5.

[85] *Id.* at 4.

[86] *Id.* at 2.

[87] *Id.*

[88] American Bird Conservancy *Avatar PN* Joint Comments at Attachment, Land Protection Partners, "Scientific Basis to Establish Policy Regulating Communications Towers to Protect Migratory Birds: Response to Avatar Environmental, LLC, Report Regarding Migratory Bird Collisions with Communications Towers, WT Docket No. 03-187, Federal Communications Commission Notice of Inquiry" (LPP *Avatar PN* Technical Report).

Conservancy, that compiled 47 studies from 31 states and two Canadian provinces which reported a total of 184,797 migratory birds killed from 74 different species. LPP calculates the percentages of the total bird deaths from each species. LPP then multiplies those percentages by the low end (four million) and high end (50 million) of FWS' estimated range of total annual mortality of migratory birds to arrive at its estimate of deaths per migratory bird species per year.[89] The American Bird Conservancy, Forest Conservation Council, Humane Society, and Defenders of Wildlife argue that the LPP report strongly supports the use of FWS guidelines, particularly the recommendations that: antennas should be collocated on existing structures to the extent possible; towers should be shorter than 200 feet AGL; towers should not use guy wires; and towers should not use red steady lights.[90] In its reply comments on the Avatar Report, FWS also indicates support for LPP's analysis.[91]

28. CTIA, NAB, PCIA, and Cingular agree with the Avatar report to the extent it concludes that the state of the science on avian mortality is insufficient to support changes to the Commission's environmental rules.[92] CTIA and NAB attach to their comments a further technical report prepared by Woodlot contending that the conclusions Avatar advances with "some degree of confidence," such as that towers with guy wires create higher risks than self-supporting towers, are speculative and lack sufficient scientific basis to support additional regulations to protect migratory birds. These parties and Centerpointe further contend that Avatar should also have considered the impact that incidents other than collisions with communications towers have on the viability of migratory birds.[93] In their reply comments, CTIA and NAB submit another technical report from Woodlot that responds to the LPP report. Woodlot argues that the statistical analyses LPP used to arrive at its estimate of annual migratory bird mortality as a result of collisions with communications towers are flawed, and that the materials upon which the analyses were based were incomplete.[94] For example, Woodlot faults LPP's reliance on the 2000 compilation of data as the basis for its calculations because even the scientist that compiled that data concedes that it was "collected in an uncoordinated manner, and there was bias in the towers studied because only towers with bird mortality were studied."[95] Woodlot also argues that, since all the studies

[89] *Id.* at 4-6.

[90] American Bird Conservancy *Avatar PN* Joint Comments at 3-6, 9-12.

[91] FWS *Avatar PN* Reply Comments at 1. We note that the record also contains interim results of a study that is underway at towers operated by the Michigan Public Safety Communications System; this study is designed to measure the effect of different types of antenna structures and lighting regimes on avian mortality. *See* paras. 31-32, *infra*.

[92] CTIA & NAB *Avatar PN* Comments at 3-4; PCIA *Avatar PN* Comments at 2-3; Cingular *Avatar PN* Comments at 1, 4.

[93] CTIA & NAB *Avatar PN* Comments at 4; Cingular *Avatar PN* Comments at 4, 15; Centerpointe *Avatar PN* Comments at 14-15; PCIA *Avatar PN* Comments at 3. In its initial technical report, Woodlot provides estimates of the number of migratory birds killed by causes other than communications towers. For instance, according to Woodlot, buildings cause 78.4 million to 928.3 million bird deaths per year; pesticides and oil can cause 67 million to 76 million bird deaths per year; and cats can cause 300 million to 500 million bird deaths per year. Woodlot *NOI* Technical Study at 9, 11, 12.

[94] CTIA & NAB *Avatar PN* Reply Comments at Exhibit A, Woodlot Alternatives, LLC, "Technical Comment on Scientific Basis to Establish Policy Regulating Communications Towers to Protect Migratory Birds: Response to Avatar Environmental, LLC, Report Regarding Migratory Bird Collisions with Communications Towers, WT Docket No. 03-187, Federal Communications Commissions Notice of Inquiry and Reply to Comments Filed With Federal Communications Commission on WT Docket No. 03-187, Avatar Environmental, LLC, Report Regarding Migratory Bird Collisions With Communication Towers" at 8-9.

[95] *Id.* at 1, 5.

in the LPP report involved towers over 600 feet AGL, it is inappropriate for LPP to extrapolate from this data set to predict the effects that shorter towers might have on migratory birds.[96]

29. In its reply comments, Centerpointe argues that an important piece of information missing from the LPP report is population trend data. According to Centerpointe, the USGS North American Breeding Survey Trend Results show that several of the migratory bird species that LPP mentioned in its report (*e.g.*, fifteen species of Warblers including the Kirtland Warbler, nine species of Vireos, Ovenbird, and Common Ground Dove) have increased in population between 1982 and 2002.[97]

D. Studies at Michigan Public Safety Communications System (MPSCS) Towers

30. Dr. Joelle Gehring also filed comments in response to Avatar's report.[98] Since 2003, Gehring has been the principal investigator examining migratory bird collisions at several towers operated by MPSCS.[99] The studies are intended to assess whether differences in certain features of communications towers result in differences in avian mortality. The MPSCS studies rely on manual searches of the area near communications towers, during migration seasons, for migratory bird carcasses. Gehring designed the studies to include specific protocols for conducting the searches as well as protocols to account for searching biases and predator biases that might lead to errors in counting dead birds.[100] Gehring's comments on the Avatar report include interim results of the Fall 2003 and 2004 studies. Those studies were designed to specifically assess whether differences in the degree of avian mortality could be attributed to the use or non-use of guy wires. The studies included three guyed towers and three unguyed towers within the height range of 380 to 480 feet AGL. According to Gehring's interim report of the 2003 and 2004 studies, a total of 194 migratory bird carcasses were found at the guyed towers during the three study seasons, compared to 14 at the unguyed towers.[101]

31. Subsequent to filing comments in response to the Avatar report, Gehring released interim results of MPSCS studies conducted during the Spring 2005 and Fall 2005 migration seasons. Gehring designed the 2005 studies to assess whether differences in tower lighting systems and tower height correlated to differences in avian mortality, as well as to continue to assess the effect that guy wires may have on avian mortality.[102] For these seasons, Gehring studied 12 guyed and 9 unguyed towers between

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[96] *Id.* at 2, 8-10.

[97] Centerpointe *Avatar PN* Reply Comments at 17.

[98] Gehring *Avatar PN* Comments at 1.

[99] MPSCS retained Gehring to design and conduct studies of avian mortality at certain of its towers over several migration seasons. The study design and field work were completed according to the Avian Collision Study Plan for the Michigan Public Safety Communications System (MPSCS): Assessing the Role of Lighting, Height, and Guy Wires in Avian Mortality Associated with Wireless Communications and Broadcast Towers (revised version: April 27, 2004).

[100] *Id.* at 2.

[101] *Id.* at 3-5. During the Fall 2003 study, Gehring's staff found 22 migratory bird carcasses next to guyed towers and no migratory bird carcasses at the unguyed towers. In the Spring 2004 study, Gehring's staff found 121 migratory bird carcasses at guyed towers and 5 migratory bird carcasses at unguyed towers. During the Fall 2004 study, her staff found 51 migratory bird carcasses at guyed towers and nine migratory bird carcasses at unguyed towers. *Id.*

[102] Gehring, Joelle, Ph.D., *Avian Collision Study for the Michigan Public Safety Communications System (MPSCS): Summary of Spring 2005 Field Season* (Aug. 12, 2005) at 1 (Gehring August 2005 Report); Gehring, (continued....)

380 and 480 feet AGL, with four different lighting configurations at night: white strobe lights, red strobe lights, red blinking incandescent lights, and red strobe lights interspersed with steady burning red lights.[103] In addition, the studies included three towers of over 1000 feet AGL using red strobe interspersed with steady burning red lights. Gehring's interim reports for the 2005 studies show, on a per-tower per-season basis, more than four times as many bird deaths at the 1000-foot towers than at the 380-480 foot towers using red steady lights, more than three times as many deaths at the 380-480 foot towers using red steady lights than at towers of the same heights with other lighting configurations, and more than three times as many deaths at guyed than at unguyed towers of the same heights using the same lighting.[104]

III. DISCUSSION

32. We seek comment on the extent of any effect of communications towers on migratory birds and whether any such effect warrants regulations specifically designed to protect migratory birds. First, we request comment on the legal framework governing the Commission's obligations in this area, and in particular the threshold necessary to demonstrate an environmental problem that would authorize or require that the Commission take action. We then examine particular steps the Commission might take if there is probative evidence of a sufficient environmental effect to warrant Commission action. With regard to any newly constructed or modified communications tower that must be registered and meet lighting specifications under Part 17 of the Commission's rules, we tentatively conclude that medium intensity white strobe lights for nighttime conspicuity is to be considered the preferred system over red obstruction lighting systems to the maximum extent possible without compromising aircraft navigation safety. We seek comment on this tentative conclusion and on issues related to its implementation. We also seek comment on whether, based on the scientific or technical evidence before us concerning the impact that communications towers may have on migratory birds,[105] we should adopt

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Joelle, Ph.D., *Avian Collision Study for the Michigan Public Safety Communications System (MPSCS): Summary of Fall 2005 Field Season* (Dec. 30, 2005) at 1 (Gehring Dec. 2005 Report).

[103] Three guyed and three unguyed towers utilized each of the configurations of white strobe, red strobe, and red blinking incandescent lights, and three guyed towers used red strobe interspersed with red steady lights. No unguyed towers with red steady lights were included in these studies.

[104] For the Spring 2005 study, at towers that were 380 to 480 feet AGL, Gehring's staff found three migratory bird carcasses at both guyed and unguyed towers equipped with white strobe lights; 12 carcasses at three guyed towers with red strobe lights and four carcasses at three unguyed towers using red strobe lights; eight carcasses at three guyed towers using red blinking incandescent lights and four carcasses at three unguyed towers using the same lights; and 37 carcasses at three guyed towers with non-blinking lights. Gehring's staff found 132 birds at the three guyed towers above 1000 feet AGL. Gehring Aug. 2005 Report at 2-3. For the Fall 2005 study, for towers between 380 and 480 feet AGL, there were eight bird carcasses at three guyed towers with white strobe lights and two carcasses at three unguyed towers with white strobe lights; eight carcasses at three guyed towers with red strobe lights and one carcass at three unguyed towers with red strobe lights; 14 carcasses at three guyed towers with red blinking incandescent lights and two carcasses at three unguyed towers with the same type of lights; and 18 carcasses at three guyed towers with non-blinking lights. Again, the largest number of bird kills, 120, was caused by three guyed towers with non-blinking lights that were 1000 feet tall. Gehring Dec. 2005 Report at 2-3. These figures yield average deaths per-tower per-season of 42 at towers over 1000 feet tall, 9.17 at 380-480-foot towers with red steady lights, 2.94 at guyed 380-480-foot towers using other lighting configurations, and 0.89 at the unguyed towers.

[105] We note that if the Commission determines to rely on a scientific or technical study (or studies) as a basis for its decision-making in this proceeding, such study (or studies) may need to meet any applicable peer review (continued....)

any additional requirements based on other characteristics of communications facilities, including the use of guy wires, tower height, the location of the tower, and the possibility of collocation. Finally, we request comment on whether to add an additional criterion for requiring an EA to Section 1.1307(a) of our rules.

A. Legal Framework

33. As discussed above, NEPA requires federal agencies to analyze the impact of their proposed major federal actions on the quality of the human environment.[106] CEQ's regulations define the "human environment" to include the natural and physical environment and the relationship of people with that environment.[107] The ESA requires federal agencies to "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 . . . determined . . . to be critical. . . ."[108] Some, but not all, species of migratory birds are protected under the ESA. In adopting its environmental rules, the Commission in accordance with its public interest responsibilities under the Communications Act,[109] previously has determined that construction of communications towers requires compliance with environmental responsibilities under NEPA and the ESA.[110] Moreover, although under our present rules we do not routinely require environmental processing with respect to migratory birds, the Commission has considered the impact of individual proposed actions on migratory birds as part of its overall responsibility under NEPA.[111] In

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requirements set forth in the Peer Review Bulletin issued by the Office of Management and Budget (OMB). *See generally* OMB Final Information Quality Bulletin for Peer Review, 70 Fed. Reg. 2664 (Jan. 14, 2005).

[106] 42 U.S.C. § 4332(2)(C).

[107] 40 C.F.R. § 1508.14.

[108] 16 U.S.C. § 1536(a)(2). The ESA further declares "the policy of Congress that all Federal departments and agencies shall seek to conserve endangered species and threatened species and shall utilize their authorities in furtherance of the purposes of this chapter." 16 U.S.C. § 1531(c)(1).

[109] Amendment of Environmental Rules in Response to New Regulations Issued by the Council on Environmental Quality, FCC 85-626, *Report and Order*, 60 RR 2d 13, 16 (1986) ("The primary purpose of this [NEPA] process is to ensure that agencies consider and balance with other public interest factors the environmental effects of proposals before them."). *See also* Amendment of Environmental Rules, *First Report and Order*, 5 FCC Rcd 2942, 2943 (1990) ("any delay in construction that results from requiring an applicant to undergo environmental processing prior to construction, rather than at the licensing stage, is more than offset by the public interest benefits of ensuring, in compliance with Federal environmental statutes, that no potentially irreversible harm to the environment occurs.").

[110] *See, e.g.*, Amendment of Environmental Rules, *First Report and Order*, 5 FCC Rcd 2942 ¶ 1 (1990) (requiring licensees and applicants to ascertain prior to construction whether certain proposed facilities may have a significant environmental effect under the Commission's NEPA rules); *Antenna Structure Procedure Order*, 11 FCC Rcd at 4289 ¶ 41 (registration of an antenna structure constitutes a "federal action" justifying imposition of environmental responsibilities on the structure owner); *cf.* Nationwide Programmatic Agreement Regarding the Section 106 National Historic Preservation Act Review Process, *Report and Order*, 20 FCC Rcd 1073, 1083-84 ¶¶ 24-28 (tower construction is permissibly viewed as a "federal undertaking" under the National Historic Preservation Act (NHPA)); *petition for review denied, CTIA v. FCC*, Case No. 05-1008, ___ F.3d ___, 2006 WL 2728749 (D.C. Cir. September 26, 2006) (upholding the applicability of the NHPA to tower construction).

[111] *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 (continued....)

order to fulfill its obligations under NEPA and the ESA, the Commission has promulgated rules to address such issues.[112] We tentatively conclude that the obligation under NEPA to identify and take into account the environmental effects of actions that we undertake or authorize may provide a basis for the Commission to make the requisite public interest determination under the Communications Act to support the promulgation of regulations specifically for the protection of migratory birds, provided that there is probative evidence that communications towers are adversely affecting migratory birds.[113]

34. We also seek comment on what constitutes a significant effect on the human environment under NEPA in the context of effects on migratory birds.[114] For example, does the death of some number of individual birds, without more, constitute a significant environmental impact? Must the overall population of birds as a whole or of particular species be negatively impacted before any obligation under NEPA is triggered? And if so, what size of population, either in migratory birds as a whole or in a particular species, is sufficient to trigger any legal obligation by the Commission?[115] Can the Commission rely upon anecdotal evidence of bird kills at individual towers or must it have broader studies before taking action specifically for the protection of migratory birds? Must the Commission consider whether collisions with communications towers interrupt avian movement, and thereby result in declines in species beyond the direct losses due to collisions?[116] Also, what is the relevance, if any, of other causes of avian mortality, such as buildings, transmission lines, and vehicles?[117] How do the answers to these questions affect the Commission's authority, or obligation, to take action in this matter?

35. Apart from any possible obligation under NEPA and ESA, the MBTA provides that it is unlawful to "pursue, hunt, take, capture, kill, attempt to take, capture or kill . . . any migratory bird" unless permitted by FWS.[118] Courts have rendered differing decisions regarding the scope of the MBTA's applicability to federal agencies.[119] The Commission, however, has indicated that "it is not

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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* In the Matter of Implementation of the National Environmental Policy Act of 1969, *Report and Order*, 49 FCC 2d 1313, 1328 ¶ 38 (1974) (indicating that towers "exceeding 500 feet in height" should not be placed "along favored migratory routes" to the extent possible), *petition for reconsideration granted in part*, 56 FCC 2d 635 (1975) (not addressing migratory bird issues).

[112] 47 C.F.R. §§ 1.1301-1.1319.

[113] *See* n. 110, *supra*.

[114] 42 U.S.C. § 4332(2)(C)(i) ("all agencies of the Federal Government shall . . . include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment . . . a detailed statement . . . on the environmental impact of the proposed action.").

[115] See Centerpointe *Avatar PN* Reply Comments at 17.

[116] *See* LPP *Avatar PN* Technical Report at 4.

[117] *See* Woodlot *NOI* Technical Study at 7-14.

[118] 16 U.S.C. §§ 703, 704(a).

[119] *Compare Humane Society of the United States v. Glickman*, 217 F.3d 882, 883 (D.C. Cir. 2000) (MBTA prohibits a federal agency's actions to manage population of a bird species without obtaining a permit from FWS) *with Sierra Club v. Martin*, 110 F.3d 1551, 1555 (11th Cir. 1997) (the MBTA does not apply to incidental migratory bird deaths that result from the Park Service's logging activities).

clear" whether the MBTA applies to the Commission's actions.[120] Nonetheless, some commenters argue that under the MBTA, a party may be liable for any unintentional, incidental death of a migratory bird, such as through a collision with a communications tower.[121] Others contend that the MBTA has a narrower purpose to prohibit only intentional kills of migratory birds, such as by hunting or through a program to control migratory bird population.[122] We seek comment on the nature and scope of the Commission's responsibilities, if any, under this statute. We also seek comment on whether the MBTA gives the Commission (or any agency other than the Department of the Interior) any authority to promulgate regulations to enforce its terms.[123] If the Commission has statutory authority to issue regulations to enforce the MBTA, how could the Commission draft such regulations in a manner that does not impede our responsibility under the Communications Act to ensure the construction of communications towers that are necessary to meet the communications service needs of our nation?[124] We seek comment on these questions.

B. Possible Need for Commission Action

36. In the *NOI*, the Commission sought comments supported by evidence concerning whether communications towers have any significant impact on migratory birds. In response, the Commission received a myriad of comments reflecting widely divergent views as to the degree to which communications towers cause migratory bird mortality. FWS estimates that the number of migratory birds killed by communications towers could range from 4 to 50 million per year.[125] In light of these widely divergent views, we seek further comment supported by evidence regarding the number of migratory birds killed annually by communications towers. Where possible, commenters are encouraged to support their estimates with scientifically reviewed studies.

37. Understanding the scope of any problem involving communications towers and migratory birds is essential to devising meaningful solutions consistent with our responsibilities under the Communications Act and other federal statutes. In particular, we seek comment on whether the evidence concerning the impact of communications towers on migratory bird mortality adduced in response to the questions posed in paragraph 36 is sufficient to justify and/or authorize Commission

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[120] Petition by Forest Conservation Council, American Bird Conservancy and Friends of the Earth for National Environmental Policy Act Compliance, *Memorandum Opinion and Order*, 21 FCC Rcd 4462, 4469 n.42 (2006); County of Leelanau, Michigan, *Memorandum Opinion and Order*, 9 FCC Rcd 6901, 6903 ¶ 8 (1994).

[121] FWS *NOI* Comments at 1, 5; American Bird Conservancy *NOI* Joint Comments at 1; *see U.S. v. Moon Lake Electric Assoc.*, 45 F. Supp. 2d 1070 (D. Colo. 1999) (rejecting electric power cooperative's motion to dismiss criminal prosecution for unintentional electrocution of birds and holding that the "MBTA's language and regulations suggest that Congress intended to prohibit conduct beyond that normally exhibited by hunters and poachers").

[122] CTIA *NOI* Comments at 23-24; *see City of Sausalito v. O'Neill*, 386 F.3d 1186, 1225 (9th Cir. 2004), quoting *Seattle Audubon Society v. Evans*, 952 F.2d 279, 302 (9th Cir. 1991) (explaining that an unlawful "taking" under the MBTA "describes physical conduct of the sort engaged in by hunters and poachers").

[123] *See* CTIA *NOI* Comments at 24 (arguing that the Commission does not have statutory authority to regulate towers for the purpose of minimizing their potential impacts on migratory birds).

[124] Section 1 of the Communications Act states that the purpose of the Commission is, among other things, "to make available, so far as possible, to all the people of the United States . . . a rapid, efficient, Nation-wide, and world-wide wire and radio communication service." 47 U.S.C. § 151.

[125] FWS *NOI* Comments at 3.

action under the legal standards discussed in response to the questions posed in paragraph 34. Assuming sufficient evidence is developed regarding this issue, we may have a basis to take some of the suggested actions discussed below.

C. Possible Commission Actions

1. Lighting requirements

38. We tentatively conclude that for any newly constructed or modified communications tower that must meet lighting specifications under Part 17 of the Commission's rules, medium intensity white strobe lights for nighttime conspicuity is to be considered the preferred system over red obstruction lighting systems to the maximum extent possible without compromising aircraft navigation safety. We request comment on this tentative conclusion, and on specific ways in which the Commission could implement this conclusion in our policies and rules. We also invite comments on the possible use and benefits of other lighting systems, such as red strobe or red blinking incandescent lights, and on other related issues.

39. Several commenting parties have submitted studies indicating that certain lighting requirements may reduce the likelihood of bird collisions with tower structures. In their joint comments filed in response to the *NOI*, the American Bird Conservancy, Forest Conservation Council, and Friends of the Earth argue that "the best science available indicates that particularly in poor visibility weather conditions at night, lights on towers (especially solid state red lights) disrupt a neo-tropical migratory bird's celestial navigation system and perhaps its magnetic navigation system."[126] FWS similarly asserts that lighting appears to be a "key attractant for night migrating songbirds, especially on nights with poor visibility,"[127] although it adds that further research is needed on the extent to which lighting contributes to migratory bird collisions with communications towers.[128] Subsequently, Gehring presented interim reports of the 2003 through 2005 studies at the Michigan PSCS towers. Those interim reports indicate that comparable numbers of bird carcasses were found when only red strobe or only white strobe lights were used, irrespective of the towers' heights and the presence of guy wires. The interim reports also indicate more bird carcasses were found at towers using red steady lights with red strobe lights than at towers using only red strobe, white strobe, or red blinking incandescent lights.[129]

40. Section 303(q) of the Communications Act of 1934, as amended, vests in the Commission the authority to require painting and/or lighting of antenna structures which may constitute a

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[126] American Bird Conservancy *NOI* Joint Comments at 14. In their Joint Comments, the American Bird Conservancy, Forest Conservation Council, and Friends of the Earth enumerate reports in which switching from red obstruction lighting to white lights appeared to reduce avian mortality at certain communications towers. *See, e.g.*, American Bird Conservancy *NOI* Joint Comments at 12 (citing ornithologist's report that switching from red incandescent lights to white strobe lights caused fewer avian deaths at a tower in Mt. Pleasant, South Carolina). We further note that Avatar discussed a number of studies that appeared to show that birds were not as attracted to white strobe lights as they were to red obstruction lights. *Avatar Report* at 3-43 to 3-45 (describing the 2000 studies conducted by Gauthreaux, S.A., Jr. and C.G. Belser, recorded in transcripts of the proceedings of the workshop on avian mortality at communication towers, August 11, 1999, Cornell University, Ithaca, NY, http://migratorybirds.fws.gov/issues/towers/agenda.html).

[127] FWS *NOI* Comments at 7.

[128] *Id.* at 7-10.

[129] Gehring Dec. 2005 Report at 3; Gehring Aug. 2005 Report at 3.

hazard to air navigation.[130] Part 17 of the Commission's rules sets forth procedures for implementing this authority.[131] Specifically, if a proposed construction or modification of a communications tower would be more than 60.96 meters (200 feet) in height above ground level (AGL), or meet certain other conditions detailed in Section 17.7 of our rules (such as proximity to an airport),[132] our rules (as well as the FAA's rules) require the entity proposing such construction or modification to notify the FAA.[133] If the FAA determines, in accordance with its applicable Advisory Circular(s), that the construction or alteration is one for which lighting or marking is necessary for aircraft navigation safety, the FAA sends an acknowledgement to the antenna structure owner that contains a statement to that effect and information on how the structure should be marked and lighted.[134] This acknowledgment is the FAA's determination of "no hazard," meaning that the FAA has determined that the structure will pose no hazard to aircraft so long as it is marked and/or lighted in accordance with the FAA's specifications. The antenna structure owner must register the structure with the Commission prior to construction by submitting FCC Form 854 together with the FAA's "no hazard" determination.[135] Unless the Commission specifies otherwise, the FAA's specifications for marking and/or lighting on the antenna structure are then made part of the owner's FCC antenna structure registration, and the owner is required to maintain the marking and/or lighting in accordance with those specifications.[136] The FAA's current standards pertaining to tower lighting specifications to promote aviation safety are set forth in Advisory Circular 70/7460-1K ("Obstruction Marking and Lighting").[137] The FAA's recommendations can vary depending on characteristics of the tower, terrain, and location, and may permit antenna structure owners to choose among different types of lighting systems, including red steady (red solid state), red strobe interspersed with red steady, or white lights.[138]

41. In April 2004, in response to a request by the American Bird Conservancy to minimize mortality to migratory birds, the FAA issued an internal memorandum providing guidance on the FAA's issuance of lighting recommendations set forth in Advisory Circular 70/7460-1K.[139] Specifically, as interim guidance, the FAA's Program Director for Air Traffic Airspace Management directs Regional Air Traffic Division Managers that use of medium intensity white strobe lights for nighttime conspicuity is to be considered the preferred system over red obstruction lighting systems when feasible and to the maximum extent possible in cases in which aviation safety would not be compromised.[140] The

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[130] 47 U.S.C. § 303(q).

[131] 47 C.F.R. Part 17.

[132] 47 C.F.R. § 17.7.

[133] 14 C.F.R. § 77.13.

[134] 14 C.F.R. § 77.19. *See* FAA Advisory Circular (AC) 70/7460-1K, "Obstruction Marking and Lighting" (August 2000), and FAA Advisory Circular (AC) 150/5345-43E, "Specification for Obstruction Lighting Equipment" (October 1995).

[135] 47 C.F.R. § 17.4(b).

[136] 47 C.F.R. § 17.23.

[137] FAA AC 70/7460-1K, "Obstruction Marking and Lighting."

[138] *Id.* at 13-27.

[139] *See* April 6, 2004 Memorandum from the FAA's Program Director for Air Traffic Airspace Management, ATA-1, Sabra W. Kaulia, to Regional Air Traffic Division Managers ("2004 FAA Memorandum").

[140] *Id.* These different white and red lighting systems are discussed in more detail in the FAA AC 70/7460-1K. *See* FAA AC 70/7460-1K. We note that Advisory Circular 70/7460-1K currently does not permit the use of red (continued....)

memorandum references the *NOI* and notes that the Commission may later provide some guidance on what, if any, then existing standards regarding the effects of communications towers on migratory birds were in need of review and study. The memorandum also states that, from a safety perspective, the standards and guidance set forth in the existing Advisory Circular 70/7460-1 continue to be necessary to appropriately light obstacles and to avoid creating hazardous conditions for pilots. Finally, in accordance with that Advisory Circular, the memorandum points out that the use of white lights for nighttime conspicuity within three nautical miles of an airport or in populated urban areas is discouraged as a lighting recommendation.[141] In their joint comments on the Avatar Report, the American Bird Conservancy, Forest Conservation Council, Humane Society, and Defenders of Wildlife urge the Commission to adopt the FAA's preference for white strobe lighting as set forth in the April 2004 memorandum.[142]

42. We tentatively conclude that under the Commission's Part 17 rules, consistent with the FAA's memorandum, the use of medium intensity white strobe lights for nighttime conspicuity is to be considered the preferred lighting system over red obstruction lighting systems to the maximum extent possible without compromising aircraft navigation safety. We base this tentative conclusion on the FAA's recommendation of such lighting where it will not compromise aircraft navigation safety, the evidence suggesting that white strobe lights may create less of a hazard to migratory birds, and the absence of record evidence that use of white strobe lighting would have an adverse impact on communications facilities deployment. We seek comment on this tentative conclusion, including whether its implementation would result in reducing the incidence of migratory bird mortality associated with communications towers as well as any burdens such a requirement would impose on tower owners, or on the public, and whether alternatives may be available or preferable. We also seek comment on our statutory authority to implement this tentative conclusion.

43. In the event we adopt our tentative conclusion, we seek comment specifically on how best to implement this policy. For instance, should we revise Section 17.23 of our rules[143] to establish that, unless otherwise specified by the Commission, each new or altered registered antenna structure must use medium intensity white strobe lights for nighttime conspicuity if the FAA determines that the use of such lights would not impair the safety of air navigation and recommends their use? We note that Section 17.23 of our rules currently references two FAA Advisory Circulars (AC 70/7460-1J, as revised in 1996, and AC 150/5345-43E, as revised in 1995).[144] Given that one of these Advisory Circulars (AC 70/7460-1J) subsequently has been updated with a newer version (AC 70/7460-1K), we seek comment on how we should revise Section 17.23. We further invite comment on whether any rule revisions we may adopt should be written in such a manner as to accommodate later changes in the FAA Advisory Circulars without a future change in our rules. We also ask for comment on whether, to the extent we

(Continued from previous page)
strobe or red blinking incandescent lights without the use of red steady lights. *Id.* at 13-14. See further discussion on these red lighting systems, *infra*, in paragraph 42.

[141] 2004 FAA Memorandum.

[142] *See, e.g.*, American Bird Conservancy Avatar PN Joint Comments at 8-9 and Reply Comments at 3. [*See also* Letter from Representative Edward Markey to Chairman Kevin J. Martin, dated April 10, 2006 (urging the Commission to revise its rules in response to this FAA memorandum)]. We note, however, that in subsequent correspondence American Bird Conservancy has indicated a preference for either white or red strobe lights. *See* para. 43, *infra*.

[143] *See* 47 C.F.R. § 17.23 ("Specifications for painting and lighting antenna structures").

[144] *See* 47 C.F.R. § 17.23.

determine to adopt additional lighting guidance in our rules, revisions to other provisions of Part 17 or elsewhere in our rules are necessary. We encourage commenters to suggest specific language and discuss its benefits and drawbacks.

44. In addition, we invite commenters to consider the possible use and benefits of lighting systems other than red steady and medium intensity white strobe. We note that the FAA Advisory Circular pertaining to tower lighting does not currently permit the use of red strobe or red blinking incandescent lights without the use of red steady lights.[145] The American Bird Conservancy, however, has recently argued that recent and past research, including the preliminary results from the Michigan study, suggests that "the critical element in lighting towers and other structures is to use strobe lighting for night time conspicuity exclusively, and not to use red steady burning lights."[146] Thus, noting that the FAA does not recommend the use of white strobe lights under some circumstances, the American Bird Conservancy now asserts that either white or red strobe lighting is desirable.[147] We seek comment on the significance of the existing research, and whether, given the FAA's existing Advisory Circular, we should modify our proposed rule to account for the possible use of red strobe lights or red blinking lights without red steady lights. If the final results of the Michigan study are consistent with the preliminary results and are borne out by a final report, would the results provide sufficient scientific basis on which to conclude that use of red strobe or red blinking lights might reduce bird mortality levels to the same or similar degree as white strobe lights? We also seek comment on whether there are other studies that have been designed to assess the different effects on avian mortality of these different lighting systems and whether there is a need for any further studies. If other studies exist, what are their results? Do they support the adoption of our tentative conclusion regarding the use of white strobe lights? Or, would the studies support giving tower registrants the option of using red strobe or red blinking incandescent lights as an alternative to white strobe lights, to the extent consistent with aircraft navigation safety and endorsed by the FAA?

45. We also seek comment regarding the economic, environmental, and any other costs of a requirement to use white strobe lights when compared with other lighting alternatives. In particular, what would be the specific economic impact on licensees and tower owners and constructors, including small businesses, of adopting such a requirement? What are the comparative costs and longevity of white strobe lighting systems versus the other lighting systems identified in this section? What other factors are relevant to assess the impact that requiring medium intensity white strobe lighting would have on licensees and towers owners and constructors? To the extent white strobe lighting would increase the cost of constructing or maintaining towers, we further seek comment on the effect this would have on communications service deployment, homeland security, and public safety.

46. We also note that Section 1.1307(a)(8) provides that construction of antenna towers and/or supporting structures that are to be equipped with high intensity white lights, which are to be located in residential neighborhoods, is an action that may significantly affect the environment and thus requires the preparation of an EA by the applicant.[148] Further, the April 2004 FAA memorandum notes

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[145] FAA AC 70/7460-1K at 13-14. We further note that FAA AC 70/7460-1K does not appear to explicitly permit the use of red blinking incandescent lights. *Id.*

[146] E-mail from Gerald W. Winegrad, American Bird Conservancy, to Fred Campbell, Legal Advisor to FCC Chairman Martin, dated July 31, 2006.

[147] *See id.*

[148] 47 C.F.R. § 1.1307(a)(8).

that in accordance with the Advisory Circular, the use of white lights for nighttime conspicuity within three nautical miles of an airport or in populated urban areas is discouraged as a lighting recommendation.[149] We invite comment supported by evidence on whether medium intensity white strobe lighting would impose an environmental impact on neighboring residents or have other adverse consequences, and if so, how we should weigh these competing public interest considerations in determining whether to adopt any guidance relating to tower lighting.

47. Finally, we seek comment on what, if any, action we should take regarding the lighting of existing towers. We invite comment on both the benefits and costs of any such action. We note that this may also require modifying licenses pursuant to Section 316 of the Communications Act, as well as the approval of the FAA and the re-issuance of any no-hazard determinations. Considering the costs and benefits and the need for the FAA to approve changes, if we were to take any action regarding existing towers, how should such a requirement be implemented? Should we require medium intensity white strobe lights when the red obstruction lights burn out and need to be replaced? Would such an approach be consistent with the FAA's applicable Advisory Circular? Should we seek a transition of all existing towers to medium intensity white strobe lights, to the extent permitted by the FAA, within a specific time frame, such as five years from the date of adoption of the tentative conclusion as a rule? We seek comment on these questions, as well as upon other alternatives to our proposed rule.

2. Use of Guy Wires

48. We next seek comment on whether we should adopt any requirements governing the use of guy wires because of the potential impact posed to migratory birds. In its September 2004 report, Avatar concluded that, based on the studies it analyzed, it appears that "[t]owers with guy wires are at higher risk [to birds] than self-supporting towers."[150] Avatar also stated, however, that at the time of its report there were "[n]o specific studies comparing avian collisions between guyed and self-supporting structures."[151] In their joint comments, American Bird Conservancy, Forest Conservation Council, the Humane Society, and Friends of the Earth assert that birds are killed not only by colliding with towers but also by flying into guy wires that support the towers.[152] Gehring's interim reports on the Michigan towers, presented subsequent to the Avatar report, suggest that towers with guy wires had more avian mortality than towers of similar height with no guy wires.[153]

49. In light of this record, we request comment on several questions relevant to whether these concerns are significant enough to justify the Commission's adoption of rules relating to the use of guy wires. In addressing these questions, commenters should also comment on whether, to the extent we adopt our tentative conclusion regarding tower lighting, there might still be a need to adopt requirements regarding the use of guy wires.

50. First, we seek comment on whether the scientific record supports limiting the use of guy wires. Are there additional scientific studies that illuminate the relationship between avian mortality and the use of guy wires? If so, how conclusive are those studies, and what do they show? To the extent it

[149] 2004 FAA Memorandum.

[150] *Avatar Report* at 5-1.

[151] *Id.* at 3-37.

[152] American Bird Conservancy *NOI* Joint Comments at 14-15.

[153] Gehring *Avatar PN* Comments at 4-5; Gehring Dec. 2005 Report at 3; Gehring Aug. 2005 Report at 3.

can be shown that guy wires do increase the number of migratory bird collisions with communications towers, is the increase in the number of collisions also related to the type of lighting used, such that the number of collisions would be mitigated if we were to adopt our tentative conclusion that medium intensity white strobe lights for nighttime conspicuity is to be considered the preferred lighting system over red obstruction lighting systems?

51. We also request information on engineering and economic factors relevant to the use of guy wires. Is there a height threshold above which guy wires are generally necessary, and if so, what is that height? Does the calculus vary depending on soil conditions or other factors? To what extent are towers utilizing guy wires necessary to the provision of various licensed services, and what economic factors may affect the decision whether to use guy wires?

52. We also request comment on any additional consequences that may result from regulation relating to guy wires. For instance, if we were to limit the use of guy wires, what would be the impact on tower construction and the deployment of communications services generally? Would tower constructors need to erect towers of the same height but with a larger physical footprint, a greater number of shorter towers to provide equivalent service, or some combination thereof? To what extent would either non-guyed tower designs or greater proliferation of towers result in creating additional adverse impact on environmental matters that do not pertain to migratory birds, such as historic properties, wetlands, or endangered species?

53. We ask commenters to address how we might balance these various scientific, engineering, economic, and other factors, in determining what, if any, standards should govern the use of guy wires. We encourage commenters to suggest specific tests for when the use of guy wires may be suspect, and to justify those tests based on objective evidence. Commenters should also address how any standards should be implemented. For example, if we adopt standards regarding the use of guy wires, should we mandate that all towers, or all towers meeting certain criteria, meet those standards without exception? Alternatively, should we permit towers with guy wires upon filing of an EA and issuance of a FONSI, or upon certification that no reasonable alternative (e.g., use of non-guyed towers or collocation) was available?[154] We seek comment regarding both the benefits and the costs of these and alternative regimes.

54. We specifically seek comment on whether to adopt requirements relating to marking of guy wires. Avatar reported that one of the "most effective ways to reduce avian mortality is to mark [wires] to make them more visible,"[155] and that the effectiveness of methods that mark overhead electric power lines and target certain species of birds is well documented.[156] Therefore, Avatar concluded that wire marking "may increase guy wire visibility thereby reducing the collision risk for some birds,"[157] and discussed several currently available devices such as bird flight diverters.[158] Avatar also explained, however, that "from an engineering perspective," wire marking is not "always a good solution" because devices "that physically enlarge the wire commonly act as wind-catching objects and may increase the

[154] *See* paras. 53-57, *infra*.

[155] *Avatar Report* at 4-8.

[156] *Id.* at 4-8 to 4-9.

[157] *Id.* at 4-9.

[158] *Id.* at 4-9 to 4-16.

risk of wire breaks due to line tension, vibration, and stress loads."[159]

55. We seek comment on the effectiveness of wire markings in mitigating migratory bird collisions with communications towers. In particular, we invite information about past or ongoing scientific studies into the effectiveness of wire markings on communications towers. To the extent studies have been conducted on other types of structures, how relevant are they to communications towers? Commenters who advocate a marking requirement should address which types of marking devices are most effective, and how they should be used. We also invite comment regarding the engineering feasibility and financial cost of marking requirements, for both existing and new towers. If the Commission were to adopt a wire marking requirement, how could we do so in a manner that imposes minimal burdens on license applicants and communications tower owners and constructors?

3. Tower Height

56. We seek comment on whether to adopt any requirements relating to the height of communications towers in order to minimize the impact of such towers on migratory birds. Avatar found that "all other things being equal, taller towers with lights tend to represent more of a hazard to birds than shorter, unlit, towers."[160] FWS's voluntary guidelines recommend that communications towers be shorter than 200 feet if possible to avoid, in most instances, the requirement that the towers have aviation safety lights.[161] Conservation groups argue that the Commission should restrict the heights of communications towers because doing so would minimize the presence of two features that are most harmful to birds, lights and guy wires.[162]

57. We request comment regarding the relevant costs and benefits of adopting any requirements relating to tower height. For example, would limitations on tower height hinder the deployment of certain types of services, including public safety communications? Would such requirements adversely affect the availability of service in certain geographic locations, such as rural areas? Would requirements governing tower height lead to a greater number of towers, and if so, to what extent would this impact historic properties, wetlands, endangered species, or other environmental values? We welcome specific information regarding any such disadvantages of rules relating to tower height, as well as the benefits. We also ask commenters to address whether, to the extent we adopt our tentative conclusion regarding tower lighting, there would be a need to adopt any requirements relating to tower height.

58. We also seek comment on how any requirements relating to tower height should be implemented. In particular, we ask commenters that advocate height regulations to consider what tower height should trigger any rules. Should we regulate towers over 200 feet in order to minimize the use of lights? Is there some other threshold above which towers are more likely to have a significant effect on migratory birds?[163] Finally, we seek comment on what procedural requirements we should apply to towers that exceed any specified height threshold, such as a certification of need or requirement to file an

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[159] *Id.*

[160] *Id.* at 5-1.

[161] FWS *NOI* Comments at 10.

[162] American Bird Conservancy *NOI* Joint Comments at 16-17; FWS *NOI* Comments at 9-10.

[163] Gehring's interim reports of the Michigan studies indicate that towers that were taller than 1000 feet AGL caused more avian mortality than towers between 380 and 480 feet AGL. *See* Gehring Aug. 2005 Report at 2-3; Gehring Dec. 2005 Report at 2-3.

EA.

4. Tower Location

59. We seek comment on whether towers located in certain areas might cause a sufficient environmental impact on migratory birds such that, when considered with other relevant factors, some Commission action might be justified. In the *NOI*, the Commission requested scientific research and other data "concerning the impact on migratory birds of communications towers located in or near specific habitats, such as wetlands."[164] The *NOI* asked whether "towers on ridges, mountains, or other high ground have a differential impact on migratory bird populations." The *NOI* also sought comment on the impact on migratory birds of towers located in areas with a high incidence of fog, low clouds, or similar obscuration, or in proximity to coastlines and major bird corridors.[165] In response to the *NOI*, some commenters presented arguments and rationales why communications towers should not be sited in certain locations such as migratory bird habitats or in migration corridors on ridgelines.[166] Although Avatar noted some degree of confidence within the scientific community that the "greatest bird mortality tends to occur on nights with low visibility conditions, especially fog, low cloud ceiling, or other overcast conditions," it reached no similar findings with regard to the effect that locating towers on ridges, or in wetlands, might have on avian mortality.[167] In addition, Land Protection Partners discussed a "multi-modal research study in New Hampshire" that it claimed "revealed the effect of topography of the Appalachian Mountains on migratory birds, including neo-tropical migrants."[168] We seek information on whether there are additional scientific studies that have examined the effect that locating communications towers in different areas, with different weather conditions, might have on avian mortality and, if so, what if any requirements we should adopt on the basis of such studies.

5. Collocation

60. We request comment on whether the Commission should adopt additional requirements to promote collocation.[169] We note that FWS, American Bird Conservancy, and several other commenters argue that the Commission should strongly encourage license applicants to collocate their antennas on existing structures to the extent possible.[170] We seek comment and information relevant to whether we should adopt policies that would promote more extensive use of collocation. If we do adopt regulations to promote collocation, we seek comment on what form those regulations should take. Possibilities could include, for example, a requirement to certify that collocation opportunities are

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[164] *NOI*, 18 FCC Rcd at 16950 ¶ 23.

[165] *Id.*

[166] *See, e.g.*, American Bird Conservancy *NOI* Joint Comments at 17; American Bird Conservancy *Avatar PN* Joint Comments at 2.

[167] *Avatar Report* at 5-1.

[168] LPP *Avatar PN* Technical Report at 28. According to Land Protection Partners, researchers in this study observed "exceptional numbers of migrants" at 2 to 30 meters AGL on ridgelines.

[169] We note that the Commission's rules currently address collocation matters in certain respects. *See, e.g.*, 47 C.F.R. § 1.1306 Note 1 (excluding collocations from provisions of Section 1.1307(a) other than Section 1.1307(a)(4); 47 C.F.R. Part 1, App. B (Nationwide Programmatic Agreement excluding most collocations from review under Section 106 of the National Historic Preservation Act).

[170] American Bird Conservancy *NOI* Joint Comments at 17; FWS *NOI* Comments at 10. *See also* FWS Voluntary Guidelines at 2.

unavailable and/or describe collocation alternatives that the licensee explored. We ask commenters to discuss the benefits and costs of these and alternative forms of regulation, including burdens on small businesses and possible impacts on the delivery of public safety and homeland security services. We also ask commenters to assess the need for such regulation to the extent we adopt our tentative conclusion that the use of medium intensity white strobe lights for nighttime conspicuity is to be considered the preferred lighting system over red obstruction lighting systems.

6. Section 1.1307

61. We seek comment as to whether to amend Section 1.1307(a) of our rules to routinely require environmental processing with respect to migratory birds. Section 1.1307(a) currently identifies eight different criteria that, if present, establish that a proposed facilities construction "may significantly affect the environment" and therefore requires preparation of an EA.[171] The American Bird Conservancy, Forest Conservation Council, Friends of the Earth, and the Humane Society argue that, considering the evidence of mass bird mortalities at communications towers, the Commission should also expressly require an EA for proposed facilities that would have potential effects on migratory birds.[172] We note that the Commission's rules already provide for consideration of factors not identified in Section 1.1307(a), including those that pertain to a facility's effect on migratory birds, to the extent the Commission independently determines that there may be a significant environmental effect in a particular case.[173]

62. We seek comment regarding the appropriate methodology for making such a determination, as well as the level of probative evidence necessary to support such a determination. We note, for example, that Avatar found in its 2004 report that there were no studies to date that "demonstrate[d] an unambiguous relationship between avian collisions with communication towers and population decline of migratory bird species."[174] Is the current state of scientific evidence insufficient to require routine assessment of such an effect? Or, to the contrary, is the evidence of specific incidents of bird collisions with towers, such as extrapolations that estimate the total number of these collisions, sufficient to support a required assessment for some or all towers? Are there other factors the Commission should consider in determining the proper treatment of the effect on migratory birds under the Commission's environmental rules?

63. We also seek comment, if we adopt an EA requirement for effects on migratory birds, on the types of towers to which such a requirement should apply. One possible approach might be to require an EA addressing this factor for all new tower construction. We seek comment as to whether the scientific evidence would support a general requirement of this sort, as well as the burdens it would impose on applicants. We also ask commenters to consider whether such a broadly applicable procedural requirement would reduce the incentive for companies to choose sites and designs that may be less likely

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[171] 47 C.F.R. § 1.1307(a)(1)-(8).

[172] American Bird Conservancy *Avatar PN* Joint Comments at 20; American Bird Conservancy *NOI* Joint Comments at 19.

[173] 47 C.F.R. § 1.1307(c), (d). As discussed in paras. 9-10, *supra,* 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 EA. All other actions are deemed individually and cumulatively to have no significant effect on the quality of the human environment and are categorically excluded from environmental processing. 47 C.F.R. § 1.1306(a).

[174] *Avatar Report* at 5-1.

to affect migratory birds. Another possibility could be to require an EA if a proposed construction "might affect migratory birds." Commenters discussing this approach should address how such a broadly worded requirement might be administered, and how it could be enforced.

64. An alternative to these general approaches may be to require an EA only for proposed towers that exhibit certain characteristics that render them more likely to harm migratory birds. For example, as suggested in the discussion above, we might require an EA only for towers that use certain lighting systems, or that require guy wires, or that exceed a specified height.[175] We seek comment as to whether the evidence supports such criteria, and if so where the thresholds should be set. Are there any additional factors that should be considered in triggering an EA requirement, such as the area of the country in which the tower would be located, the local topography, or prevailing weather conditions? We encourage commenters to set forth specific proposals and to address all relevant considerations, including the scientific support for particular criteria; the effect of any such EA requirement on the deployment of wireless services, on homeland security, and on public safety; and the Commission's ability to administer any particular proposal if adopted. Commenters should also address both the effectiveness and the burdens of various approaches, including the impacts on small businesses.

7. Other Possible Actions.

65. Finally, we seek comment on whether there are other possible substantive or procedural measures the Commission could take to minimize migratory bird collisions that are not discussed above. For any such possible measure, we request any available information and scientific research to support the effectiveness of such a measure at minimizing migratory bird collisions. We also request comment on the best way to implement such a measure so as to eliminate the imposition of any unnecessary costs on affected entities, including small businesses.

IV. PROCEDURAL MATTERS

A. *Ex Parte* Rules – Permit-But-Disclose Proceeding

66. This is a permit-but-disclose notice and comment rulemaking proceeding. *Ex parte* presentations are permitted, except during the Sunshine Agenda period, provided they are disclosed pursuant to the Commission's Rules.[176]

B. Initial Regulatory Flexibility Act Analysis

67. As required by the Regulatory Flexibility Act,[177] the Commission has prepared an Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on small entities of the policies and rules proposed in this document. The IRFA is set forth in Appendix A. 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 below in subsection D, and have a separate and distinct heading designating them as responses to the IRFA.

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[175] *See* paras. 36-44, *supra*.

[176] *See generally* 47 C.F.R. §§ 1.1202, 1.1203, 1.1206. We note that the Commission shares jurisdiction over some of the issues addressed in this proceeding with FWS and the FAA, and that presentations by these agencies are therefore exempt from disclosure. 47 C.F.R. § 1.204(a)(5).

[177] *See* 5 U.S.C. § 603.

C. Initial Paperwork Reduction Act of 1995 Analysis

68. 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.[178]

D. Comment Period and Procedures

69. Pursuant to sections 1.415 and 1.419 of the Commission's rules, 47 CFR §§ 1.415, 1.419, 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. *See Electronic Filing of Documents in Rulemaking Proceedings*, 63 FR 24121 (1998).

- 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. Filers should follow the instructions provided on the website for submitting comments.

  - For ECFS filers, if multiple docket or rulemaking numbers appear in the caption of this proceeding, filers must transmit one electronic copy of the comments for each docket or rulemaking number referenced in the caption. In completing the transmittal screen, filers should include their full name, U.S. Postal Service mailing address, and the applicable docket or rulemaking number. Parties may also submit an electronic comment by Internet e-mail. To get filing instructions, filers should send an e-mail to ecfs@fcc.gov, and include the following words in the body of the message, "get form." A sample form and directions will be sent in response.

- Paper Filers: Parties who choose to file by paper must file an original and four copies 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 (although we continue 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.

  - The Commission's contractor will receive hand-delivered or messenger-delivered paper filings for the Commission's Secretary at 236 Massachusetts Avenue, NE., Suite 110, Washington, DC 20002. The filing hours at this location 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.

[178] *See* 44 U.S.C. § 3506(c)(4).

- 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 should be addressed to 445 12th Street, SW, Washington DC 20554.

People with Disabilities: 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 202-418-0530 (voice), 202-418-0432 (tty).

E. Further Information

70. For further information concerning this rulemaking proceeding contact: Louis Peraertz, (202) 418-1879, louis.peraertz@fcc.gov, or Aaron Goldschmidt at (202) 418-7146, aaron.goldschmidt@fcc.gov, Wireless Telecommunications Bureau, Spectrum and Competition Policy Division.

V. ORDERING CLAUSES

71. Accordingly, IT IS ORDERED that, pursuant to Sections 1, 4(i), 303(q), 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 154(i), 303(q), 303(r), and the National Environmental Policy Act of 1969, 42 U.S.C. § 4321 et seq., this *Notice of Proposed Rulemaking* IS HEREBY ADOPTED.

72. IT IS FURTHER ORDERED that 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 the *Notice of Proposed Rulemaking* on or before [60 days after publication in the Federal Register] and reply comments on or before [90 days after publication in the Federal Register].

73. IT IS FURTHER ORDERED that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, SHALL SEND a copy of this *Notice of Proposed Rulemaking*, including the Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch
Secretary

APPENDIX A

INITIAL REGULATORY FLEXIBILITY ACT ANALYSIS

As required by the Regulatory Flexibility Act (RFA),[179] the Commission has prepared this Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on small entities of the policies and rules proposed in this *Notice of Proposed Rule Making (NPRM)*. Written public comments are requested regarding this IRFA. Comments must be identified as responses to the IRFA and must be filed by the deadlines for comments on the *NPRM* provided in paragraph 69. The Commission will send a copy of this *NPRM*, including this IRFA, to the Chief Counsel for Advocacy of the Small Business Administration.[180] In addition, this *NPRM* and IRFA (or summaries thereof) will be published in the Federal Register.[181]

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

The National Environmental Policy Act of 1969 (NEPA) requires federal agencies to establish procedures that will enable them to analyze any potential environmental impact of actions that they undertake or authorize.[182] The Endangered Species Act (ESA) prohibits the taking of any endangered or threatened species by any person unless authorized by the U.S. Fish & Wildlife Service (FWS).[183] The Commission has implemented regulations to comply with NEPA and ESA in Part 1, Subpart I of its rules.[184] In response to the Commission's August 2003 Notice of Inquiry in this proceeding,[185] FWS and several other parties filed comments in which they argued that the Migratory Bird Treaty Act (MBTA)[186] would prohibit the unintentional and incidental take of even one migratory bird that died by colliding with a communications tower. These commenters also asserted that there have been several reports of mass migratory bird mortalities at communications towers. FWS estimates that the number of migratory birds killed each year due to collisions with communications towers could range from 4 to 50 million.[187]

In this *Notice of Proposed Rulemaking* (*NPRM*), we seek comment on whether to amend the

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[179] *See* 5 U.S.C. § 603. The RFA, *see* 5 U.S.C. §§ 601-612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

[180] *See* 5 U.S.C. § 603(a).

[181] *See id.*

[182] 42 U.S.C. §§ 4321-4335; *Public Citizen*, 541 U.S. at 756; *Methow Valley Citizens Council*, 490 U.S. at 350.

[183] 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).

[184] 47 C.F.R. § 1.1301 *et seq*; 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).

[185] In the Matter of Effects of Communications Towers on Migratory Birds, *Notice of Inquiry*, WT Docket No. 03-187, 18 FCC Rcd 16938 ¶ 1 (2003) (*NOI*).

[186] 16 U.S.C. § 701.

[187] CTIA *NOI* Comments at Exhibit B (U.S. Fish & Wildlife Service, Migratory Bird Mortality: Many Human Caused Threats Afflict our Bird Populations, at 1 (Jan. 2002)).

Commission's rules to reduce the impact of communications towers on migratory birds in accordance with these federal statutes and in light of the concerns expressed in the *NOI* record. We tentatively conclude that any newly constructed or modified communications tower, which under Part 17 of the Commission's rules must be registered with the Commission and comply with lighting specifications, should be required to use medium intensity white strobe lights rather than red obstruction lighting for nighttime conspicuity so long as the Federal Aviation Administration (FAA) determines that the use of such lights on that particular communications tower does not impair aviation safety. We also seek comment on whether we should adopt regulations with regard to: (1) the use of guy wires; (2) height of communications towers; (3) the location of towers; and (4) collocation of antennas on existing structures. Finally, we seek comment on whether we should amend Commission rule 1.1307[188] to include potential impact on migratory birds as a criterion that requires the filing of an Environmental Assessment (EA).

B. Legal Basis:

We tentatively conclude that we have authority under Sections 1, 4(i), 303(q) and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 154(i), 303(q), 303(r), and under the National Environmental Policy Act of 1969, 42 U.S.C. § 4321 et seq., to adopt the proposals set forth in the *NPRM*.

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

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 rules 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."[189] In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act.[190] 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).[191] A small organization is generally "any not-for-profit enterprise which is independently owned and operated and is not dominant in its field."[192]

Nationwide, there are a total of approximately 22.4 million small businesses, according to SBA data.[193] A "small organization" is generally "any not-for-profit enterprise which is independently owned and operated and is not dominant in its field."[194] Nationwide, as of 2002, there were approximately 1.6

[188] 47 C.F.R. § 1.1307.

[189] *See* 5 U.S.C. § 601(6).

[190] 5 U.S.C. § 601(3) (incorporating by reference the definition of "small business concern" in 15 U.S.C. § 632). Pursuant to the RFA, 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 which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register.

[191] Small Business Act, 5 U.S.C. § 632 (1996).

[192] 5 U.S.C. § 601(4).

[193] *See* SBA, Programs and Services, SBA Pamphlet No. CO-0028, at page 40 (July 2002).

[194] 5 U.S.C. § 601(4).

million small organizations.[195] The term "small governmental jurisdiction" is defined generally as "governments of cities, towns, townships, villages, school districts, or special districts, with a population of less than fifty thousand."[196] Census Bureau data for 2002 indicate that there were 87,525 local governmental jurisdictions in the United States.[197] We estimate that, of this total, 84,377 entities were "small governmental jurisdictions."[198] Thus, we estimate that most governmental jurisdictions are small. The changes and additions to the Commission's rules adopted in the *NPRM* are of general applicability to all FCC licensed entities of any size that use a communications tower. Accordingly, this *NPRM* provides a general analysis of the impact of the proposals on small businesses rather than a service by service analysis.

D. Description of Projected Reporting, Recordkeeping and Other Compliance Requirements:

The *NPRM* solicits comment on one tentative conclusion and on five other potential areas of modification to the Commission's regulations regarding the siting and construction of communications towers so as to reduce the incidence of migratory bird collisions. The *NPRM* seeks comment on its tentative conclusion that, under the Commission's Part 17 rules, the use of medium intensity white strobe lights for nighttime conspicuity is to be considered the preferred lighting system over red obstruction lighting systems to the maximum extent possible without compromising aircraft navigation safety. The *NPRM* also requests comment on whether we should impose regulations relating to the use of guy wires on communications towers, the height of communications towers, the location of communications towers, and collocation of new antennas on existing structures. Finally, the *NPRM* seeks comment as to whether the Commission should amend Section 1.1307(a) of our rules to expand the circumstances under which an EA is required. Depending on the rules that are adopted, it is possible that compliance may involve new recordkeeping or reporting requirements.

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

The RFA requires an agency to describe any significant alternatives that it has considered in reaching its proposed 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.[199]

The *NPRM* seeks comment on its tentative conclusion that, under the Commission's Part 17 rules, the use of medium intensity white strobe lights for nighttime conspicuity is to be considered the

[195] Independent Sector, The New Nonprofit Almanac & Desk Reference (2002).

[196] 5 U.S.C. § 601(5).

[197] U.S. Census Bureau, Statistical Abstract of the United States: 2006, Section 8, page 272, Table 415.

[198] We assume that the villages, school districts, and special districts are small, and total 48,558. *See* U.S. Census Bureau, Statistical Abstract of the United States: 2006, section 8, page 273, Table 417. For 2002, Census Bureau data indicate that the total number of county, municipal, and township governments nationwide was 38,967, of which 35,819 were small. *Id.*

[199] 5 U.S.C. § 603(c).

preferred lighting system over red obstruction lighting systems to the maximum extent possible without compromising aircraft navigation safety. We seek comment on the effect that such a requirement, or alternative rules, might have on small entities. The *NPRM* also requests comment on whether it should impose regulations relating to the use of guy wires on communications towers, the height of communications towers, the location of communications towers, and collocation of new antennas on existing structures. For each of these areas, we seek comment about the burdens that regulation would impose on small entities and how the Commission could impose such regulations while minimizing the burdens on small entities. Are there any alternatives the Commission could implement that could achieve the Commission's goals while at the same time minimizing the burdens on small entities? We will continue to examine alternatives in the future with the objectives of eliminating unnecessary regulations and minimizing any significant economic impact on small entities.

F. Federal Rules that may Duplicate, Overlap, or Conflict with the Proposed Rules:

None.

APPENDIX B

LIST OF COMMENTERS

This is a list of parties who filed substantial comments and reply comments within the designated comment periods in the proceeding. As discussed in footnote 2 of this Notice of Proposed Rulemaking, this list does not include more than three thousand concerned citizens, most of whom are members of the National Audubon Society, who filed brief comments both during and after the formal comment periods asking the Commission to: comply with federal environmental statutes; immediately implement the U.S. Fish and Wildlife Service voluntary guidelines; and undertake extensive research into the impact that communications towers have on migratory birds.

Responses to Migratory Bird NOI – Comments

American Bird Conservancy, Friends of the Earth, and Forest Conservation Council
American Petroleum Institute
Association of Public-Safety Communications Officials International, Inc.
AT&T Wireless Services
Albert Caccese, Audubon New York
Cellular Telecommunications & Internet Association (CTIA) and National Association of Broadcasters (NAB)
Chickasaw Nation
Cingular Wireless, LLC (Cingular) and SBC Communications, Inc. (SBC)
Delmarva Ornithological Society
Eastern Band of Cherokee Indians Tribal Historic Preservation Office
William R. Evans
Kenaitze Indian Tribe
Daniel McGowan
National Association of Tower Erectors (NATE)
National Audubon Society
National Wildlife Federation
Nikilaus E. Leggett
Nunakauyak Traditional Council
Personal Communications Industry Association (PCIA)
B. Sachau
Don Schellhardt, Esq.
Sprint Corporation (Sprint)
U.S. Fish and Wildlife Service (FWS)
Washington State Association of Broadcasters

Responses to Migratory Bird NOI – Reply Comments

Cingular and SBC
CTIA
NAB
National Association for Amateur Radio
PCIA
United States Cellular Corporation (U.S. Cellular)

Responses to Avatar Report – Comments

American Bird Conservancy, Defenders of Wildlife, Forest Conservation Council, and Humane Society of the United States
Arizona Game & Fish Department
Paul Cardoza
CTIA and NAB
Centerpointe Communications, LLC (Centerpointe)
Cingular
FWS
Dr. Joelle Gehring
Land Protection Partners (LPP)
PCIA
S-R Broadcasting Co.
Woodlot Alternatives

Responses to Avatar Report – Reply Comments

American Bird Conservancy, Defenders of Wildlife, Forest Conservation Council, and Humane Society of the United States
Centerpointe
Cingular
CTIA and NAB
FWS
LPP
PCIA
U.S. Cellular

STATEMENT OF COMMISSIONER MICHAEL J. COPPS

RE: Effects of Communications Towers on Migratory Birds, WT Docket No. 03-187.

Today the Commission makes good on its promise to open a rulemaking on reducing bird deaths caused by collisions with communications towers. The Chairman told us earlier this year he would bring such an item to us and I commend him for following through. There is simply no question that bird-tower collisions are a serious problem. The U.S. Fish and Wildlife Service tells us that millions of birds, perhaps as many as 50 million, die each year through such accidents. That is a sobering conclusion coming from the federal agency with the greatest scientific expertise when it comes to wildlife conservation and primary responsibility for protecting migratory birds. The situation imposes a grave responsibility on ***this*** agency, too, because of our important jurisdiction over tower painting and illumination – a responsibility to make sure that our rules and practices do not contribute to a needless toll of bird deaths.

The Commission could have faced up to this problem years ago. Put bluntly, for too many years this agency treated a widely-recognized problem with not-so-benign neglect. Now we have learned, I hope, that this is not a problem that will just go away if we ignore it. Instead, we need to face up to the hard questions and resolve them in a timely and effective fashion.

We are not faced here with an all-or-nothing choice. Communications towers are essential to modern American life, we all understand that. Without them, we could not watch television, listen to the radio, make cell phone calls, or enjoy the next generation of wireless broadband services. But even as the Commission fulfills its mission to facilitate all these exciting and important technologies, we must also be mindful of the effects we have on the nation's fragile ecosystem. The industries we oversee are backbone industries with effects felt far and wide, including on our environment. We need to be proactive on ecological preservation, instead of being perceived, as we are by some, as anti-environment or, at best, as some kind of "reluctant environmentalist" dragged kicking and screaming into the Twenty-first century. This kind of agency involvement is something I have pushed for since I arrived here at the Commission in 2001. So I am pleased we are moving in that direction. And I believe that through hard work and a willingness to learn from both conservationists and tower operators, we will find ways to continue encouraging communications technologies while at the same time minimizing ecosystem costs, such as the high avian death toll we have been witnessing. I believe our tentative conclusion about lighting systems represents a good first step in that direction, and I look forward to working with my colleagues to bring this rulemaking to conclusion in the weeks and months – hopefully not years – ahead. Thanks to my colleagues, and to the Bureau, for their good work in developing this item.

STATEMENT OF COMMISSIONER JONATHAN S. ADELSTEIN

RE: Effects of Communications Towers on Migratory Birds, WT Docket No. 03-187.

I am pleased to support this Notice of Proposed Rulemaking because it provides a thorough and thoughtful review into the potential effects of communications towers on migratory birds. In addition, the Notice specifically responds to my request earlier this year, during our consideration of the "gulf coast" petition, to reengage the larger migratory bird proceeding. This important proceeding unfortunately had languished for some time, and I am pleased to be able to push that review forward now.

The item before us represents a balanced look on a challenging issue. Migratory birds are a prized natural resource. Conservation of the migratory bird population and their habitats for future generations is an important goal for our society. At the same time, communication towers represent a critical component in the continued deployment of basic and advanced telecommunications services throughout the country. Towers not only will form the backbone of the transition to digital television, they also are used everyday by our nation's public safety community to effectively and timely respond to those who need our help the most. So I am pleased that our Notice asks tough questions and equally explores both sides of the issue so that we may best develop a strategic approach for dealing with the impact that communication towers have on migratory birds.

While I generally support the Notice, I did want to highlight one aspect of the item that gives me pause. The Notice suggests that there may be an open question about our legal authority under the National Environmental Policy Act (NEPA) and the Communications Act to make the requisite public interest determination to support rules specifically for the protection of migratory birds. I, for one, am confident in our legal authority under the NEPA and the Communications Act to take action, if appropriate, and do not think our conclusion on this issue should be a tentative one. I took a similarly firm position on the legal effect of the National Historic Preservation Act in our consideration of the Nationwide Programmatic Agreement – a determination that was recently upheld in the U.S. Court of Appeals for the D.C. Circuit.

Finally, I understand that there is a renewed effort by members of the communications industry along with leading environmental and conservation groups to discuss what can collectively be done to minimize the impact of communications towers on migratory birds. I am very encouraged by this news and want to extend my strong support for this cooperative effort. I hope that this group will function as an important incubator to develop and hatch consensus positions that will equally serve conservation and communications objectives going forward.

STATEMENT OF COMMISSIONER ROBERT M. McDOWELL

RE: Effects of Communications Towers on Migratory Birds, WT Docket No. 03-187.

Having grown up in what was a rural setting in Virginia, I have had a longstanding commitment to ecological conservation, and ornithological conservation in particular. Accordingly, I am pleased that the Commission is furthering its previous efforts to gather scientific evidence on avian mortality at communications towers.

Many thanks to Chairman Martin for his leadership in bringing this issue before the Commission today. I encourage all interested parties to participate in this rulemaking. I look forward to working closely with my colleagues and all stakeholders to ensure that the Commission moves forward to carefully balance the need to protect against avian mortalities associated with communications towers, while not unduly hampering the ability of industry to deliver new, advanced services to American consumers as quickly and economically as possible.