

Before The  
Federal Communications Commission  
Washington, D.C.

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

**COMMENTS OF THE  
CTIA - THE WIRELESS ASSOCIATION  
AND NATIONAL ASSOCIATION OF BROADCASTERS  
ON THE AVATAR REPORT**

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## EXECUTIVE SUMMARY

CTIA - The Wireless Association and the National Association of Broadcasters (“NAB”) (“Joint Commenters”) file these comments in response to the FCC’s December 22, 2004, *Public Notice* seeking comment on the Avatar Environmental, LLC (“Avatar”) Report, which reviewed the scientific literature on collisions of migratory birds with communications towers.

The principle conclusion reached by the FCC’s expert, Avatar, is that the scientific evidence on communication towers and avian mortality is inconsistent and not fully developed. The established science is not sufficient to determine *causes* of avian mortality at communications towers or to design measures to reduce avian mortality. As Avatar concedes: “most of the causes and possible solutions for increased avian mortalities associated with communications towers remain(s) speculative.” Avatar, p. 5-1.

Joint Commenters’ avian expert consultants, Woodlot Alternatives, Inc. (“Woodlot”), agree with many of Avatar’s findings, but also highlight that some of Avatar’s conclusions are neither supported by science nor the review of the literature in the Avatar Report itself. *See* Woodlot’s Comments on the Avatar Report attached hereto. Woodlot concludes, in part:

- “[I]t is premature to recommend and implement certain guidelines until definitive research has been conducted and peer-reviewed.” Woodlot, p. 1.
- “There are no studies to date that demonstrate an unambiguous relationship between avian collisions with telecommunications towers and population decline in migratory bird species.” Avatar, p. 5-2; Woodlot, p. 1.
- “There is, however, no evidence in the literature to date indicating that communications towers are having a statistically significant or “*biologically significant*” impact on migratory bird populations.” Woodlot, p. 3.
- “Conclusions reached in Avatar Section 5.1 appear generally speculative and distinct from the main body of the report, as they are largely unsupported by the earlier analysis, or by the current state of much of the scientific literature.” Woodlot, p. 1.

- “More research is warranted in order to identify specific causes and possible solutions to this problem.” Avatar, p. 5-2; Woodlot, p. 1.

Woodlot also highlights that the scientific literature does not support some of the so-called conclusions that Avatar identifies as “hav[ing] been advanced with some degree of confidence within the scientific community.” Avatar, p. 5-1. In particular, the claims that “taller towers with lights tend to represent more of a hazard to birds than shorter, unlit towers” and that “[t]owers with guy wires are at higher risk than self-supporting towers” (Avatar, p. 5-1) have *not* been substantiated by well-controlled experiments in the peer-reviewed literature that would be accepted as scientifically valid. Avatar admits in the body of its report that the scientific literature does not support these conclusions, but goes on to advance them anyway on a speculative basis unsupported by any citations to literature. These observations are merely tentative hypotheses that have been “advanced” in the literature by individual researchers as *possible explanations*, suggestions for further study, or anecdotal observations. They are not, however, established scientific facts. Avatar virtually concedes that these claims are not scientifically established by describing them merely as having “been advanced” with “some degree of confidence” by individual “members of the scientific community.” Avatar, p. 5-1. As Woodlot demonstrates in its attached comments on the Avatar Report, these speculative conclusions by Avatar are actually contradicted by much of the scientific literature that Avatar discusses. The scientific literature certainly does not provide a scientific basis for regulatory action. Woodlot, pp. 5-7.

The gaping holes in the scientific literature on avian mortality and communication towers that are noted by both Avatar and Woodlot cannot be filled by requiring FCC licensees to fund the missing research. The Commission lacks legal authority to require industry to conduct or

fund the type of scientific research that is needed to ascertain whether changing certain tower characteristics may affect the number of avian collisions.

Because there is currently no valid scientific evidence but only speculation that changes to tower design and siting would actually reduce avian collisions, regulatory changes are not supportable at this time.

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CTIA - THE WIRELESS ASSOCIATION  
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**I. INTRODUCTION**

CTIA - The Wireless Association (“CTIA”) and the National Association of Broadcasters (“NAB”)<sup>1</sup> file these comments in response to the FCC’s *Public Notice* seeking comment on the report of Avatar Environmental, LLC (“Avatar”), regarding migratory bird collisions with communication towers.<sup>2</sup> The Joint Commenters previously submitted comments in response to the FCC’s *Notice of Inquiry*<sup>3</sup> seeking information, supported by evidence, concerning the effects

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<sup>1</sup> CTIA is the international organization of the wireless communications industry for both wireless carriers and manufacturers. Membership in the association covers all Commercial Mobile Radio Service (“CMRS”) providers and manufacturers, including cellular, broadband PCS, ESMR, as well as providers and manufacturers of wireless data services and products. NAB is a non-profit, incorporated association of radio and television stations and serves and represents the American broadcasting industry.

<sup>2</sup> See Wireless Telecommunications Bureau Seeks Comment on Avatar Environmental, LLC, Report Regarding Migratory Bird Collisions with Communications Towers, *Public Notice*, WT Docket No. 03-187, rel. Dec. 22, 2004.

<sup>3</sup> *Effects of Communications Towers on Migratory Birds*, Proposed Rule, 68 Fed. Reg. 53696 (Sept. 12, 2003).

of communications towers on migratory birds.<sup>4</sup> Avatar's Report<sup>5</sup> is evaluated in the technical comments by Woodlot Alternatives, Inc. ("Woodlot"), attached as Exhibit A.<sup>6</sup>

Both the Joint Commenters and the Commission have expended significant resources to comprehensively review the science of avian collisions with communications towers. As discussed below, there is no reliable evidence that communication towers are having *any* significant effect on migratory bird populations. Nor is there any reliable scientific evidence that particular factors in tower design, siting or construction contribute significantly to avian collisions. Notably absent from this record is any credible scientific evidence that changes to tower design, siting or construction would mitigate or reduce avian collisions. Thus, there is no basis for the Commission to modify its environmental regulations regarding communication towers at this time. The Commission also lacks legal authority to require industry to fund research into the speculative arena of *whether* changes in communication tower design or siting may affect the number of avian collisions.

Joint Commenters urge that, after reviewing the record in this proceeding, the Commission should find that *no* changes to its environmental rules regarding communications towers are warranted at this time.

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<sup>4</sup> Comments of CTIA and NAB, filed on Nov. 12, 2003 ("Initial Comments"), to *Effects of Communications Towers On Migratory Birds*, WT Docket No. 03-187, Notice of Inquiry, 18 FCC Rcd 16938 (2003).

<sup>5</sup> Notice of Inquiry Comment Review Avian/Communication Tower Collisions, prepared for the FCC, by Avatar Environmental, LLC *et al.* (Sept. 30, 2004) ("Avatar Report").

<sup>6</sup> Technical Comment on *Notice of Inquiry* Comment Review, Avian/Communication Tower Collisions, Final (Avatar *et al.* 2004), by Woodlot Alternatives, Inc. (February 2005) ("Woodlot's Comments on the Avatar Report").

## II. NO SCIENTIFIC BASIS EXISTS FOR REGULATORY REQUIREMENTS.

At least implicitly, Avatar finds that the scientific evidence is *not* sufficient to develop a migratory bird regulatory program with respect to communications towers. Joint Commenters, and their experts, Woodlot, strongly agree that the scientific record is not sufficient to support regulation at this time. Woodlot, p. 1 (“[I]t is premature to recommend and implement certain guidelines until definitive research has been conducted and peer-reviewed.”). As described in and attached to our Initial Comments,<sup>7</sup> Woodlot previously undertook a complete technical review of the scientific literature and concluded in part that: (1) the various factors that may affect avian mortality from communications towers is not well-understood, and (2) no reliable scientific basis exists to demonstrate that communication towers are a "significant" cause of avian mortality as defined under the National Environmental Policy Act (“NEPA”).<sup>8</sup> Nothing in Avatar’s Report disputes Woodlot’s previous conclusions, and in fact, most of Avatar’s Report supports them.

Avatar supports Woodlot's conclusion that the scientific evidence is *not* sufficient to develop a regulatory scheme. By recognizing that the causes of avian mortality are unknown, Avatar concedes that a regulatory scheme is currently inappropriate and would likely be ineffective to mitigate avian mortality. Avatar, p. 5-1 (“most of the causes and possible solutions for increased avian mortalities associated with communications towers remain(s) speculative.”). Avatar also acknowledges that no current studies demonstrate any impact of communications towers on avian mortality. Avatar, p. 5-2 (“There are no studies to date that demonstrate an

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<sup>7</sup> *E.g.*, Initial Comments, p. 32.

<sup>8</sup> 42 U.S.C. § 4321 *et seq.*

unambiguous relationship between avian collisions with telecommunications towers and population decline in migratory bird species.”). Without credible scientific data, a successful regulatory scheme can not be developed. Indeed, it is impossible to discern at this time whether such regulations would even address the issues raised in this proceeding.

In addition to the lack of credible scientific data necessary to develop a regulatory scheme, there is no evidence that communications towers are having a "significant" impact on avian mortality. Woodlot, pp. 3-4. Woodlot indicated that “[t]here is ... no evidence in the literature to date indicating that communications towers are having a statistically significant or “*biologically significant*” impact on migratory bird populations.” *Id.* Avatar acquiesces in Woodlot’s conclusion by evading the issue of the significance of communications towers on avian mortality versus other human-caused mortality.<sup>9</sup> In view of Avatar’s silence on this issue, the only credible conclusion based on the science in this record is Woodlot’s – that the scientific literature does not support a finding of any significant effect on avian populations. As discussed in our Initial Comments<sup>10</sup> and again below, the legal test under NEPA is whether the “human environment” is being “significantly” affected by losses of birds as an environmental resource in a way that is fairly traceable to communications towers.<sup>11</sup> Neither Woodlot nor Avatar point to any scientifically reliable evidence that would satisfy the test for significance under NEPA, and Woodlot affirmatively states that none exists. In other words, the supposed “problem” is entirely

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<sup>9</sup> Avatar, p. 3-4. Woodlot noted Avatar’s inconsistencies and commented, “[C]onclusions reached in Avatar Section 5.1 appear generally speculative and distinct from the main body of the report, as they are largely unsupported by the earlier analysis, or by the current state of much of the scientific literature.” Woodlot, p. 1.

<sup>10</sup> Initial Comments, pp. 11-15.

<sup>11</sup> 40 C.F.R. § 1508.14.

speculative, and no credible scientific data exists showing that communication towers are having any discernible effect at all on migratory bird populations. Clearly, no regulatory changes are appropriate when there is no scientific basis to conclude that a problem exists.

Even if there was a scientific basis to support a significance finding, there are further independent reasons that the existing scientific data are inadequate to support a regulatory change. Both Woodlot and Avatar prove that the scientific literature is insufficient to determine whether any particular factor is having any discernible effect on avian mortality due to communications towers.<sup>12</sup> They address each of the *possible* factors affecting bird collisions with towers and noted that in each case the credible scientific data was insufficient to demonstrate a correlation. For example:

- Migration Patterns, Seasonality, & Bird Behavior – “As noted in both reports, additional information is needed to develop better correlations between seasonal migration patterns and specific factors causing tower collisions.” Woodlot, p. 2; Avatar, p. 3-36.
- Tower Height and Configuration – “Both the Avatar and Woodlot reports state that there are insufficient data to draw substantive conclusions between tower height and migratory bird collisions ....” Woodlot, p. 2; Avatar, p. 3-35 - 3-38.
- Tower Siting – “insufficient information is available to draw conclusions as to specific factors associated with siting towers.” Avatar, 3-41.
- Tower Lighting – “no clear conclusions can be drawn ... regarding the importance and effects of lighting color, duration, intensity, and type ....” Avatar, 3-46.
- Weather – “the extent or degree of this association and *how other factors may influence mortality rates are essentially unknown.*” Avatar, p. 3-52 (emphasis supplied).

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<sup>12</sup> Woodlot, pp. 5-6; Avatar, pp. 3-16 - 3-59. “More research is warranted in order to identify specific causes and possible solutions to this problem.” Avatar, p. 5-2; Woodlot, p. 1.

Regulation is premature when there is no reliable scientific basis to conclude if some factors in communication tower design, siting or construction are affecting avian mortality.

In addition to the fundamental problem of insufficient data, study biases (*e.g.*, geography, scavenger/predator removal rates, and searcher efficiency) were also recognized by both Woodlot and Avatar. Woodlot, p. 4; Avatar, pp. 4-5 - 4-6. These factors alone would undermine the reliability of the available evidence as a basis for regulation. Furthermore, due to a lack of a standard and systematic data collection process, the studies often can not be readily compared and often yield differing results. Avatar, p. 4-1. These factors all support the same conclusion: that the state of scientific knowledge at this time is just not sufficient to warrant any regulatory changes.

The lack of credible scientific data precludes the Commission from adopting or mandating the U.S. Fish & Wildlife Service's ("USFWS") Voluntary Guidelines for communications towers and warrants the USFWS withdrawing these Guidelines.<sup>13</sup> As previously discussed in CTIA's Reply Comments,<sup>14</sup> the Voluntary Guidelines were not developed with the rigor or intention that they would be mandatory and enforceable.<sup>15</sup> As both Woodlot and Avatar demonstrate, the science simply is not there today to justify imposing

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<sup>13</sup> USFWS Guidance Document on the Siting, Construction, Operation and Decommissioning of Communications Towers issued on Sept. 14, 2000 ("Voluntary Guidelines").

<sup>14</sup> Reply Comments of CTIA, filed on December 11, 2003, to *Effects of Communications Towers On Migratory Birds*, WT Docket No. 03-187, Notice of Inquiry, 18 FCC Rcd 16938 (2003) ("CTIA Reply Comments").

<sup>15</sup> CTIA Reply Comments, pp. 3-7 ("the development of the Voluntary Guidelines violated virtually every known requirement of administrative due process as guaranteed by the Administrative Procedure Act ... and supporting caselaw.").

regulatory measures such as those recommended by the USFWS' Voluntary Guidelines. Even if these guidelines were assumed to be all the USFWS claims them to be – namely, a distillation of current expert scientific opinion – opinion alone is *not* sufficient support for a binding regulation. As discussed in CTIA's Reply Comments, even a consensus of scientific opinion is not enough to support a mandatory regulation, but rather specific scientific facts are required.<sup>16</sup> The courts have clearly held that a mere consensus of expert recommendations is not sufficient to support a regulation. *AFL v. OSHA*, 965 F.2d 962 (11th Cir. 1992). In this case, there is nothing approaching such a consensus, since both Avatar and Woodlot specifically deny on the record that the scientific literature supports measures such as those contained in the Voluntary Guidelines. While USFWS claims that the Voluntary Guidelines are not mandatory or binding agency regulation, USFWS field offices too often attempt to impose them with the full force and effect of agency regulations.<sup>17</sup> Accordingly, the Commission should find that the USFWS' Voluntary Guidelines are not applicable to communications towers and will not be considered in determining licensee's compliance with the Commission's NEPA rules.

**A. Avatar's "Conclusions ... Advanced With Some Degree of Confidence" Are Not Supported By Science.**

While Avatar agrees with Woodlot that the scientific literature is inconclusive, it nonetheless speculates by proposing certain "conclusions" that have been "advanced with some degree of confidence" by some in the scientific community. These Avatar "conclusions," however, are not science. Rather, merely speculations or hypotheses by individual researchers

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<sup>16</sup> CTIA Reply Comments, p. 5.

<sup>17</sup> See e.g., Letter from USFWS re Voluntary Guidelines, dated May 18, 2004 (attached as Exhibit B).

*that are not supported by actual data or experiments in the published scientific literature.*

Woodlot decisively refutes these “conclusions” one by one and discusses the internal inconsistencies between Avatar’s findings (Avatar, § 3) and Avatar’s conclusions (Avatar, § 5).

For example:

- “The largest bird kills tend to occur on nights with low visibility conditions, especially fog, low cloud ceiling, or other overcast conditions.” Avatar, p. 5-1. Woodlot points to Avatar’s earlier statement that contradicts this conclusion: “the extent or degree of this association and how other factors may influence mortality rates are essentially unknown.” Woodlot, p. 5, *citing* Avatar, p. 3-52.
- “All other things being equal, taller towers with lights tend to represent more of a hazard to birds than shorter, unlit towers.” Avatar, p. 5-1. Woodlot points to Avatar’s earlier statement that contradicts this conclusion: “existing data are not sufficient to draw direct conclusions between tower height and migratory bird collisions.” Woodlot, p. 5, *citing* Avatar, p. 3-36.
- “Towers with guy wires are at higher risk than self-supporting towers.” Avatar, p. 5-1. Woodlot points to Avatar’s earlier statement that contradicts this conclusion: “[n]o specific studies comparing avian collisions with guyed towers to self-supporting structures were found as part of this review.” Woodlot, p. 6, *citing* Avatar, p. 3-35.
- “Two collision mechanisms appear to be a factor in bird collision: 1) blind collision and 2) illuminated sphere of influence.” Avatar, p. 5-1. Woodlot identifies this conclusion as being unsupported by Avatar: “nowhere in the report is there discussion about these specific means of collision, and neither is mentioned by name in the text of the report.” Woodlot, p. 6.
- “Although biologically significant tower kills have not been demonstrated in the literature, the potential does exist, especially for threatened and endangered species.” Avatar, p. 5-2. Woodlot discusses its disagreement with this conclusion: “there is ambiguity between how biological significance is defined [by Avatar] and applied ... [which] renders the development of conclusions challenging and adds uncertainty to the finding.” Woodlot, p. 6.

Woodlot finds that Avatar’s conclusions are “speculative” and that they are “largely unsupported by the earlier analysis, or by the current state of much of the scientific literature.” Woodlot, p. 6.

Such contradictory and internally inconsistent opinions by an expert cannot legally support regulatory action.<sup>18</sup>

Moreover, courts will not admit evidence from individual scientists speculating on hypotheses or conclusions that are not substantiated by the scientific literature. The Supreme Court has held that scientific evidence is admissible in court only if it is the product of a methodology that is "scientifically valid" and applicable to the questions at issue. *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993). Avatar's "conclusions ... [allegedly] accepted with some degree of certainty" by some portions of the scientific community clearly do not meet the *Daubert* test. Avatar, p. 5-1. While there is some debate among academic commentators regarding whether the Court's *Daubert* test for the admission of scientific evidence applies to administrative agencies,<sup>19</sup> there is no question that *Daubert's* underlying principles that scientific evidence must be "reliable" and "relevant" apply to agencies as well as to courts.

Government agencies may not base important public policy decisions on "junk science" any more than a jury may do so. The Administrative Procedure Act ("APA") provides that "no rule or order" shall be issued unless it is supported by "reliable, probative and substantial evidence." 5 U.S.C. § 556(d). The Avatar "conclusions ... [that are allegedly] accepted with some degree of certainty" by some portions of the scientific community do not rise to a level that satisfies this basic standard for scientific reliability as required by the APA. As Woodlot

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<sup>18</sup> See 5 U.S.C. § 706.

<sup>19</sup> See Alan Charles Raul & Julie M. Zampa, "Regulatory *Daubert*": A Proposal to Enhance Judicial Review of Agency Science By Incorporating *Daubert* Principles in Administrative Law, 66 L. & Contemp. Probs. 7 (Autumn 2003).

demonstrates, Avatar's observations are, in many instances, *inconsistent* with the published literature. Woodlot, at pp. 5-6. The APA requires that rules must be based on credible evidence that a real problem exists.<sup>20</sup> Thus, it would be arbitrary and capricious for the Commission to reject what is actually shown by the published literature (including Avatar's own review of the published literature) and instead to base regulatory action on these unsupported "conclusions," even if some individual scientists may believe them to be true.

The APA requirement for government agencies to rely upon sound science is further buttressed by the recently-enacted Data Quality Act ("DQA").<sup>21</sup> The DQA provides that all federal agencies must ensure that the information that they "disseminate" to the public meets certain minimum data quality standards. Relying on data to support a regulation falls within the DQA's broad definition of "dissemination."<sup>22</sup> Therefore, the DQA requirements apply to *any attempt* by the Commission to impose regulatory requirements on licensees of communication

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<sup>20</sup> "[R]egulation perfectly reasonable and appropriate in the face of a given problem may be highly capricious if that problem does not exist." *Home Box Office, Inc. v. FCC*, 567 F.2d 9, 36 (D.C. Cir. 1977), *citing City of Chicago v. FPC*, 458 F.2d 731,742 (D.C. Cir. 1971).

<sup>21</sup> The DQA was enacted in December of 2000 as a provision in the Treasury and General Government Appropriation Act for Fiscal Year 2001, Pub. L. No. 106-554, § 515, Appendix C, 114 Stat. 2763A-153 (2000) (codified in a note to 44 U.S.C. § 3516).

<sup>22</sup> "Dissemination means agency initiated or sponsored distribution of information to the public .... Dissemination does not include distribution limited to government employees or agency contractors or grantees; intra- or -inter-agency use or sharing of government information; and responses to requests for agency records under the Freedom of Information Act, the Privacy Act, the Federal Advisory Committee Act or other similar law. This definition also does not include distribution limited to correspondence with individuals or persons, press releases, archival records, public filings, subpoenas or adjudicative processes." 67 Fed. Reg. 8451, 8460 (Feb. 22, 2002).

towers. As discussed in our Initial Comments,<sup>23</sup> with the data currently available, a change in the regulations would not satisfy the DQA's standards.

Similarly, the Office of Management and Budget's ("OMB") Final Information Quality Bulletin for Peer Review can not be satisfied by the current scientific data.<sup>24</sup> As the Joint Comments discuss,<sup>25</sup> peer review is essential to ensure that the quality of an agency's published information meets the standards of the scientific and technical community. Woodlot's and Avatar's comments clearly demonstrate that the scientific data is not sufficiently developed to satisfy these standards. In this instance, the peer reviewers (including Woodlot and Avatar) have concluded that the literature is not sufficient to satisfy scientific standards for reliability. The DQA's requirement for peer review would mean nothing if agencies proceeded to regulate even in the face of conclusions by the peer reviewers that the science is insufficient.

Furthermore, pre-maturely implementing a flawed regulatory scheme before the science is developed to guide regulation is wasteful, inefficient and imprudent. Requiring consideration of unsubstantiated or insignificant effects is unlikely to mitigate avian mortality and will produce pointless delays in communications tower construction. It also provides yet another powerful legal weapon to those who oppose tower construction for other reasons. The Commission should not try to regulate based solely on the hypotheses, opinions and speculations of some scientists.

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<sup>23</sup> Initial Comments, pp. 25-28.

<sup>24</sup> *OMB Final Information Quality Bulletin for Peer Review*, 70 Fed. Reg. 2,664 (Jan. 14, 2005) (issued by OMB on Dec. 16, 2004).

<sup>25</sup> Initial Comments, pp. 28-30 (OMB's proposed peer review standards, discussed in the Initial Comments, have since been finalized).

Rather, the Commission must refrain from taking regulatory action until peer reviewed, scientifically valid, and substantiated data is available.

### **III. THE FCC LACKS LEGAL AUTHORITY TO IMPOSE RESEARCH REQUIREMENTS ON INDUSTRY.**

#### **A. No Statute Provides the FCC Legal Authority To Require Industry To Perform Research.**

The Commission does not have the authority to impose research requirements or funding obligations on its licensees. Agencies only have such authority as Congress delegates to them.<sup>26</sup> As our Initial Comments demonstrate, nothing in the Communications Act of 1934, as amended (“Communications Act”), NEPA, Endangered Species Act (“ESA”), or Migratory Bird Treaty Act (“MBTA”) provides the FCC with the authority to regulate the design or siting of communications towers for the purposes of minimizing speculative and unsubstantiated effects on migratory birds.<sup>27</sup> No provision of the Communications Act specifically delegates to the Commission authority to require telecommunications licensees to conduct avian mortality studies. Nor do the general provisions of the Communications Act referring to “necessary” regulations (*e.g.*, § 303(r); § 303(4)(i)) provide authority for regulatory action or research requirements. In *Motion Picture Ass’n of America, Inc. v. FCC*,<sup>28</sup> the D.C. Circuit rejected the

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<sup>26</sup> *Railway Labor Executives’ Association v. Nat’l Mediation Board*, 29 F.3d 655, 670 (D.C. Cir. 1994) (“it is beyond cavil that ‘an agency’s power is no greater than that delegated to it by Congress.’”), *quoting Lyng v. Payne*, 476 U.S. 926, 937 (1986); *see also Louisiana Pub. Serv. Comm’n v. FCC*, 476 U.S. 355, 374 (1986) (“an agency literally has no power to act . . . unless and until Congress confers power upon it”); *American Fin. Servs. Ass’n v. FTC*, 767 F.2d 957, 965 (D.C. Cir. 1985) (“The extent of [an agency’s] powers can be decided only by considering the powers Congress specifically granted it in the light of the statutory language and background.”) (citation omitted), *cert denied* 475 U.S. 1011, (1986).

<sup>27</sup> Initial Comments, pp. 4-36.

<sup>28</sup> 309 F.3d 796 (D.C. Cir. 2002).

Commission’s assertion that the video description rules were “valid communications policy goals and in the public interest.”<sup>29</sup> The court stated that the FCC could not act in the “public interest” without delegated authority.<sup>30</sup> By this same reasoning, Congress has not provided any authority that could be interpreted to authorize the Commission to impose an affirmative obligation on industry to conduct research into the effect of communications towers on avian mortality. As in *Motion Picture Ass’n of America, supra*, Congress’s silence about research on avian mortality “surely cannot be read as ambiguity resulting in delegated authority to the FCC to promulgate the disputed regulations.” *Id.* Accordingly, the Commission cannot interpret general statutory language as granting it authority to impose research requirements on industry.

This conclusion is also buttressed by cases involving other agencies. It is rare that agencies have attempted to impose research obligations on industry without explicit authority from Congress. However, when it has occurred, the courts have decisively rejected such attempts. *American Iron and Steel Institute v. Occupational Safety and Health Admin.*,<sup>31</sup> is the leading case. At issue in that case was the Occupational Safety and Health Administration (“OSHA”) statute, which granted the Secretary of Labor authority to develop and promulgate standards dealing with toxic materials based upon research, demonstrations, experiments, and other such information as may be appropriate. The court held that the statute did *not* “permit the Secretary to place an affirmative duty on each employer to research and develop new

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<sup>29</sup> The Commission further asserted that its rule was justified under 42 U.S.C. § 303(r), which gives the Commission the authority to make such rules and regulations and prescribe such restrictions and conditions, not inconsistent with law. *Id.* at 806.

<sup>30</sup> “FCC cannot act in the ‘public interest’ if the agency does not otherwise have the authority to promulgate the regulation at issue .... The FCC must act pursuant to delegated authority before any “public interest” inquiry is made under § 303(r).” *Id.*

<sup>31</sup> 577 F.2d 825 (3rd Cir. 1978).

technology.” *Id.* at 838. The court based its decision on the principle that there is a basic difference between regulation and an obligation to conduct research, and that an agency cannot impose an obligation to conduct research on a private party without Congressional authorization. The *American Iron and Steel Institute* decision is directly applicable here. Congress has not given the FCC authority to require regulated parties to conduct research into the causes of avian mortality.

**B. NEPA Requires Analysis Of Environmental Effects Only If An Action Will Significantly Affect The Quality Of The Human Environment.**

As discussed above, the Communications Act does not confer authority to impose avian mortality research requirements on communications tower licensees. Nor does NEPA confer such research requirements. As discussed in detail in our Initial Comments,<sup>32</sup> NEPA only permits agencies to require analysis of environmental effects if there (1) is a major Federal action<sup>33</sup> that will (2) “significantly affect” the quality of the human environment. 42 U.S.C. § 4332(C). NEPA is further limited by being a *procedural* statute, and does not provide any additional substantive regulatory authority to federal agencies.<sup>34</sup>

Because there is no “credible scientific evidence”<sup>35</sup> to support a significance finding, only advanced “individual opinion,” the Commission may not use its NEPA authority to require industry to perform avian mortality research. The significance requirement in NEPA strikes the

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<sup>32</sup> Initial Comments, pp. 4-19.

<sup>33</sup> As discussed in the Initial Comments, pp. 4-8, NEPA does not apply to the private decisions to build communications towers.

<sup>34</sup> *Vermont Yankee Nuclear Power Corp. v. NRDC*, 435 U.S. 519, 558 (1978) (NEPA is “essentially procedural.”).

<sup>35</sup> NEPA requires the use of “credible scientific evidence.” 51 Fed. Reg. 15618, 15623 (April 25, 1986).

balance Congress considered appropriate between the economic costs and delay of studies and the need for information about environmental effects of projects. Congress legislated that speculative or hypothetical effects of projects do *not* need to be studied.<sup>36</sup> NEPA *only* authorizes an agency to conduct studies where there is existing evidence of a “significant effect” on the quality of the human environment. As both the Avatar and Woodlot reports demonstrate, there is no valid scientific basis to conclude that communications towers have *any* significant effect on bird populations, much less such a significant effect that it can be translated into a biologically significant effect on the human environment. Woodlot, p. 3. Thus, both Woodlot and Avatar establish that there is no basis to satisfy NEPA’s requirement for a “significance” finding.

Moreover, as discussed in the Initial Comments,<sup>37</sup> there is not sufficient evidence to make a “significance” determination under the Council of Environmental Quality (“CEQ”) regulations implementing NEPA. The CEQ regulations require that the Commission evaluate the significance, or lack thereof, of communications towers on avian mortality in the overall context of other causes of avian mortality to migratory birds.<sup>38</sup> The Avatar Report admittedly “do[es] not address the relative significance of bird mortalities associated with other human-induced causes ...” Avatar, p. 3-3 and 3-4. Woodlot, however, does address this issue – and concludes that “communications towers are one of the smallest of all the mortality factors identified.”

Woodlot, p. 3. Thus, this record clearly does not support a finding of significant effects on the

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<sup>36</sup> *Natural Res. Def. Council, Inc. v. Hodel*, 865 F.2d 288, 295 (D.C. Cir. 1988) (agencies are “not required to consider alternatives that are ‘remote and speculative,’ but may deal with circumstances ‘as they exist and are likely to exist’”), quoting *NRDC v. Morton*, 458 F.2d 827, 838 (D.C. Cir. 1972), citing *Carolina Env’tl. Study Group v. United States*, 510 F.2d 796, 801 (D.C. Cir. 1975).

<sup>37</sup> Initial Comments, pp. 11-15.

<sup>38</sup> 40 C.F.R. § 1508.27(a).

human environment from communication towers as required by the CEQ Regulations interpreting NEPA.

Lacking the basis to make a significance determination, the Commission cannot fall back on a creative interpretation of some other vague statutory provision to “overrule” the specific balance that Congress has struck in NEPA. Agencies may only require studies of environmental effects that are found to be “significant” but not those that are speculative or insignificant. Where Congress has enacted a specific limitation (such as the “significant affect on the human environment” requirement in NEPA), courts will not permit an agency to construe ambiguous language or Congressional silence to obviate specific Congressional requirements or limitations. *See Whitman v. American Trucking Assoc.*, 531 U.S. 457, 485 (2001) (“The EPA may not construe the statute in a way that completely nullifies textually applicable provisions meant to limit its discretion.”).

Accordingly, NEPA does not provide a basis to impose research requirements on licensees relating to the effect of communication towers on avian mortality.<sup>39</sup> Moreover, the specific provisions of NEPA that require a significance finding before requiring an investigation of possible environmental effects must also be read into other, more general statutory language.

**C. Imposing Research Requirements On The Regulated Community Would Also Run Afoul Of The Principle That Agencies May Not Augment Their Appropriations.**

Imposing research requirements on the regulated community would also run afoul of the legal principle that agencies may not augment their appropriations. Appropriations law prohibits agencies, such as the FCC, from using their regulatory powers to augment the appropriations that

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<sup>39</sup> Even if NEPA did apply, it would not require licensees to fund research into avian mortality. CEQ’s NEPA regulations provide specific guidance on what an agency should do when scientific information is incomplete or unavailable. 40 C.F.R. § 1502.22.

Congress has provided for research. Agencies are restricted by the amounts appropriated by Congress.<sup>40</sup> When Congress makes an appropriation it is “telling the agency that it cannot operate beyond the level that it can finance under its appropriation.”<sup>41</sup> Agencies are not free to require industry to conduct research because the agency thinks there *might* be a problem that should be studied and Congress has not given it the money to study the problem itself.

Nor can an agency coerce industry into doing research by calling the program “voluntary.” Research into the existence of a possible problem such as how the design and siting of communication towers may affect avian mortality would normally be performed by government itself or through government grants to support outside research. The Commission may not augment its appropriations for research by accepting services from others that would normally be performed by an agency. For example, a Comptroller General Decision held that the Department of Health and Human Services could not accept assistance from non-Federal workers because that would be improper augmentation.<sup>42</sup> The GAO concluded that “it was necessary to provide specific authority by statute for Federal agencies to accept gratuitous

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<sup>40</sup> *Matter of: Federal Communications Commission*, 63 Comp. Gen. 459 (1984) (“Although there is no express statutory prohibition against augmentation of appropriated funds, the theory, propounded by the accounting officers of the Government since the earliest days of our nation, is designed to implement the constitutional prerogative of the Congress to exercise the power of the purse; that is, to restrict executive spending to the amounts appropriated by the Congress.”), *citing* 9 Comp. Dec. 174 (1902).

<sup>41</sup> United States General Accounting Office, *Principles of Federal Appropriations Law*, v.2 at 6-103 and 6-155, Dec 1992 (“when Congress appropriates funds for an activity, the appropriation represents a limitation Congress has fixed for that activity, and all expenditures for that activity must come from that appropriation absent express authority to the contrary.”).

<sup>42</sup> *Matter of Community Work Experience Program – State General Assistance Recipients at Federal Work Sites*, B-211079.2, January 2, 1987 (“[i]f work to be performed by the non-Federal workers would normally be performed by the sponsoring agency with its own personnel and appropriated funds, acceptance of “free” services to perform the same work would augment the agency’s appropriation impermissibly.”).

services...and not permissible to accept the same kind of services...who are not included within the statutory authorization.<sup>43</sup>

There is no statutory authorization for the FCC to impose a research obligation on its licensees, or to create a “voluntary” program of research sponsored and coordinated by the FCC. An attempt to do so would be an illegal augmentation of the FCC’s budget.

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<sup>43</sup> *Id.*; The GAO historically distinguishes between receipts of money and receipts of services, addressing the former under the augmentation rule and the latter under the voluntary services prohibition, 31 U.S.C. § 1342. However, B-211079.2 explained that 31 U.S.C. § 1342 was not the only constraint and applied the augmentation rule as discussed above. United States General Accounting Office, *Principles of Federal Appropriations Law*, v.2 at 6-55 to 6-71, Dec 1992.

#### **IV. CONCLUSION**

For all the foregoing reasons, CTIA and NAB respectfully request that the Commission issue a statement finding that no change to the Commission's environmental regulations for communication towers is warranted at this time.

Respectfully submitted,

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February 14, 2005

# **EXHIBIT A**

**Technical Comment on *Notice of Inquiry Comment Review,*  
*Avian/Communication Tower Collisions, Final* (Avatar et al. 2004)**

February 2005

Prepared for:

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The National Association of Broadcasters  
PCIA - The Wireless Infrastructure Association

Prepared by:

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## **Technical Comment on *Notice of Inquiry Comment Review, Avian/Communication Tower Collisions, Final* (Avatar et al. 2004)**

Response comments are presented in the same order as offered in the Avatar et al. (2004) report.

### **I. Overarching Comments**

Avatar et al. (2004) (hereinafter referred to as Avatar) used similar methods as Woodlot to assemble and review pertinent literature on avian and telecommunication tower collisions. Avatar placed emphasis on many of the same reports as Woodlot, particularly those that had undergone a peer review and were published in scientific journals. The manner in which the data were presented and discussed was also very similar to the Woodlot report. Most importantly, many of the same overriding conclusions reached by Woodlot concerning the current state of knowledge were shared by Avatar following their analysis:

*“There are no studies to date that demonstrate an unambiguous relationship between avian collisions with telecommunication towers and population decline of migratory bird species.”* (Avatar 5-2).

*“More research is warranted in order to identify specific causes and possible solutions to this problem.”* (Avatar 5-2).

Conclusions reached in Avatar Section 5.1 appear generally speculative and distinct from the main body of the report, as they are largely unsupported by the earlier analysis, or by the current state of much of the scientific literature. Specific inconsistencies and commentary conflicts include statements pertaining to tower height and lighting, as well as the use of guyed and self-supporting towers. In consideration of the variety of study needs, it is premature to recommend and implement certain guidelines until definitive research has been conducted and peer-reviewed.

### **II. Specific Comments**

#### **A. Technical Approach Used**

Avatar literature review methods mirrored those used by Woodlot; that is, Avatar screened and classified avian studies based on whether the information was published in a peer-reviewed journal or in another type of manuscript likely with less scientific review. Studies that were published in peer-reviewed journals were awarded more weight and the results deemed more credible. This approach is commonly employed in scientific studies and agrees with the methods and assumptions that Woodlot used as well. Similarly, Avatar identified key attributes from each study, which they used to evaluate the worth of each study in the development of comments. This process and the specific attributes that were reviewed are in concordance with Woodlot’s study to a great extent. Additional similarities between the methods used by Avatar and Woodlot include the use of data forms to summarize information, use of a majority of the same studies, and the presentation of the results.

#### **B. Representative Studies Used to Develop Report**

Avatar performed an independent literature review and from that selected 50 studies for use in reviewing comments prepared regarding the Federal Communications Commission (FCC) Notice of

Inquiry (NOI). Sixty-four percent of these studies were also used by Woodlot in the development of their comments. Much of the discussion presented in Section 3 of the Avatar report reiterates the findings of the Woodlot report, as recognized by the authors (page 3-3, “*Many of the following discussion topics summarized to address the NOI comments parallel the Woodlot information...*”). In Table 3 of the Avatar report, thirty studies are presented representing significant bird mortality events over the last 50 years. The Woodlot report similarly considered 20 of these 30 studies. It is likely that had there been a greater amount of time to prepare the initial response to the FCC NOI, there would have been even a greater degree of overlap between studies used both by Woodlot and Avatar.

Avatar also presents an important point in this section where they mention that “*noting the absence of mortalities may be as important as noting the presence of large numbers of bird mortalities.*” They cite a report prepared by Stoddard (1962) when making this point, and mention its potential usefulness in considering designs that minimize risk of collision.

### **C. Specific Factors Affecting Bird Collisions**

Overall, the information presented and the conclusions reached in the Avatar and Woodlot reports regarding specific factors affecting bird collisions were in agreement.

**Migration Patterns and Seasonality & Bird Behavior** – Much of the same information and findings regarding how migration patterns, seasonality, and bird behavior have affected incidences of bird collisions with towers were presented in both the Avatar and Woodlot reports. As noted in both reports, additional information is needed to develop better correlations between seasonal migration patterns and specific factors causing tower collisions.

**Tower Height and Configuration** – Both the Avatar and Woodlot reports state that there are insufficient data to draw substantive conclusions between tower height and migratory bird collisions, particularly the critical height threshold below which little mortality would be expected to occur.

**Tower Siting** – The Avatar reports states “*insufficient information is available to draw conclusions as to the specific factors associated with siting towers.*” (Avatar, 3-41). This statement supports comments prepared by Woodlot.

**Tower Lighting** – Much of the same discussion is presented in both the Avatar and Woodlot reports regarding lighting and its affects on migratory birds. After presenting information from both published and unpublished sources, the same conclusions are presented: “*no clear conclusions can be drawn...regarding the importance and effects of lighting color, duration, intensity, and type...Additional research is needed...*” (Avatar, 3-46).

**Weather** – As with the other major NOI topics discussed above, there was a great degree of similarity between the Avatar and Woodlot reports regarding the influence of weather on bird collisions with towers. Both reports cited studies indicating increased rates of collisions associated with cloudy and windy weather. Avatar concluded that “*Additional information is needed on weather patterns relative to bird movement and other conditions that may contribute to increasing or decreasing risk of bird collisions.*” (Avatar, 3-52).

#### **D. Current Research Efforts**

The Avatar report presents brief summaries of six recent or ongoing studies that are investigating the effects of guy wires, different types of lighting, scavenger removal, weather, tower height, bird behavior, and collision deterrents. These projects are located in Michigan, Colorado, Arizona, Pennsylvania, and two or more other locations that were not specifically mentioned. Information on the objectives of each project, the investigators, and location are very briefly presented. There is little or no detail on study design, so it is difficult to determine how robust each effort is, and whether information collected can be tested for statistical significance or answer any of the NOI questions. For these reasons, it is uncertain how useful these efforts will be in providing findings that can be used in design and siting of new towers.

#### **E. Biological Significance**

Avatar presents a discussion of Biological Significance in Section 3.5 of their report. They state that biological significance is a reflection of both the “*magnitude of the biological effect and the importance of the biological effect.*” They further state “*biologically significant mortality is any mortality that is of sufficient magnitude and importance that it causes the viability of a particular population or species to be affected.*” and “*the development of predictive impacts is simply not adequately developed to draw specific conclusions on the effects to migratory bird populations as a whole and possibly to a specific species.*” (Avatar, 3-66).

Section 3.1 of the Woodlot report presents a discussion on known sources of avian mortality in comparison to that believed to be caused by communication towers. References for each of the studies cited are included as a brief assessment of data variability and uncertainty. The Avatar report does not present any information to refute the data presented in Section 3.1 of Woodlot’s report, but they indicate that biological significance needs to be better defined, and that it is difficult to show population-level effects from a particular stressor (i.e., towers).

As described in the Woodlot report, it is important to consider the potential effects that human-caused mortality may have on the stability of bird populations. There is, however, no evidence in the literature to date indicating that communications towers are having a statistically significant or “*biologically significant*” impact on migratory bird populations. This point is reiterated in Section 5.1 of the Avatar report where it is stated “*There are no studies to date that demonstrate an unambiguous relationship between avian collisions with communication towers and population decline of migratory bird species.*”

Each individual source of mortality mentioned in the Woodlot report represents a relatively small percentage of the total North American bird population. In fact, communications towers are one of the smallest of all the mortality factors identified. Adding together the most likely estimates of annual bird mortality due to the major human-caused components yields a total annual mortality estimate of about 950 million, with lower and upper estimates ranging from between 381 million to 2.3 billion deaths per year. Using the 1975 American Ornithologists’ Union estimates of total bird population, these numbers represent a potential mortality estimate of about six percent. Accordingly, the avian mortality attributable to towers would be approximately 0.42 percent of human-caused mortality and only 0.05 percent of total bird populations (based on an estimated bird population of 10 billion birds). The Woodlot report also mentions that because so little is known

about the overall bird population in the United States, caution should be employed when assessing the potential impact of human-caused mortality sources on bird populations.

#### **F. Data Needs and Mitigation Methods**

In Section 4 of the Avatar report, a number of data needs are presented, which would aid in establishing a relationship between specific tower features and the cause of avian collisions. The development of standardized methods for documenting and reporting avian collisions and mortality factors is an obvious need as pointed out in both the Avatar and Woodlot reports. This standardization is needed to allow comparisons between towers so that causes of collisions can be correlated with specific siting, design, and operation features. Once specific causes are identified, appropriate mitigation measures can be developed, tested, and implemented. As pointed out in the Woodlot and Avatar reports, more research is needed to identify causal effects.

Also included in Section 4 of the Avatar report are discussions of methods available to monitor avian collisions including radar, acoustic sensors, and strike indicators. Radar data can show patterns of bird movement spatially and temporally across the landscape; therefore, it is a predictor of the potential for collision. It is not a definitive tool, however, for collecting data on bird behavior at tower sites. For instance, radar may show large numbers of avian targets moving through an area, yet by itself, it will not show levels of collisions or mortality. Acoustical monitoring similarly is valuable as a coarse measurement tool, but does not generate tower-specific collision data. Bird strike indicators allow the detection of bird strikes on guy wires but probably not on towers themselves. They also do not on their own correlate collisions with mortality (i.e., not all collisions kill). Additionally, it is uncertain how well they will work on guy wires, particularly near where the wires are attached to the tower or the ground, where vibrations are of a smaller magnitude.

Section 4 of the Avatar report also presents comments on study biases that are common to most collision studies. Many of these points were gleaned from the peer-reviewed studies presented earlier in the Avatar report, as well as in the Woodlot report. These biases should be addressed in current and future studies of tower collisions and arise from: 1) scavenger/predator removal rates, 2) crippling (versus kill) rates, 3) searcher efficiency, and 4) habitat. Each of these biases varies seasonally and from site to site, and is dependent upon individual tower and local landscape features.

Additional research needs presented in Section 4 of the Avatar report include topics associated with avian vision and the effects of several different methods of marking guy wires. An enhanced understanding of bird vision should provide opportunities for designing mitigation measures both from design and operation standpoints. Though the effects of markers have been tested on power lines with varying levels of success, no specific methods have been used on telecommunication guy wires. Because none of these methods have yet to be used, they should be considered experimental. Though incorporated in other sections of the report, other data needs not referenced in Section 5.1 include: 1) effects and importance of various types of lights, including their color, duration, and intensity, 2) understanding observations of decreasing bird mortality over time with increasing tower numbers, (Avatar, 3-15), and tower siting (Avatar, 3-41).

## G. Conclusions and Recommendations

### Section 5.1 – Conclusions

Section 5.1 of the Avatar report presents a series of conclusions, which they regard as speculative, but “*advanced with some degree of confidence within the scientific community.*” (Avatar, 5-1). These conclusions are in large part only restated findings from peer-reviewed and other reports, including the Woodlot report. Despite their acknowledged speculative nature, conclusions reached by Avatar in Section 5.1 remain largely unsupported in the preceding sections of the report. Following are brief illustrations of these inconsistencies:

- *The largest bird kills tend to occur on nights with low visibility conditions, especially fog, low cloud ceiling, or other overcast conditions.*

In Section 3.3.7, Avatar presents several studies that relate weather effects to mortality events at communication towers, even stating that a particularly strong correlation appears to exist between nights in autumn with lower cloud ceilings. Although the section mentions there is likely a connection between weather and collision events, the Section concludes “the extent or degree of this association and how other factors may influence mortality rates are essentially unknown.”

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

The conclusion presented in Section 5-1 does not follow the discussion in the body of the text. Tower height and lighting are discussed in separate sections of the report, and the discussion in each section culminated in statements that more research is required before any conclusions can be drawn. For example:

“Existing data are not sufficient to draw direct conclusions between tower height and migratory bird collisions. The critical threshold for tower height has not been definitively determined relative to bird collision risks. Although some assumptions have been made on tower height effects, additional information is warranted.” (Avatar, 3-36)

“No clear conclusions can be drawn, based on the existing literature, regarding the importance and effects of lighting color, duration, intensity, and type (e.g., incandescent, strobe, neon, or laser), and bird attraction. Additional research is needed on the types of lights in conjunction with other factors that increase or decrease the risk of bird collisions with communication towers.” (Avatar, 3-46)

“No firm conclusions can be drawn based on the existing literature regarding the importance and effects of lighting color, duration, intensity, and type (e.g., incandescent, strobe, neon, or laser) on bird attraction, although as discussed earlier in this section, inferences can be drawn on different lighting regimes. Additional research is needed on the types of lights in conjunction with other factors that increase or decrease the risk of bird collisions with communication towers.” (Avatar, 3-47)

“Woodlot...stated that insufficient published information exists on different lighting regimes to draw comparisons or clear conclusions.” (Avatar, 3-48)

“There is presently only a single study demonstrating a greater proportion of bird attraction to red flashing incandescent lights than to white strobes (Gauthreaux and Belser 2000)...Although there is strong evidence to support light as an attractant during inclement weather, there is still much speculation regarding light type, color, intensity, and duration. This is universally acknowledged as being a key research need.” (Avatar, 3-48)

- *Towers with guy wires are at higher risk than self-supporting towers.*

Again, the conclusion in 5-1 does not follow the discussion presented in the body of the report. Examples of these inconsistencies are as follows:

“Intuitively, one would assume that towers with an array of guyed wires would present a greater collision hazard or risk to migrating birds than self-supporting structures. No specific studies comparing avian collisions with guyed towers to self-supporting structures were found as part of this review.” (Avatar, 3-35)

“No specific studies comparing avian collisions with guyed towers to self-supporting structures are known to occur.” (Avatar, 3-36)

“Woodlot also commented that no observable trend could be presented on guy wires as a factor. This is because the literature had limited information on the presence of guy wires, although it is likely that most tall towers reporting mortality were guyed.” (Avatar, 3-38)<sup>1</sup>

- *Two collision mechanisms appear to be a factor in bird collision: 1) blind collision and 2) illuminated sphere of influence.*

Although the report references several studies that document birds flying around illuminated towers during inclement weather, nowhere in the report is there discussion about these two specific means of collision, and neither is mentioned by name in the text of the report.

One conclusion presented in the Avatar report that is not in complete agreement with the Woodlot report states that the potential exists for biologically significant mortality due to towers. However, there is ambiguity between how biological significance is defined and then applied. This ambiguity renders the development of conclusions challenging and adds uncertainty to the finding.

In summary, Woodlot agrees in general with many of the statements and findings developed in the preceding Sections 1 through 4 of the Avatar analysis in that there remain many gaps in the current understanding of the definitive causes of avian mortality related to communication towers. However, conclusions reached in Section 5.1 appear generally speculative and distinct from the main body of the report, as they are largely unsupported by the earlier analysis, or by the current state of much of the scientific literature.

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<sup>1</sup> Of 170 incidental reports cited in the original Woodlot analysis, 32 (18%) reported the presence of guy wires.

## Section 5.2 - Recommendations

Avatar states that there is substantial uncertainty regarding the magnitude of bird collisions and causative factors in the Recommendations section of the report. The type and level of uncertainty is in large part due both to incomplete knowledge and variability. To decrease the amount of uncertainty, they provide a number of short- and long-term recommendations for developing tower design, siting, and operation guidance, which can then be used to decrease the incidence of avian collisions. Two tables are presented with recommendations, the second of which contains a prioritized list of short-term recommendations.

The first priority recommendation is that the FCC continue to participate in the Communication Tower Work Group, and that they review and use ongoing research on how to minimize the incidence of avian collision. This recommendation, as well as the next nine, are intuitive and merely reiterate part of the FCC's responsibilities. Short-term priorities two through ten address specific aspects of research or research methods, which can be used to better design, site, and operate telecommunication towers. These recommendations include developing standardized data collection and monitoring methods, and continuing research on tower lighting, avian vision, bird behavior around towers, migration, and means of mitigating mass mortality events. These recommendations are in line with developing tower management guidelines based on good science.

The priority eleven short-term recommendation concerns the National Environmental Policy Act (NEPA), in particular revising biological scoping issues and the environmental assessment checklist to better reflect issues associated with avian collisions and communication towers. This recommendation may not change the NEPA process or outline, but it could result in a more focused review of potential issues. This may result in a more efficient review process, although the opposite effect could also occur, particularly if reviewers are not satisfied with the type and level of information provided in the NEPA package.

The last priority recommendation is to readdress the U.S. Fish and Wildlife Service *Interim Guidelines for Recommendations on Tower Siting, Construction, Operation, and Decommissioning*. Specific recommendations are to eliminate some of the contradictions contained in the current guidelines and to obtain definitive recommendations on design, siting and operation before specific recommendations are made. It will certainly be beneficial to eliminate contradictions and to base guidelines on study results that were properly designed and conducted. Until definitive research has been conducted and peer-reviewed, it is premature to recommend and implement certain guidelines.

# **EXHIBIT B**



## United States Department of the Interior

### FISH AND WILDLIFE SERVICE

Ecological Services  
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 6300 Ocean Drive  
 Corpus Christi, Texas 78412

May 18, 2004

██████████  
 ██████████ Lane  
 San Antonio, Tx. ██████████

Consultation No. ██████████

Dear Mr. ██████████

This responds to your April 8, 2004 letter, regarding the effects of a proposed cellular communications tower on species federally-listed as threatened and endangered species. According to your letter the proposed ██████████ cellular tower will be a 350 foot guyed tower in a 100 foot by 100 foot fenced enclosure housing the tower equipment. The site is located at ██████████ and ██████████. The site is on the west side of ██████████, approximately ██████████ miles south of ██████████, ██████████ County, Texas. The site is described as being covered with Bermuda grass, mesquite, cactus and ebony.

The U.S. Fish and Wildlife Service (Service) has reviewed your request for information and enclosed a list of federally listed species that may occur in Jim Hogg County. Potential suitable habitat for the ocelot and jaguarundi has been identified in Jim Hogg County. Photographs submitted with your project appear to have vegetation that may be used by the cats as travel corridors to more suitable habitat. The Service recommends clearing of vegetation along the fence and at the site be limited or avoided. The Service also provides the following recommendations for the protection of migratory birds and information regarding the section 7 process.

#### Threatened and Endangered Species and Migratory Birds

Siting and placement of communications towers (including radio, television, cellular, and microwave) in the United States have been growing at an exponential rate, especially in the past several years, increasing at an estimated 5% to 8% annually. A study by Banks (1979) estimated communications towers killed 1.2 million birds across the United States each year between the mid-1970s and early 1990s when new tower construction (200 feet tall or higher) was proceeding at the rate of about 1,000 per year.

Such towers and antennas may pose a hazard to birds in flight and may pose a threat to nesting birds attracted to the site, depending on tower and site characteristics. Tower characteristics,

such as height, physical design (e.g. guyed, self-supporting lattice, or monopole), lighting, and site location are factors in the equation concerning tower-induced bird mortality. Towers exceeding 200 feet in height and particularly towers that are supported by guy wires are expected to have a greater impact on birds than shorter, free-standing towers and co-located towers.

There have been documented occurrences of hundreds or thousands of birds colliding into towers in single events during peak migration periods. The most devastating bird-tower collisions usually have occurred at night during conditions of low visibility, though large numbers of birds have also collided with towers at night during clear weather and during the day under foggy conditions. There are also documented occurrences of birds congregating around towers with aviation warning lights while migrating at night during inclement weather. During these events, birds apparently have become disoriented by the tower lights and have repeatedly circled the towers until they collided with guy wires, each other, or the ground, or died from sheer exhaustion.

Therefore, the Service is becoming increasingly concerned about the effect of communications towers on species Federally-listed or proposed to be listed under the Endangered Species Act (ESA) and migratory birds offered protection under the Migratory Bird Treaty Act (40 Stat. 755; 16 U.S.C. 703-712) (MBTA).

Section 9 of the Endangered Species Act of 1973, as amended, prohibits the "take" of endangered species of fish and wildlife. "Take" is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. In addition to the direct take of an individual animal, habitat destruction or modification can be considered take, regardless of whether it has been formally designated as critical habitat, if it would result in the death or injury of wildlife by removing essential habitat components or impairing essential behavior patterns, including breeding, feeding or sheltering.

Under the MBTA it is unlawful to "pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, at any time, or in any manner, any migratory bird (e.g., waterfowl, shorebirds, birds of prey, song birds, etc.) included in the terms of this Convention...for the protection of migratory birds...or any part, nest, or egg of any such bird."

Section 7(a)(2) of the ESA requires the Federal agency, the Federal Communication Commission in this case, or its designated representative, to ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of any listed threatened or endangered species, or result in the destruction or adverse modification of designated critical habitat. Non-federal representatives (i.e. consultants, state agencies, county or local officials) may request and receive species lists, prepare environmental documents, biological assessments, and provide information for formal consultations. However, the Service requires the action agency to designate the non-federal representative in writing. If not designated, non-federal representatives should provide supporting information to the federal action agency for their evaluation. In the event that a Federal agency determines that its action may have effects to a listed species or designated critical habitat, that Federal agency is required to consult with the Service regarding the degree of impact and measures available to avoid or minimize adverse effects.

Section 7(d) of the ESA provides that, after initiation of consultation, the Federal Agency and any applicant shall make no irreversible or irretrievable commitment of resources. If the FCC or applicant makes a commitment of resources by beginning construction prior to any consultation with the Service, they may have eliminated any reasonable and prudent alternatives that would have allowed the FCC to comply with section 7(a)(2).

The Service has enclosed the *Service Guidelines For Recommendations On Communications Tower Siting, Construction, Operation, and Decommissioning* and recommends these guidelines be used to reduce the impact of communications towers on migratory birds protected under the Migratory Bird Treaty Act and the Endangered Species Act. In order to obtain information on the usefulness of these guidelines in preventing bird strikes, and to identify any recurring problems with their implementation which may necessitate modifications, please advise us of the final location and specifications of the proposed tower, and which of the measures recommended for the protection of migratory birds were implemented. If any of the recommended measures cannot be implemented, please explain why they were not feasible. \*

Section 1.1307(a)(3) of the Commission's Rules requires a licensee to file an environmental assessment (EA) for the Commission's review and approval if a licensee's proposed facilities are to be located in an area that: (i) may affect listed threatened or endangered species or designated critical habitats; or (ii) are likely to jeopardize the continued existence of any proposed endangered or threatened species or likely to result in the destruction or adverse modification of proposed critical habitats, as determined by the Secretary of the Interior pursuant to the Endangered Species Act of 1973.<sup>1</sup>

The Service, therefore, recommends that an Environmental Assessment (EA) be prepared for all proposed towers that may pose a hazard to listed and/or migratory birds. This includes all towers over 200 feet in height proposed in migratory bird concentration areas. The Service recommends that the FCC review environmental documents for tower height classes in bird migratory corridors, geographic areas covered by communication towers and analyze them for direct, indirect, cumulative and long-term impacts associated with the construction, operation and maintenance of communication towers. The Service also requests documentation of FCC's determination of affect be forwarded to this office for our records and or further coordination. \*

We encourage the communications tower industry and environmental consulting agencies to collaborate with the scientific community to find solutions to the problem of bird-tower strikes. A Communications Towers Working Group composed of government agencies, industry, academic researchers, and non-governmental organizations has been formed to develop a research protocol to study the problem of bird-tower strikes and to determine how to best construct and operate towers to minimize bird strikes. The Service would also appreciate the opportunity to substantiate impacts to protected species by staging remote scientific monitoring equipment and site visits. We would be interested in coordinating such efforts with the FCC or their applicants on a mutually agreed upon schedule.

<sup>1</sup> See 47 C.F.R. § 1.1307(a)(3).

Wetlands and Wildlife Habitat

Wetlands and riparian areas are high priority fish and wildlife habitat, serving as important sources of food, cover, and shelter for numerous species of resident and migratory wildlife. Waterfowl and other migratory birds use wetlands and riparian corridors as stopover, feeding, and nesting areas. We strongly recommend that the sites selected for communications towers and other projects not impact wetlands and riparian areas, and be located as far as practical from these areas. Migratory birds tend to concentrate in or near wetlands and riparian areas and use these areas as migratory flyways or corridors, which could potentially exacerbate the documented problem of birds being killed by flying into and striking the communications towers. If, after every effort has been made to avoid impacting wetlands, you anticipate unavoidable wetland impacts will occur, you should contact the appropriate U.S. Army Corps of Engineers office to determine if a permit is necessary prior to commencement of construction activities.

The Service's Migratory Bird Management Office has generated a bibliography that can be found on the Internet at <http://migratorybirds.fws.gov/issues/tblcont.html> concerning potential impacts of cellular towers and other manufactured structures for your use. We thank you for your concern for endangered and threatened species, migratory birds, and other wildlife resources, and we appreciate the opportunity to comment on the proposed communications projects. If we can be of further assistance or if you have questions about these comments, please contact Mary Orms at (361) 994-9005 or by email at [mary\\_orms@fws.gov](mailto:mary_orms@fws.gov).

Sincerely,

*Fatima Bacak-Clements*  
for Allan Strand  
Field Supervisor

Enclosures  
References

Banks, R. C. 1979. Human-related mortality of birds in the United States. U. S. Fish and Wildlife Service, Spec. Sci. Rep.-- Wildl. 215.

**Species Federally Listed as Threatened or Endangered, Proposed,  
Candidate or Other Species of Concern  
in Jim Hogg County, Texas  
April 7, 2004**

**DISCLAIMER**

County-by-County lists containing species information is available at the U.S. Fish and Wildlife Service's (Service), Southwest Region, web site <http://ifw2es.fws.gov/endangeredspecies/lists/>. This list is based on information available to the Service at the time of preparation. This list is subject to change, without notice, as new biological information is gathered and should not be used as the sole source for identifying species that may be impacted by a project.

Candidate Species and Species of Concern currently have no legal protection under the Endangered Species Act. However, they may be protected under other Federal and/or State laws. If you find you have potential project impacts to these species the Service would like to provide technical assistance to help avoid or minimize adverse effects. Addressing these species at this stage could better provide for overall ecosystem health in the local area and may avert potential future listing.

Migratory Species Common to many or all Counties: Statewide or area-wide migrants are not included by county, except where they breed or occur in concentrations. Species listed specifically in a county have confirmed sightings. If a species is not listed they may occur as migrants in those counties.

Least tern	(E ~)	<i>Sterna antillarum</i>
Whooping crane	(E w/CH)	<i>Grus americana</i>
Bald eagle	(T)	<i>Haliaeetus leucocephalus</i>
Piping plover	(T)	<i>Charadrius melodus</i>
Loggerhead shrike	(SOC)	<i>Lanius ludovicianus</i>
White-faced ibis	(SOC)	<i>Plegadis chihi</i>
<b>Jim Hogg County</b>		
Gulf Coast jaguarundi	(E)	<i>Herpailurus yagouaroundi cacomitli</i>
Ocelot	(E)	<i>Leopardus pardalis</i>
Bushy whitlow-wort	(C)	<i>Paronychia congesta</i>
Audubon's oriole	(SOC)	<i>Icterus graduacauda audubonii</i>
Loggerhead shrike	(SOC)	<i>Lanius ludovicianus</i>
Northern gray hawk	(SOC)	<i>Buteo nitidus maximus</i>
Sennett's hooded oriole	(SOC)	<i>Icterus cucullatus sennetti</i>
Reticulate collared lizard	(SOC)	<i>Crotaphytus reticulatus</i>
Texas horned lizard	(SOC)	<i>Phrynosoma cornutum</i>
Small papillosus	(SOC)	<i>Echinocereus papillosus</i> var. <i>angusticeps</i>

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- E = Species in danger of extinction throughout all or a significant portion of its range.  
 T = Species which is likely to become endangered within the foreseeable future throughout all or a significant portion of its range.  
 C = Species for which the Service has on file enough substantial information to warrant listing as threatened or endangered.  
 CH = Critical Habitat (in Texas unless annotated I)

P/ = Proposed ...  
P/E = Species proposed to be listed as endangered.  
P/T = Species proposed to be listed as threatened.  
TSA = Threatened due to similarity of appearance.  
SOC = Species for which there is some information showing evidence of vulnerability, but not enough data to support listing at this time.  
G = with special rule  
I = CH designated (or proposed) outside Texas  
~ = protection restricted to populations found in the "interior" of the United States. In Texas, the least tern receives full protection, except within 50 miles (80 km) of the Gulf Coast.

**Service Guidelines For Recommendations On  
Communications Tower Siting, Construction, Operation, and Decommissioning**

1. Any company/applicant/licensee proposing to construct a new communications tower is strongly encouraged to collocate the communications equipment on an existing communication tower or other structure (e.g., billboard, water tower, or building mount). Depending on tower load factors, from 6 to 10 providers may collocate on an existing tower.
2. If collocation is not feasible and a new tower or towers are to be constructed, communications service providers are strongly encouraged to construct towers no more than 199 feet above ground level (AGL), using construction techniques which do not require guy wires (e.g., use a lattice structure, monopole, etc.). Such towers should be unlighted if Federal Aviation Administration regulations permit.
3. If constructing multiple towers, providers should consider the cumulative impacts of all of those towers to migratory birds and threatened and endangered species as well as the impacts of each individual tower.
4. If at all possible, new towers should be sited within existing "antenna farms" (clusters of towers). Towers should not be sited in or near wetlands, other known bird concentration areas (e.g., state or Federal refuges, staging areas, rookeries), in known migratory or daily movement flyways, or in habitat of threatened or endangered species. Towers should not be sited in areas with a high incidence of fog, mist, and low ceilings.
5. If taller (>199 feet AGL) towers requiring lights for aviation safety must be constructed, the minimum amount of pilot warning and obstruction avoidance lighting required by the FAA should be used. Unless otherwise required by the FAA, only white (preferable) or red strobe lights should be used at night, and these should be the minimum number, minimum intensity, and minimum number of flashes per minute (longest duration between flashes) allowable by the FAA. The use of solid red or pulsating red warning lights at night should be avoided. Current research indicates that solid or pulsating (beacon) red lights attract night-migrating birds at a much higher rate than white strobe lights. Red strobe lights have not yet been studied.
6. Tower designs using guy wires for support which are proposed to be located in known raptor or waterbird concentration areas or daily movement routes, or in major diurnal migratory bird movement routes or stopover sites, should have daytime visual markers on the wires to prevent collisions by these diurnally moving species. (For guidance on markers, see *Avian Power Line Interaction Committee (APLIC). 1994. Mitigating Bird Collisions with Power Lines: The State of the Art in 1994. Edison Electric Institute, Washington, D.C., 78 pp.* and *Avian Power Line Interaction Committee (APLIC). 1996. Suggested Practices for Raptor Protection on Power Lines. Edison Electric Institute/Raptor Research Foundation, Washington, D.C., 128 pp.* Copies can be obtained via the Internet at <http://www.eei.org/resources/pubcat/enviro/>, or by calling 1-800/334-5453).
7. Towers and appendant facilities should be sited, designed and constructed so as to avoid or minimize habitat loss within and adjacent to the tower "footprint". However, a larger tower footprint is preferable to the use of guy wires in construction. Road access and fencing should be minimized to reduce or prevent habitat fragmentation and disturbance, and to reduce above ground obstacles to birds in flight.
8. If significant numbers of breeding, feeding, or roosting birds are known to habitually use the proposed tower construction area, relocation to an alternate site is recommended. If this is not an option, seasonal restrictions on construction may be advisable in order to avoid disturbance during periods of high bird activity.

9. In order to reduce the number of towers needed in the future, providers should be encouraged to design new towers structurally and electrically to accommodate the applicant/licensee's antennas and comparable antennas for at least two additional users (minimum of three users for each tower structure), unless this design would require the addition of lights or guy wires to an otherwise unlighted and/or unguyed tower.

10. Security lighting for on-ground facilities and equipment should be down-shielded to keep light within the boundaries of the site.

11. If a tower is constructed or proposed for construction, Service personnel or researchers from the Communication Tower Working Group should be allowed access to the site to evaluate bird use, conduct dead-bird searches, to place net catchments below the towers but above the ground, and to place radar, Global Positioning System, infrared, thermal imagery, and acoustical monitoring equipment as necessary to assess and verify bird movements and to gain information on the impacts of various tower sizes, configurations, and lighting systems.

12. Towers no longer in use or determined to be obsolete should be removed within 12 months of cessation of use.