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

In the Matter of	)	
	)	
State of Ohio Department of Administrative Services - Application for Antenna Structure Registration - Deersville, OH	)	File No. A0360240
	)	
Petition to Deny - Forest Conservation Council and the American Bird Conservancy	)	

MEMORANDUM OPINION AND ORDER

Adopted: **September 15, 2004** **Released: September 16, 2004**

I. INTRODUCTION

1. In this *Memorandum Opinion and Order*, we grant an Application for Antenna Structure Registration ("Application"), File No. A0360240, filed by the State of Ohio Department of Administrative Services ("State") for a proposed tower near Deersville, Ohio ("Deersville tower"). The Application includes an Environmental Assessment ("EA"). The Forest Conservation Council and the American Bird Conservancy ("Forest/ABC") filed a consolidated petition to deny ("Petition") against the Application.[1]

2. For the reasons set forth herein, the Spectrum and Competition Policy Division ("Division") of the Wireless Telecommunications Bureau ("Bureau"), pursuant to delegated authority, denies the Petitions, makes a Finding of No Significant Impact on the Environment ("FONSI") on the Deersville tower, and grants the State's Application.

II. BACKGROUND

3. In its Application, the State proposes to construct and register a self-supported, 360-foot tall tower near Deersville, Ohio. The proposed tower would replace an existing 114-foot guyed tower used by the Harrison County Sheriff ("Sheriff").[2] The State intends to collocate antennas for the State's 800 MHz band public safety system, the Sheriff, and other Commission licensees on the tower. In addition to the new proposed 360-foot-tall tower, a 12x18-foot equipment building, a 1,000-gallon propane tank, and other ancillary facilities would be located within an approximate 47x66-foot fenced compound area.[3] In accordance with the Commission's rules[4] and the criteria of the Federal Aviation Administration (FAA), the tower will be lighted.

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[1] Petition to Deny - The Forest Conservation Council and the American Bird Conservancy ("Forest/ABC"), dated February 18, 2004.
[2] *See* EA at 1-4.
[3] *Id*.

4. In December 2003, the Division, the Ohio Department of Historical Resources (Ohio State Historic Preservation Officer or Ohio SHPO), and the State (collectively "the Parties") signed a Memorandum of Agreement ("MOA")[5] to mitigate adverse effects of the proposed tower to properties in Deersville, Ohio, which are listed or eligible for listing on the National Register of Historic Places ("historic properties"). The Parties signed the MOA in accordance with Section 106 of the National Historic Preservation Act of 1966 ("NHPA"),[6] pursuant to the Commission's rules[7] and the rules of the Advisory Council on Historic Preservation.[8]

5. On January 10, 2004, the State filed its Application to register the proposed tower with an attached EA. The Application appeared on public notice as accepted for filing with an opportunity for members of the public to comment on or file a petition to deny the Application on January 13, 2004.[9] On February 18, 2004, Forest/ABC filed its Petition. On March 5, 2004, the State filed an Opposition to the Petition.[10] Forest/ABC filed a Reply to the Opposition on March 18, 2004.[11] On August 10, 2004, the State made an *ex parte* submission[12] to the Division and copied Forest/ABC regarding lighting of the Deersville tower.[13]

III. DISCUSSION

6. We review the EA, the Petition and other pleadings in the public record to determine whether the Deersville tower would have a significant impact on the environment. Forest/ABC contend that the Deersville tower will have a significant impact on migratory birds and that the Deersville tower will affect species protected by the Endangered Species Act ("ESA").[14] Therefore, Forest/ABC assert that the Deersville tower will have a significant impact on the environment.[15] Accordingly, Forest/ABC argue that the Application is inconsistent with the Commission's environmental rules[16] implementing the National Environmental Policy Act of 1969 ("NEPA") and the ESA.[17] Forest/ABC assert that the EA fails to comply with NEPA, the ESA, the Migratory Bird Treaty Act ("MBTA"),[18] the regulations of the Council on Environmental Quality ("CEQ")[19] and the Commission's environmental rules.[20] Finally, Forest/ABC challenge the Commission's environmental rules and

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[4] 47 C.F.R. § 17.4.

[5] *See* Memorandum of Agreement among Spectrum and Competition Policy Division, the Ohio Dept of Historical Resources, and the State of Ohio Department of Administrative Services, December 2003.

[6] 16 U.S.C. § 470f.

[7] 47 C.F.R. § 1.1307(a)(4).

[8] 36 C.F.R. Part 800.

[9] *Public Notice*, Application for Antenna Structure Registration Accepted for Filing, dated January 13, 2004.

[10] Opposition to Petition to Deny, filed by the State, dated March 5, 2004. The State and Forest/ABC had previously agreed to an extension of time.

[11] Forest/ABC Reply to Opposition, dated March 18, 2004.

[12] 47 C.F.R. § 1.1204.

[13] *See* Memorandum from David Northrup, Esq. to Don Johnson, Esq., staff attorney, Spectrum and Competition Policy Division, dated August 10, 2004; *see also* Letter from Aaron Goldschmidt, Assistant Chief, Spectrum and Competition Policy Division, to John Talberth, Esq., dated September 7, 2004.

[14] 16 U.S.C. § 1538 *et seq.*

[15] *See* Petition at 2-4.

[16] *See* 47 C.F.R. §§ 1.1301–1.1319.

[17] *See* Petition at 4.

[18] 16 U.S.C. § 703 *et seq.*

[19] 40 C.F.R.§§ 1501 *et seq.*

[20] *See* Petition at 3.

assert that the Commission must conduct an Environmental Impact Study ("EIS") regarding migratory birds and communications towers.[21]

7. As part of our EA review process, we first determine whether the proposed tower would implicate any environmental factors listed in Section 1.1307(a) and (b) of the Commission's rules.[22] The proposed tower site is not in a designated wilderness area or a designated wildlife preserve.[23] Although Forest/ABC assert generalized allegations that the Deersville tower could kill or cause adverse habitat modification to endangered species, including the Bald Eagle, Indiana Bat, and the Piping Plover,[24] the U.S. Fish and Wildlife Service (FWS) wrote a letter indicating that the proposed project would have no effect on threatened or endangered species or critical habitat in Harrison County, including the bald eagle.[25] The State sought comment from potentially affected Indian tribes.[26] The Delaware Nation commented that the State should work with the Ohio SHPO's office in the NHPA Section 106 process, which the State did.[27] The proposed site is not in a floodplain or in a wetland.[28] The proposed tower would not use high intensity white lights.[29] Finally, before the grant of authority to operate its antenna from the tower, the State must certify compliance with the Commission's guidelines regarding radiofrequency emissions on its Application for Wireless Radio Authorization (FCC Form 601) for an 800 MHz license at the site.[30] Because the State will mitigate the adverse effect to historic properties and the proposed facility does not fall within any of the other categories specified in Section 1.1307(a) and (b), Forest/ABC have failed to establish the State's noncompliance. The petitioners assert only general allegations and do not specify how the EA is deficient.[31] Therefore, we determine that the EA complies with Section 1.1307(a) and (b) of the Commission's rules.[32]

8. Forest/ABC also assert that the proposed tower would kill migratory birds.[33] The Petition attaches an affidavit from a citizen in the community of the proposed tower, who asserts that the Deersville tower will detrimentally affect his bird watching in the area.[34] In response to the Petition and affidavit, the Division commissioned a Report that assesses the collision risk to migratory birds from the Deersville tower.[35] Avatar Environmental, LLC ("Avatar"), a biological consulting firm, prepared the Report, which considers a number of factors, including tower configuration, location, elevation, potential species' presence, migratory and daily movement corridors, habitats, and historical information and trends pertaining to avian collisions with communication towers.

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[21] *See* Petition at 8. Because we reject the petitions on the merits, it is not necessary to determine whether each one of the parties demonstrates standing to challenge the EA. See *Friends of the Earth*, Memorandum Opinion and Order, 18 FCC Rcd 23622 (2003).

[22] 47 C.F.R. § 1.1307(a) and (b).

[23] *See* EA at 5; *see also* 47 C.F.R. § 1.1307(a)(1) and (2).

[24] *See* EA at 11.

[25] *See* 47 C.F.R. § 1.1307(a)(3); *see also* Letter from Mary Knapp, Supervisor, US Fish and Wildlife Service Ohio Field Office, to GDP Associates, consultant for the State, dated March 18, 2003.

[26] *See* EA at 6; *see also* 47 C.F.R. § 1.1307(a)(4) and (5).

[27] *See* EA at 6.

[28] *See* EA at 7; *see also* 47 C.F.R. § 1.1307(a)(6) and (7).

[29] *See* EA at 8; *see also* 47 C.F.R. § 1.1307(a)(8).

[30] *See* 47 C.F.R. § 1.1307(b); *see also* O.S.T. Bulletin No. 65.

[31] *See Public Employees for Environmental Responsibility*, Order, RM-9913, 16 FCC Rcd 21439, 21448 (2001) (rejecting generalized assertions of cumulative environmental effect that were not described or supported by concrete evidence).

[32] 47 C.F.R. §§ 1.1307(a) and (b).

[33] *See* Petition at 3-7.

[34] *Id*., Affidavit of Andrew George, Attachment B.

[35] *See* Appendix A, Report.

9. The Report assesses the proposed tower's potential effect on migratory birds.[36] The Report indicates that Avatar was unable to locate any references to important bird concentrations in the Deersville area.[37] The Report further indicates that the proposed use of a self-supporting structure and the collocation of equipment and facilities would reduce the potential for avian collisions.[38] The Report concludes that the Deersville tower's effect would not likely be significant for migratory birds, based on the proposed tower configuration, the removal of the existing 114-foot guyed structure, the lack of known bird concentrations and daily movement corridors in the area, and the fact that no rare or listed bird species is known to occur in the vicinity.[39] Therefore, the Division finds that the Deersville tower will not have an effect on migratory birds.[40]

10. Forest/ABC also assert that the EA does not analyze the cumulative impacts associated with the proposed Deersville tower.[41] In this regard, Forest/ABC's sole argument consists of identifying the number of existing towers in the region and listing several types of cumulative impacts.[42] Forest/ABC, however, provide no evidence of any synergies with existing towers that would cause them cumulatively to have significant environmental impacts that the Deersville tower would not have individually. Forest/ABC's generalized assertions of cumulative effects therefore do not provide a basis for challenging the Deersville tower or for determining that the Deersville tower may have a significant environmental impact on migratory birds.

11. Forest/ABC also argue that the EA does not consider reasonable alternatives, including a "no action" alternative to not construct the Deersville tower**.**[43] Under Section 1.1311(a)(4) of the Commission's rules, applicants are required to discuss in an EA their grounds for rejecting alternatives to their proposal based on both environmental and other considerations.[44] Determining reasonable alternatives thus involves a balancing test of environmental factors and several other factors, including but not limited to cost, feasibility, technological requirements, the need for service, and the public interest. In this instance, the State has identified several compelling needs that its construction must serve.[45] The State will be collocating an 800 MHz antenna as part of a statewide interoperable public safety system. Several additional Commission licensees will also be able to collocate on the tower, including the Harrison County sheriff.[46] The State must maximize coverage to provide wide area communications while meeting site-specific interference protection requirements under the Commission's rules.[47]

12. Given the important public safety needs that the proposed tower must serve, we find that the State reasonably considered and rejected alternatives to its proposal. A "no action" alternative is not viable because the State must construct the tower to provide public safety services to the public. The

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[36] *Id*.
[37] *See* Appendix A, Report at 5.
[38] *Id*. at 6.
[39] *Id*.
[40] Although the Report suggests that the use of white strobe lights rather than red incandescent lights may reduce any remaining risk of collisions, the State has indicated that the use of white strobe lighting at night is not possible due to objections from the nearby residential community of Deersville, Ohio. *See supra*, n. 13.
[41] Petition at 7.
[42] *Id.* at 6.
[43] *Id*.
[44] 47 C.F.R. § 1.1311(a)(4); *see also* 40 C.F.R. §1508.9(b); 36 C.F.R. §800.4(a)(3).
[45] *See* Opposition, Attachment 22.
[46] *Id*.
[47] *See In the Matter of State of Maryland*, Memorandum Opinion and Order, 19 FCC Rcd 12283, 11289 (WTB:SCPD 2004).

record is clear that the State did consider alternatives, mitigated effects to historic properties, and implemented alternatives where feasible. [48]

13. We note that many of the Petitioners' arguments are directed not at the approval of an EA for the Deersville tower under the Commission's existing rules, but at the rules themselves. Thus, the Petitioners argue that the Commission's rules do not comply with NEPA, the MBTA and the ESA. They further challenge the Commission's alleged failure to include effects on migratory birds among the factors that require an EA under Section 1.1307(a) of the Commission's rules. These arguments are properly the focus of a rulemaking proceeding, rather than objections to individual applications.[49]

14. Finally, Forest/ABC assert that the Commission has not provided adequate public participation.[50] We disagree. The application appeared on public notice for comment for 30 days. Forest and ABC filed their Petition in response to that public notice. Prior to filing the EA, the State consulted with several agencies, including the Ohio SHPO, the FWS and the Ohio Department of Natural Resources.[51]

IV. CONCLUSION

15. We deny the Petition. Upon an independent review of the EA, and based on the entire administrative record, we conclude that the construction and operation of the Deersville tower, as mitigated, will have no significant impact on the human environment, within the meaning of NEPA and Section 1.1307 of the Commission's rules. We further conclude that allowing the State to construct a tower needed for public safety radio communications near Deersville, Ohio, will serve the public interest, convenience, and necessity. Accordingly, we grant the State's application.

V. ORDERING CLAUSES

16. Accordingly, IT IS ORDERED that, pursuant to Section 4(i) of the Communications Act of 1934, as amended, 47 U.S.C. §154(i), and Sections 1.939(b) and 1.1313(a) of the Commission's Rules, 47 C.F.R. §§ 1.939(b) and 1.1313(a), the Petition to Deny filed by the Forest Conservation Council and the American Bird Conservancy IS DENIED.

17. IT IS FURTHER ORDERED, pursuant to Section 303 of the Communications Act of 1934, as amended, 47 U.S.C. §303(a), and Section 17.4 of the Commission's rules, 47 C.F.R. § 17.4, that the Application for Antenna Structure Registration (FCC Form 854), filed by the State of Ohio Department of Administrative Services, IS GRANTED.

18. IT IS FURTHER ORDERED, pursuant to Section 4(i) of the Communications Act of 1934, as amended, 47 U.S.C. §154(i), the regulations of the Council on Environmental Quality, 40 C.F.R. §§ 1501.3, 1508.9 and 1508.13, and Sections 1.1308 and 1.1312 of the Commission's Rules, 47 C.F.R. §§ 1.1308 and 1.1312, that the Division finds grant of the Application will have no significant impact on the environment.

19. IT IS FURTHER ORDERED, pursuant to Sections 1501.4(i) and 1506.6 of the regulations of the Council on Environmental Quality, 40 C.F.R.§§ 1501.4(i) and 1506.6, and Section 1.1308 of the

[48] *See* EA at 6.
[49] *See Friends of the Earth*, Memorandum Opinion and Order, 18 FCC Rcd 23622 (2003); *see also In Re Effects of Towers on Migratory Birds*,Notice of Inquiry, WTB Docket No. 03-187, 18 FCC Rcd 16, 938 (2003) (initiating an inquiry to consider potential effects of towers on migratory birds).
[50] *See* Petition at 8.
[51] *See* EA at 2-3.

Commission's Rules, 47 C.F.R. § 1.1308, that applicant State of Ohio Department of Administrative Services is to provide to the community to be served by this facility notice of the finding herein of no significant impact.

20. This action is taken pursuant to delegated authority under Section 0.331 of the Commission's rules, 47 C.F.R. § 0.331.

Federal Communications Commission

Jeffrey S. Steinberg
Deputy Chief
Spectrum and Competition Policy Division
Wireless Telecommunications Bureau

FEDERAL COMMUNICATIONS COMMISSION
PROPOSED DEERSVILLE COMMUNICATIONS ANTENNAE SUPPORT STRUCTURE
AVIAN COLLISION ASSESSMENT

Prepared by Avatar Environmental LLC / EDM International, Inc.
July 30, 2004

Introduction

In January 2004, an Environmental Assessment (EA) was prepared for the proposed construction and operation of the Multi-agency Radio Communications System (MARCS) Communications Antennae Support Structure near Deersville, Ohio (GPD Group 2004). The State of Ohio Department of Administrative Services (ODAS) is proposing a self-supporting, 360-foot, steel-lattice tower as part of the statewide communication network for public safety and public services.

The Federal Communications Commission (FCC) has requested the Avatar team to conduct a supplemental assessment of the relative collision risk to both resident and migratory birds from the proposed tower operation. This report summarizes the relative collision risk to area birds, given a number of variables, including tower configuration, location, elevation, potential species' presence, migratory and daily movement corridors, habitats, and historical information and trends pertaining to avian collisions with communication towers.

The proposed tower site is located immediately north of Deersville, in Harrison County, as shown in the referenced EA (GPD Group 2004). In addition to the new proposed 360-foot-tall tower, a 12x18-foot equipment building, a 1,000-gallon propane tank, and other ancillary facilities would be located within an approximate 47x66-foot fenced compound area. An existing 114-foot, guyed tower is presently located onsite that is owned and operated by the Harrison County Sheriff. If the new MARCS tower is permitted for construction, the existing 114-foot tower would be removed, and the existing equipment would be co-located on the new 360-foot tower. Red, incandescent lighting is presently proposed for the new tower, in accordance with current Federal Aviation Administration (FAA) guidelines. The existing tower is unlit.

Communications and Coordination

A number of sources were either contacted or reviewed to better define the risk of future bird collisions with the proposed Deersville Communications Antennae Support Structure. The U.S. Fish and Wildlife Service (USFWS) and Ohio Department of Natural Resources (ODNR) had been initially contacted as part of the EA analysis. These early communications focused on determining whether federally or state-listed species, designated critical habitat, wildlife refuges, unique ecological sites, or wildlife concentrations occurred at or within 1 mile of the proposed tower site. Appendix D of the EA contains the response letters from both agencies (GPD Group 2004).

The two federally listed species initially identified by the USFWS (2003) included the bald eagle (*Haliaeetus leucocephalus*) and Indiana bat (*Myotis sodalis*). The USFWS provided a concurrence letter, dated March 18, 2003, indicating that there were no anticipated impacts to federally listed species from project implementation. The ODNR (2003) also stated that no

records of rare or endangered species had been reported within 1 mile of the proposed project area.

As part of this assessment, additional contacts were made with other applicable federal, state, and local biologists. Agency and local sources were few, and direct knowledge of both resident and migratory bird use and movements was limited. However, Mr. Damon Greer, Assistant Wildlife Supervisor for Region 3 of the Ohio Division of Wildlife (ODOW) headquartered in Akron, Ohio, was familiar with the project area and was able to provide input on possible wildlife-related conflicts (see attached Telecommunication Summary).

Habitat Characterization

The proposed project site is located in northeastern Ohio in the Ironton Plateau physiographic region immediately north of Deersville in Harrison County and is heavily forested. The elevation in the immediate vicinity ranges from 900 feet at Tappan Lake (approximately 0.75 to 2 miles to the north of the tower site) to the 1,240-foot promontory where the proposed tower would be situated on the highest point in the region. With the addition of the 360-foot tower, the antennae would be approximately 1,600 feet above the ground (see EA maps, GPD Group 2004). The topography is steep and hilly. Fog and reduced ceilings frequently occur in the region during migration, particularly in the vicinity of Tappan Lake.

The extensive forested canopy tends to disperse birds. There are no known habitats, such as agricultural areas that might attract foraging birds, and no daily flight corridors were reported. Nearby Tappan Lake does attract waterfowl and other species associated with lacustrine environments. Although a few scattered wetlands occur to the south of the Deersville site (GPD Group 2004), no daily movement corridors between these wet meadow habitats and Tappan Lake have been documented (Greer 2004).

A power line traverses the region from northwest to southeast. The power line and resulting cleared right-of way (ROW) may act as a leading line for some diurnal migrants that traverse the forested canopy.

Avian Presence

Following is a list of sensitive avian species that may occur in the vicinity of the project (ODNR 2004).

Common Name	Scientific Name	Status
Bald eagle	*Haliaeetus leucocephalus*	Federal Threatened, State Endangered
Kirtland's warbler	*Dendroica kirtlandii*	Federal Endangered, State Endangered
Piping plover	*Charadrius melodus*	Federal Endangered, State Endangered
Osprey	*Pandion haliaetus*	State Endangered
Peregrine falcon	*Falco peregrinus*	State Endangered
Northern harrier	*Circus cyaneus*	State Endangered
King rail	*Rallus elegans*	State Endangered
Sandhill crane	*Grus canadensis*	State Endangered

Common Name	Scientific Name	Status
Common tern	*Sterna hirundo*	State Endangered
Black tern	*Chlidonias niger*	State Endangered
Yellow-bellied sapsucker	*Sphyrapicus varius*	State Endangered
Bewick's wren	*Thyomanes bewickii*	State Endangered
Loggerhead shrike	*Lanius ludovicianus*	State Endangered
Golden-winged warbler	*Vermivora chrysoptera*	State Endangered
Lark sparrow	*Chondestes grammacus*	State Endangered
Trumpeter swan	*Cygnus buccinator*	State Endangered
Snowy egret	*Egretta thula*	State Endangered
Little blue heron	*Egretta caerulea*	State Endangered

The species listed either breed or pass through the region. Bald eagles and ospreys are discussed in greater detail, since both raptor species breed immediately north of the project at Tappan Lake (Greer 2004).

Bald Eagle

Following the national trend, breeding bald eagles have increased throughout Ohio over the past decade. A pair has attempted to breed at Tappan Lake for several years. They laid eggs in 2004, but were unsuccessful. Nest failures typically occur with new breeders and are not of too much concern.

The potential risk of eagle collisions with the proposed tower is unlikely. Although birds of prey spend considerable time in the air, collisions occur relatively infrequently compared to other species (Bevanger 1998). Aerial hunters like raptors possess excellent flying abilities along with binocular vision. Raptors also do not fly in restrictive flocks. Additionally, the resident eagles would habituate to the tower as a daily obstacle to their flight. It is even possible that they may perch on the structure on occasion. Eagles are not nocturnal fliers and generally remain perched when visibility is obscured. As stated above for agency communications, the USFWS concurred in their March 18, 2003 letter that no impacts to the federally threatened bald eagle would be anticipated from project construction and operation (USFWS 2003).

Osprey

Ospreys were released at Tappan Lake by the ODOW in previous years, and at least one pair currently breeds on the lake. Recently, they had to be relocated off of a transmission line that passes over the lake. It is unlikely that the resident ospreys would collide with the tower for the same reasons as described for bald eagles. It is possible that as the population expands, ospreys may use the tower as a nest site. They are attracted to power poles and lattice structures that provide a dominant view of their surroundings.

However, given a number of site-specific factors, it is unlikely that ospreys would nest on this tower for several reasons. Ospreys almost exclusively nest on the apex of the structure since their wingspread keeps them from accessing the confined spaces. The great height above the

surrounding forest is a deterrent to the birds and higher wind velocity at the top of the tower may affect nest material. Finally, human activity in the immediate vicinity may not be tolerated. Should nesting occur on the tower, several actions could be taken, from nest removal to relocation (in accordance with applicable permits required from the USFWS and ODOW).

The potential risks to the other sensitive species that may occur in or move through the area are discussed in general, as they pertain to historical reports of avian mortalities at communication tower sites. No species-specific information was available for these other rare or sensitive species listed in the summary table.

Migration Corridor

The site occurs in a region where the Atlantic Flyway is constricted by the funneling effects of the Great Lakes (see attached map). Northern migrants following the Atlantic Flyway are funneled by the Great Lakes and large numbers converge at Point Pelee on the north shore of Lake Erie immediately north of Cleveland (USFWS 2004). From the Point Pelee bottleneck, they strike south across Lake Erie. Once reaching landfall, the birds spread southward depending on frontal systems, climatic conditions, and prevailing winds. Given the known extent of the Atlantic Flyway (see attached map), it is assumed that a number of migrants move through the Deersville region. However, we were unable to locate any references to the importance of the Deersville area for bird concentrations or viewing.

Assessment of Avian Collision Risks

Avian mortalities attributed to colliding with communication towers have been reported throughout North America since communication structures were first constructed. Bird kills at tower sites have been documented in the U.S. from the late 1940s and continue to the present (Towerkill.com 2004). It can be assumed the construction and operation of tall structures will likely result in increased bird collisions and possible mortalities. This possibility is an unavoidable consequence of any tower construction. However, not all towers present the same collision hazard, and the same tower may result in markedly different mortality rates from night to night or season to season.

Two mechanisms contributing to avian mortalities at communication towers appear to be prevalent. “Blind collisions” typically occur when there is reduced visibility and flying birds do not see the structure or its support guy wires in time to avoid colliding with these features. Blind collision applies more to fast-flying species (e.g., waterfowl, shorebirds, falcon species) that are passing in close proximity to a structure. This mechanism can occur during the day or night and can be associated with unlit towers (Towerkill.com 2003).

The second mechanism that is attributed to the larger “mass kills” of birds recorded over the last five decades generally occurs with lighted towers during inclement weather (e.g., foggy conditions, low cloud ceilings) at night. Under these conditions, light on the tower refracts off the water particles in the air, increasing the illumination surrounding the tower. It is theorized that when these migrating birds enter this sphere of light, they either switch some navigational cues and become disoriented or are attracted to the tower lights, remaining within this area of influence; continuing to circle the tower; and inadvertently and eventually striking the tower or its

supporting guy wires, resulting in significant avian mortalities (Towerkill.com 2003; Ogden 1996; Avery et al. 1976).

Although a number of unknowns exist as to the specifics of bird collisions with communication towers, there are a number of factors that help to define the relative risk of bird collisions. These factors include: 1) tower configuration, 2) height, 3) lighting, 4) location, 5) elevation, 6) surrounding and adjacent habitats, 7) migratory pathways, 8) daily movement corridors, and 9) species' potential for occurrence. All of these factors were taken into consideration when assessing the relative collision risk of the proposed Deersville Communications Antennae Support Structure.

The following factors that identify elements that either increase or help mitigate bird collision with the proposed tower are based on many avian mortality studies completed in the United States at communication tower sites (Kerlinger 2000) and are in accordance with the USFWS' 2000 tower siting voluntary guidelines. The USFWS developed these guidelines entitled, *U.S. Fish and Wildlife Service Interim Guidelines for Recommendations on Communication Tower Siting, Construction, Operation, and Decommissioning,* in October 2000. These guidelines and the associated *Tower Site Evaluation Form* are available at:
http://migratorybirds.fws.gov/issues/towers/comtow.html

Four factors are associated with the proposed Deersville Telecommunication Communications Antennae Support Structure that may increase the risk of avian collisions:

1. Although the critical threshold for tower height has not been definitely determined (Crawford and Engstrom 2001), Kemper (1996) projected this threshold to be around 400 feet. Although the Deersville tower would be 369 feet, the proposed placement on the highest promontory adds several hundred additional feet to the tower height, thereby, increasing the collision risk for area birds.
2. The proposed project is located along the western edge of the Atlantic Flyway, assuming that migratory concentrations of birds are present during the spring and fall migration periods. However, as other tower collision studies have shown, it is difficult to predict bird movement and associated bird concentrations.
3. Climatic conditions (low ceilings and fog) occur throughout the region during avian migration periods (fall and spring). The largest bird kills tend to occur on nights with low visibility conditions, especially fog or other overcast conditions with tail winds.
4. Red incandescent lighting is proposed for the tower, which may attract birds to a greater extent than the white strobe lights (Gauthreaux and Belser 1999). Both lighting regimes are presently authorized for use by the FCC and FAA.

Three factors would help mitigate the increased risk of avian collisions with the proposed tower:

1. The removal of the existing 114-foot guyed structure and replacement with a self-supporting tower would reduce the risk to a certain extent. Based on many of the studies and associated theories on bird collisions at communication tower sites, towers with guy wires present a higher risk to birds than self-supporting towers. Therefore, collocation of equipment and facilities is always encouraged and the use of a self-supporting structure would reduce the potential for collisions.

2. No daily concentrated movement of either resident or migratory birds are known to occur in the area. Daily movement between foraging, roosting, and/or seasonal areas would increase the collision risk, if the tower were located among those areas. Although some daily movement of local birds likely occur in the general area, no concentrations have been reported.

3. No rare or sensitive bird species has been documented in the project vicinity that could be prone to collisions.

The ODOW was not aware of any bird strikes with the existing 114-foot guyed tower, but cautioned that birds may have struck the tower and were not reported (Greer 2004).

In reference to the Indiana bat that was of initial concern relative to the proposed tower project, no bat hibernacula or other concentrations (e.g., nursery colonies or bachelor roosts) are known to occur in the project vicinity (Greer 2004). In addition, although incidental reports of bat mortalities have been reported at communication tower sites (Stoddard 1962), the number of bat mortalities has been low and the propensity of bat collisions is not thought to approach near the number of bird mortalities reported.

Summary and Recommendations

In summary, the operation of the proposed Deersville Communications Antennae Support Structure would incrementally increase the potential for both resident and migratory bird collisions. This assessment is based on tower height, site elevation, habitats, climatic conditions, migratory pathway, and the proposed lighting regime. However, this increased risk would not likely be significant for area birds. This statement is based on the proposed tower configuration, the removal of the existing 114-foot guyed structure, the lack of known bird concentrations and daily movement corridors in the area, and the fact that no rare or listed bird species is known to occur in the vicinity.

Although the proposed tower likely would not significantly increase the collision risk for area birds, *replacing the proposed incandescent red flashing tower lighting with white strobes, as currently recommended by the USFWS,* would further reduce the risk of avian collision, particularly during inclement weather and storm events. Presently, the choice of tower lighting is voluntary, in accordance with FAA regulations, and project authorization would not be contingent on this recommendation. However, the recommendation to modify the tower lighting is provided for consideration, based on the “best available information” relative to the potential for avian collisions with communication structures.

References

Avery, M. L., P. F. Springer, and J. F. Cassel. 1976. The effects of a tall tower on nocturnal migration - a portable ceilometer study. Auk, 93: 281-291.

Bevanger, K. 1994. Bird interactions with utility structures: collision and electrocution, causes and mitigating measures. Ibis 136:412-425.

Crawford, R. L. and R. T. Engstrom. 2001. Characteristics of avian mortality at a north Florida television tower: A 29-year study. Journal of Field Ornithology 72(3):380-388.

Gauthreaux, S. A., Jr. and C. G. Belser. 1999. The behavioral responses of migrating birds to different lighting systems on Tall Towers. Abstract Only: 1 p. in W. R. Evans and A. M. Manville II (editors). Transcripts of the proceedings of the workshop on avian mortality at communication towers, August 11, 1999, Cornell University, Ithaca, NY, Published electronically at: http://migratorybirds.fws.gov/issues/towers/agenda.html

GPD Group. 2004. Environmental Assessment (EA) – MARCS Proposed Deersville Telecommunications Cell Site. Prepared for: The State of Ohio Department of Administrative Services. January 2004.

Greer, D. 2004. Assistant Wildlife Supervisor, Region 3, Ohio Division of Wildlife. Personal communication with J. Craig, EDM International, Inc. July 15, 2004.

Kemper, C. A. 1996. A study of bird mortality at a west central Wisconsin TV tower from 1957-1995. The Passenger Pigeon 58:219-235.

Kerlinger, P. 2000. Avian mortality at communication towers: A review of recent literature, research, and methodology. Prepared for U.S. Fish and Wildlife Service, Office of Migratory Bird Management.

Ogden, L. J. E. 1996. Collision course: The hazards of lighted structures and windows to migrating birds. World Wildlife Fund Canada and the Fatal Light Awareness Program. Tortonto, Ontario. September 1996. 46 pp.

Ohio Department of Natural Resources (ODNR). 2003. Division of Natural Areas and Preserves. Response letter on the proposed Deersville Telecommunications Cell Site Environmental Assessment, dated January 30, 2003.

_____. 2004. Database of avian species that may potentially occur in the project vicinity located at: www.dnr.state.oh.us/endangered/

Stoddard, H. L. Sr. 1962. Bird casualties at a Leon County, Florida TV Tower, 1955-1961. Tall Timbers Research Station, Tallahassee, Florida. Bulletin No. 1, 1-94.

Towerkill.com. 2003. http://www.towerkill.com/issues/intro.html

Towerkill.com. 2004. http://www.towerkill.com/issues/intro.html

U.S. Fish and Wildlife Service (USFWS). 2000. Interim Guidelines For Recommendations On Communications Tower Siting, Construction, Operation, and Decommissioning.

_____. 2003. Response letter on the proposed Deersville Telecommunications Cell Site Environmental Assessment, dated March 18, 2003.

_____. 2004. Atlantic Flyway Map at http://pacificflyway.gov/Documents/Atlantic_map.pdf

U.S. Fish & Wildlife Service

Atlantic Flyway

EDM International, Inc.
4001 Automation Way
Fort Collins, CO 80525-3479 USA
Telephone: (970) 204-4001
Fax: (970) 204-4007
Email: info@edmlink.com
www.edmlink.com

TELECOMMUNICATION SUMMARY

DATE:	7/15/04		
FROM:	Jerry Craig	**ASSOCIATION:**	EDM International, Inc.
TO:	Damon Greer	**ASSOCIATION:**	Ohio Division of Wildlife
		PHONE:	330/644-3802
PROJECT:	Deersville Assessment	**SUBJECT:**	Potential bird presence in project vicinity.

Mr. Greer is the Assistant Wildlife Supervisor for Region 3, headquartered in Akron, OH. He is very familiar with the current 114' high communication tower at Deersville. The tower's location is critical since it is located on the highest point in the region and is part of the statewide communication system used by law enforcement and other state agencies. He said that normally his office comments on cell towers, but he was not aware that a new tower was to be constructed at the site.

The region is heavily forested and he characterized the topography as steep and hilly. A power line traverses the area from the Northwest to the Southeast. Tappan Lake is adjacent to the site and is an attractant for waterfowl and other species associated with the lake. Ospreys and a pair of bald eagles nest at Tappan Lake, they are both on the state's endangered species list. Ospreys have been introduced to the area over the past decade and a couple of pairs are nesting on the lake. They recently relocated a pair of ospreys that nested on a power line that traverses the area. He expressed concern that they might be attracted to the larger cell tower in the future.

A pair of bald eagles attempted to nest on Tappan Lake over the past couple of years. They laid eggs this season, but were unsuccessful. He did not feel that the tower would be a problem for the eagles, especially since it did not have guy wires.

He had no knowledge of any other threatened or endangered species that may occur in the area. No Indiana Bat hibernacula are known in the area. He believed that the cell tower would not be detrimental to bats.

There is a fair movement of migratory birds through the area, especially in the fall. He noted that most the passerines are nocturnal migrants and would not be seen often. Since the tower is on the highest point, its' additional height may increase the vulnerability to collisions by higher-flying migrants. He was unaware of any avian collisions with the present tower, but said no specific investigations had been conducted to his knowledge.

In the fall and winter, the region is subject to low ceilings and fog, especially associated with cold fronts. Tappan Lake also creates local fog when the surface temperature is warmer than the atmosphere. The overall height of the cell tower is 700 feet above the lake and may put it above the fog.

TELECOMMUNICATION SUMMARY

There are no wetlands or agricultural fields in the vicinity that might attract foraging birds.

County road #2 which is immediately south of the project is designated as a scenic byway and it runs along the ridgeline.

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