



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

Raleigh Field Office

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### **Service Interim 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 co-locate 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 are 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.