

Talk Group

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Specialists in Public Safety Communications Since 1979

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FCC Tower and Antenna Siting Regulations

—Michael P. Norin

Radio system design complete? *Check*. New tower designs complete? *Check*. Leases and collocation agreements in place? *Check*. Local land-use approvals and building permits in-hand? *Check*. Time to start construction? *Nope!* In addition to all of the aforementioned important steps in building or making changes to a radio system—including public safety systems—there are numerous federal requirements that must be met before towers can be constructed or antennas collocated on existing facilities, including buildings.

Because FCC licenses are normally required to operate a radio system—whether two-way, public safety, commercial/cellular, broadcast, or other—the FCC maintains the authority to impose and enforce *federal* regulations on licensees as a condition of their being granted FCC licenses. There are many different regulations that must be adhered to, with associated forms and filings, including FAA, antenna structure registration (ASR), environmental (NEPA), tribal (TCNS), endangered species (ESA), and historical preservation (NHPA, including Section 106), and it's not always clear which rules apply to particular sites or how they are applied. When in doubt, ADCOMM strongly suggests retaining an expert with experience with such regulations and filings. The fines for violations can easily exceed the costs of “doing it right” from the beginning, not to mention the added costs of bringing non-compliant sites into compliance after the fact.

This article isn't intended to detail all of the requirements for tower and antenna siting, but rather to provide an overview of the major federal requirements, which are often overlooked during the system design stage. Because many of these requirements can take significant time and effort to comply with—in some cases, 12 to 18 months or even longer—it is strongly recommended that work be started on them as early as possible, as soon as proposed site locations and the anticipated site types (e.g., new tower, existing tower collocation, rooftop, etc.) are known.

The following is a high-level summary of the federal requirements for tower and antenna siting (does not include state and local requirements).

National Environmental Policy Act (NEPA)

All facilities constructed by or for FCC licensees must comply with NEPA, which generally deals with environmental effects, such as ecological, aesthetic, historic, social, and others, of tower and/or antenna installation and operation. Licensees and applicants are responsible for compliance, beginning with completion of a *NEPA checklist*. This checklist identifies a variety of environmental and related factors, with the licensee/applicant responsible for determining compliance with each item. Depending on the checklist responses, a site might be determined to be *Categorically Excluded*, i.e., it is deemed to have minimal or no impact on the environment. Otherwise, a more detailed *Environmental Assessment (EA)* and/or *Environmental Impact Statement (EIS)* can be required, depending on the NEPA checklist responses. Public notices and public comment periods are a required part of the EA process.



Gallatin County, Montana

Industry News ...

FCC Tower

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Note that **all** elements of a proposed project, including not just the tower but also any fencing, trenching, roads, parking, power, telco, etc., must be considered for the NEPA analysis.

Endangered Species Act (ESA)

Compliance with the Endangered Species Act is part of the NEPA process. Applicants, licensees, and tower owners must consider the impact of proposed facilities on sensitive species and their habitat. It is also prohibited to “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect” any such listed, threatened, or endangered species. Before submitting an EA—and certainly before construction begins—an applicant must determine whether the proposed facility might affect such species or designated critical habitats.

The U. S. Fish and Wildlife Service (FWS) provides an online mapping tool to determine which species may need to be considered for proposed facilities. Depending on the results of the search, additional actions, including working with a qualified biologist and/or the FWS, may be required to determine whether the site will be allowed and what documentation is necessary.

Towers over 450 feet tall must also consider the potential impacts to migratory birds.

National Historic Preservation Act (NHPA, including Section 106)

Compliance with NHPA is also part of the NEPA process. Section 106 of the NHPA requires projects, including the construction of



Threatened Northern Spotted Owl

communication towers and collocation on existing structures (including towers and buildings), to consider the potential effects on historic properties. Section 106 compliance is required regardless of whether a site is required to have an Antenna Structure Registration (ASR, see below).

Licensees/applicants must consult with the State Historic Preservation Officer (SHPO) and any Tribal Nations that have expressed an interest in a proposed project. In general, historic properties that must be considered are sites, structures, buildings, and objects that are listed or eligible for listing on the National Register of Historic Places. Also included are tribal sites and places of cultural and religious significance.

Two *Nationwide Programmatic Agreements* describe the Section 106 process for new tower construction and the collocation of communication equipment on existing structures.

These agreements require the use of FCC Form 620 for new towers and Form 621 for collocations, which are submitted to the SHPO and not normally the FCC. Note that, in most cases, collocation on towers that were constructed prior to March 2001 are generally exempt from the Section 106 process. Collocation on towers built after March 2001 *are* subject to Section 106, and **would likely trigger a full Section 106 analysis for the existing tower if it never properly went through the process when originally constructed!**



Historic courthouse, Columbia County, Washington (photo: Williamborg, wikipedia.org)

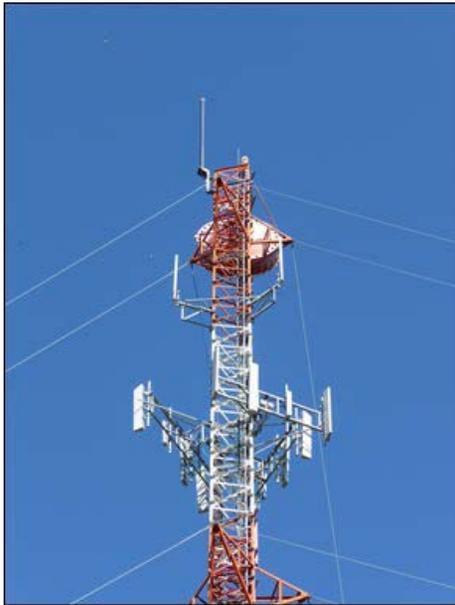
Tribal Notification

For compliance with the NHPA, the FCC provides the *Tower Construction Notification System (TCNS)*, which is used to notify all Tribal Nations, Native Hawaiian Organizations, and SHPOs of proposed tower construction in their areas of interest. This system essentially “broadcasts” an applicant’s intent to construct a new tower, allowing interested parties to respond directly to the applicant if they have questions or concerns about a proposed construction.

Federal Aviation Administration (FAA)

Most towers and other antenna structures must be analyzed for compliance with FAA regulations for the purpose of aviation safety. Structures that meet certain criteria require notice to the FAA and registration with the FCC (see ASR, below). Specifically, towers that exceed 200 feet in height above ground level or those that are within 5 miles of an airport and exceed certain slope requirements with respect to nearby airports must be filed using FAA Form 7460-1. The FAA will, in turn, determine if the structure is deemed “no hazard” to air navigation, and what, if any, lighting and/or marking (e.g., paint) is required.

The FCC’s *TOWAIR* tool can be used to make an unofficial determination as to whether a (proposed) structure meets FAA notification and FCC registration requirements.



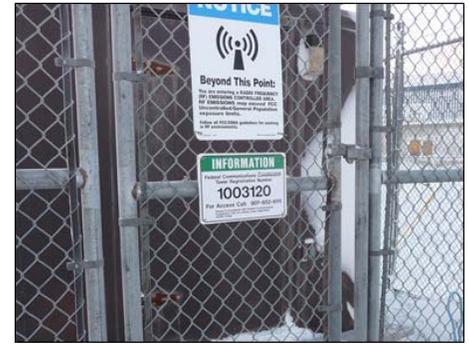
Aviation Orange and White Tower Paint, Beacon Light at Top

FCC Antenna Structure Registration (ASR)

Proposed towers and other antenna support structures that are required to be registered with the FCC, based

on height and/or proximity to an airport, must obtain an Antenna Structure Registration number from the FCC. Further, ASRs must be kept up-to-date in the event of structure modifications. After an applicant has obtained a Determination of No Hazard to Air Navigation from the FAA, an ASR application can be prepared and submitted to the FCC. In general, new structures and certain modifications require public environmental notices to be posted, both on the FCC’s website and in a newspaper local to where the structure is to be constructed, to allow for public comment. Further, if there are any environmental impacts, as determined by the completed NEPA checklist, submission of an Environmental Assessment and/or Environmental Impact Statement is also required with the ASR application. Essentially, a tower or other antenna support structure must be compliant with all NEPA requirements before the FCC will issue an ASR.

Once constructed, registered structures must have their ASR number conspicuously posted at the site.



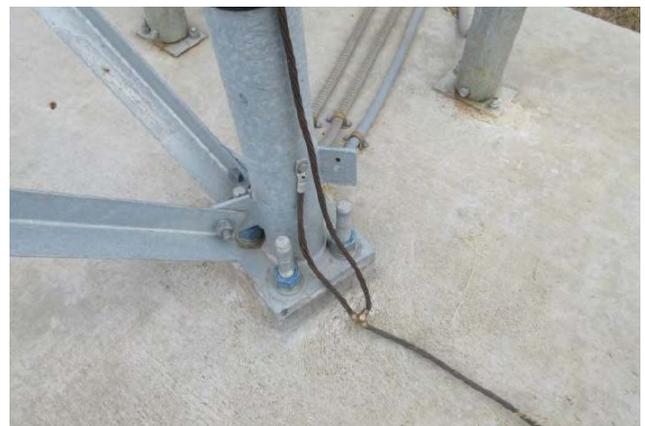
ASR Sign

Only after all of these federal environmental, historical, tribal, aeronautical, and registration requirements have been completed—in *addition to all state and local requirements*—can tower construction actually begin. **Remember: get started early!** Showing compliance with all federal regulations can take many months or, in some cases, years.

For more information, see <https://www.fcc.gov/general/tower-and-antenna-siting>. For assistance with compliance with federal, state, and local tower and antenna siting requirements, feel free to contact ADCOMM.

Can You Find the Problem Here?

The first person to email me (j.blaschka@adcomm911.com) with the correct answer gets a \$10 Starbucks card.



Congratulations to **Ed Munoz** and **Mike Preston** for being the first to respond to our “Can You Find the Problem Here?” photo from an earlier TalkGroup newsletter.

THE LAST BYTE

—Joe P. Blaschka, Jr., P.E.

Got elderly parents or a parent still living by themselves? If yes, my recommendation is to start looking for an assisted living facility before it becomes necessary. This way you can do your homework before it is a crisis. I was glad we had started looking before my Dad was not able to live by himself. We were able to show him the top two or three places we had already researched. The process can take awhile and there

are lots of options. He did much better where he had some support, received his medications regularly, all while still enjoying living in his own apartment. It is not fun having to take this step but it is much better when not rushed.

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