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SMALL TURBINE COLUMN:

Home Wind Turbines and the FAA

--Mick Sagrillo, Sagrillo Power & Light

A frequently asked question about wind turbine towers is how tall a structure can be installed before warning lights must be installed for aircraft safety. In fact, one requirement that sometimes arises during zoning hearings for a home-sized wind system is that the applicant must get permission for erecting the tower from the Federal Aviation Administration (FAA). It turns out that, in most cases, the FAA doesn't want to be bothered with the permitting of a homeowner's wind system.

The FAA has only two situations that might be pertinent to the installation of a home wind system: if the total height of the tower and turbine is over 200 feet tall, or if the wind turbine is located close to an airport. If your installation falls within one of these two situations, the FAA will want to review your installation for possible marker lighting. Upon review, and if safety lights are required, the FAA will issue a "determination" that stipulates location and color of any required lighting.

The first situation occurs if your proposed structure is to be taller than 200 feet. The 200-foot requirement on a wind turbine and tower refers to the total extended height of the blade in an upright position above the tower. A wind turbine with a 31-foot rotor diameter (15.5-foot blades) would be restricted to a 184.5-foot tower (200 feet less the 15.5-foot blade = 184.5 feet). A wind turbine with a 21-foot rotor diameter (10.5-foot blades) would be restricted to a 189.5-foot tower (200 feet less the 10.5-foot blade = 189.5 feet.)

The tallest towers currently offered by manufacturers and dealers as "off the shelf" items are in the 120- to 126-foot range, well below the 200-foot mark that could trigger a review by the FAA. In fact, I could only find two a handful of towers taller than this, all with Bergey Excel on them, at 176, 155, and 140 feet tall. Most other home-sized wind towers do not exceed the 120-foot mark, well below the height that would trigger an FAA review.

The second situation involves the proximity of the tower to a nearby airport runway, depending on the length of that runway. The FAA only regulates structures that might impact "active public access" runways, regardless of their size. If someone owns a private landing strip or field that is not on FAA maps, or if the landing strip is not in active use, or if the airfield is private with no public access, an FAA review is not required.

If the runway is longer than 3,200 feet, there is a 100 to 1 ratio limit on structures. This means that the 200 feet limit extends beyond 20,000 feet from the runway, or just over 3.8 miles. If your property is closer than 20,000 feet to the runway, you must submit an application to the FAA. They will determine how tall a tower you can install.

If the runway is less than 3,200 feet long, the ratio is 50 to 1. This means that the 200 feet limit extends 10,000 feet from the runway, or about 1.9 miles away. Again, an application must be filed with the FAA for a determination if you fall within this limit.

The application form is #7460-1, "Notice of Proposed Construction or Alteration" with instructions available online at the FAA Web site at <http://www1.faa.gov/ats/ata/ata400/oeaaa.html> . Addresses of the regional FAA offices where applications should be mailed are also at the FAA's Web site. You can also request this information from your state department of transportation.

If your proposed tower falls within one of the two above situations, then you must submit an application to the FAA for a determination. An application takes at least several months to process, so plan ahead. If you are in doubt about the your distance from an airport, or the status of the airport, it is always best to submit an application. However, if your project is clearly outside of the limits set forth by the FAA guidelines, do not submit an application.

Finally, zoning officials should not use the FAA process to delay the installation of a wind turbine and tower, or as an added hurdle to dissuade homeowners from installing wind turbines. FAA requirements are not a local zoning issue, as they always supersede local zoning ordinances. Requiring an FAA application and review for all wind installations is not what the system is there for, and the FAA has enough to do without getting involved in local zoning squabbles.

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[Editor's Note: The opinions expressed in this column belong solely to the author.]