



City of Homer Planning & Zoning

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MEMORANDUM 09-112

Date: August 19, 2009

To: Mayor Hornaday and Homer City Council

From: Dotti Harness-Foster, Planning Technician

Re: To respond to questions from the Mayor, City Council members and Public Testimony on the draft Wind Energy System (WES) Ordinance 09-34.

Turbine size: The wind industry defines *small* as anything less than 100kW. The maximum kW in Homer's draft ordinance is 25kW, with a Conditional Use Permit, and a public hearing, required for WES rated greater than 10kW. Additionally, Homer's draft ordinance states that the primary function of a small WES is to provide electric power for "onsite" consumption.

Lot size: The draft WES ordinance calls for a minimum lots size of one acre. Based the City's Geographical Information System there are 4,180 lots in the city.

- Approximately 1,641 lots, or 40%, are over 1 acre (43,560 square feet).
- Approximately 1,768 lots, or 42%, are over 40,000 square feet.
- The vast majority of the described lots are found within the Rural Residential District.
- Research reveals that communities deal with space and setbacks differently. At a minimum, communities use only noise decibels levels to determine the setbacks requirements from a property line.
- Other communities use a setback distance from the lot of 1.0 to 1.5 times the total height of the wind energy system.
- To avoid numerous qualifiers, experts recommend using noise and/or height setbacks versus lot size minimums.
- Homer's draft ordinance uses noise decibel levels at the property line, plus a setback distance from the property line of 1.1 times the total height of the WES.

Costs and performance increases with height; while maintenance decreases with height. To date, private residential installations of WES have a total height range of 45 feet to 80 feet. For comparison, there are several communication towers in Homer that range in height from 75 feet to the harbor light poles that are 150 feet in height.

A Homer residential site, with spruce trees, may require a total height of 115 - 150 ft. This represents a:

| | | |
|-----|----|---|
| 70 | ft | Mature spruce Trees |
| 35 | ft | Minimum recommend clearance above trees |
| 35 | ft | Recommend clearance above trees |
| 10 | ft | Blade height |
| 150 | ft | Total height of small WES |

Based on a minimum 1.1 setback from the property line, a 150' WES would require a minimum lot size of 2.5 acres.

Based on a minimum 1.1 setback from the property line, a 60' WES would require a minimum lot size of 0.40 acres.

HCC draft ordinance requires a minimum lot size of one acre.

Zoning Districts: As proposed, the Homer City Code (HCC) would allow one small WES as an "accessory use" in the residential districts, CBD, TCD, GBD, BCWPD, General Commercial 1 and 2, Marine Industrial, and Marine Commercial. Wind energy turbines rated greater than 10kW would require a Conditional Use Permit in the residential districts, CBD, TCD and GBD. Wind turbines greater than 25kW would not be allowed.

Accessory use: In Homer, an accessory use is "subordinate and clearly incidental to the principal use" per HCC 21.03.040. Typically, an accessory use is a shop or a greenhouse that is "subordinate" to the principal residential building. To protect the neighborhood integrity, HCC requires that the principle structure be built prior to the accessory use per HCC 21.14.020(j). Therefore, if a WES is considered an "accessory use" in the residential districts, the residential structure must be built prior to the installation of a small WES.

Alaskan wind ordinances:

- Valdez passed a wind ordinance in 2008. The City Council gave the Community and Economic Development Department \$10,000 to get a small wind energy system up and going (likely at the Valdez City Hall).
- Soldotna does not have a wind energy ordinance, but are discussing one.
- Kenai does not have a wind energy ordinance, but the Planning Commission is discussing and developing an ordinance which would regulate wind energy systems (turbines) within the City.
- Juneau requires a Conditional Use Permit for all WES applications. There are no "established" kW or height maximums.
- Anchorage has a draft wind energy ordinance that is "on-hold" until they complete their land use rewrite. In the meantime, wind energy systems are permitted, and installed, as an accessory use in the commercial and industrial zones where no height restrictions apply.

FAA: Lighting of a tower for FAA requirements depends on several factors: proximity to the airport, approach and take-off corridors and the surrounding topography. This draft ordinance requires an applicant to provide proof of compliance with FAA requirements.

Property Values: There is no data that indicates that property values are negatively affected by wind energy systems.

- Evidence indicates that the presence of wind turbines increases neighboring property values.¹
- Research has found that the great majority of property values actually rose more quickly in the view shed than did comparable communities.²
- A survey conducted for the California Energy Commission, found that 50% of homeowners surveyed “would be willing to pay more for a home equipped with solar or wind technology.”

Birds:

The Audubon Society acknowledges that “much work remains before scientists have a clear understanding of the true impacts to birds and wildlife from wind power.”³ Scientists are particularly concerned about the potential cumulative effects of wind farms in migratory corridors. On balance, Audubon strongly supports wind power as a clean alternative energy source that reduces the threat of global warming. Homer’s draft ordinance allows only one WES per lot.

Wind energy systems are designed to and can be turned off manually. This feature allows a property owner to turn off the wind energy system during migratory flights, breeding and nesting times.

¹ *In the Public Interest: How and Why to Permit for Small Wind Systems: A Guide for State and Local Governments*, Sept. 2008. <http://www.awea.org/smallwind/pdf/InThePublicInterest.pdf> page 13.

² *The effect of Wind Development on Local Property Values*, Analytical Report, May 2003. http://www.repp.org/articles/static/1/binaries/wind_online_final.pdf

³ Congressional Testimony on Benefits of Wind Power by M. Daulton, Director of Conservation Policy of the National Audubon Society before the Committee on Natural Resources: Impacts of Wind Turbines on Birds and Bats. May 2007. http://www.audubon.org/campaign/testimony_0507.html