

October 5, 2009

Robert Stearley, Mayor and  
Edgewood Town Council Members  
Town of Edgewood  
Via e-mail: [clerk@edgewood-nm.gov](mailto:clerk@edgewood-nm.gov)

Subject: Proposed Changes to Zoning Ordinance – Wind Energy Systems

Dear Mayor Stearley and Town Council Members,

I have reviewed the proposed amendments to the zoning ordinance and am providing both general comments and a markup of the proposed section on wind energy systems. I request that these comments be entered into the record as public comment in the context of the public hearing scheduled for October 7, 2009. I find it disappointing that previous comments have gone unaddressed and that no response was provided. I consider the previously identified concerns important, and there may be some repetition here.

In his landmark work *The Logic of Failure: Understanding and Avoiding Error In Complex Situations*, internationally renowned psychologist Dietrich Dorner writes:

“Moreover, it is far from clear whether “good intentions plus stupidity” or “evil intentions plus intelligence” have wrought more harm in the world. People with good intentions usually have few qualms about pursuing their goals. As a result, incompetence that would otherwise have remained harmless often becomes dangerous, especially as incompetent people with good intentions rarely suffer the qualms of conscience that sometimes inhibit the doings of competent people with bad intentions. The conviction that our intentions are unquestionably good may sanctify the most questionable means.”

Dorner’s use of the word “stupidity” is qualified later in the book, and it becomes plain that the real issue is that those who are convinced of the goodness of their intentions may often not see, or even refuse to see, the downsides of their actions. This appears, to Dorner, to be a fairly common attribute of human beings. He goes on to describe strategies by which the effects of this tendency can be mitigated, or even avoided. My point in quoting this work is certainly not to infer that anyone involved is “stupid” or “incompetent,” but to underline my concern that it appears that idealism may have been, in part, substituted for reasonable examination in the development of this ordinance. Such a substitution is, at best, a recipe for trouble.

In developing any policy, it is important to conduct a thoughtful, frank, and honest examination of the positive and negative aspects of what is proposed, and to weigh the benefits and difficulties associated with the approach in question. Based on review of the available documentation, including that provided in response to a New Mexico Inspection of Public Records Act request, key concerns regarding potential problems with the ordinance and associated subjects do not appear to have received adequate consideration in the development of the proposed ordinance revision. There is no evidence that real-world performance of small wind systems was examined. Neither is there any indication that the potential environmental impacts or other issues were seriously considered. As a result, we find

ourselves presented with a proposed change to the zoning ordinance that is, in my opinion, seriously and perhaps fatally flawed.

As previously expressed, wind turbines are not environmentally benign in all situations. Chief among the environmental concerns are impacts to bird (especially, but not exclusively, birds of prey) and bat species, and these impacts can be mitigated at least to some extent by reasonable limitations on tower placement. Despite the fact that this concern was raised early in the process, review of available energy committee, Planning and Zoning Commission, and Town Council meeting minutes reveals no indication that this issue was given any serious consideration. No studies were conducted, and no experts were consulted – despite the fact that one of the nation’s foremost experts on birds of prey lives in Edgewood.

Visual resources issues were similarly not given appropriate attention – these were (again in my opinion) rather inappropriately dismissed by participants. This is in direct conflict with the Town’s Comprehensive Plan, which states that one of the Town’s goals (Goal J) is to “Maintain a public utility infrastructure that will preserve and enhance the natural and visual setting of Edgewood.” The Comprehensive Plan further elaborates on that goal that Objective 2 is to “Regulate the height and location of utility structures such as power lines and telecommunication towers.” While wind turbines are not specifically mentioned, it is clear that protection of visual resources is a core value for the community, and that towers are an issue of central concern to the integrity of those resources. No Town committee or commission should ignore the provisions of the Comprehensive Plan. Rather, a more effective approach would have been to conduct a basic visual resources assessment to best inform the public regarding the effects of wind project development on the Edgewood viewshed. As with realistically estimating the potential benefits of small wind system development and assessment of potential environmental impacts, however, this issue was not investigated with any rigor; it does not appear that any meaningful analysis was applied to the subject.

In fact, it appears that the energy committee and the P&Z Commission have not considered in detail any issue that might raise questions about the appropriateness placing of wind energy systems in certain areas. Rather, the approach appears to have been to proceed resolutely along a narrow path regardless of potential problems that might result. Neither have they focused to any substantial extent on other sources of renewable energy. This tends to reinforce the perception that, at best, advocacy and idealism may have been, perhaps inadvertently or without realization, substituted for reasonable diligence in developing the proposed change to the zoning ordinance. Accordingly, I urge the Town Council to either table this proposal until such time as appropriate studies have been conducted or reject the changes outright. Studies of the benefits and detrimental potential of wind energy system development may (and in fact, likely would) reveal that there are many areas within Edgewood in which wind turbines could be erected with minimal damage to the environment and/or visual resources and a reasonable hope of operating effectively. Even if the Town Council were to determine, after the studies, that towers should be permitted anywhere in Edgewood, there would at least be solid technical information on which to base the decision.

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I would also like to recommend that additional provisions should be added to the ordinance before it is passed. Owners/operators of wind energy systems should be required to provide the specifications for the system as well as data on an annual basis. The data should include, but not be limited to, power generation information for the system and any meteorological information collected by the owner/operator. This information should be posted on the Town web site to provide information that may be useful in developing or modifying wind energy strategies either in Edgewood or in other, similar locations. Owners/operators of wind energy systems should be encouraged to make streaming data available on the web; this also should be made available on the Town's web site, and owners/operators willing to provide this data should be eligible for a waiver of permitting fees. It should also be noted that the ordinance makes no allowance for building-integrated wind energy systems.

The permit application procedure should not be less rigorous for wind energy systems than for other projects. Public notification requirements should be the same as in Section 33 of the zoning ordinance and should specifically include the provisions of Section 6(K) and (Z) of the cell tower ordinance. Given the fact that wind turbine towers and cell towers have similar effects on visual resources, that the Comprehensive Plan identifies the protection of such resources as a core value, and that the Town has established precedent by requiring such demonstrations for other types of towers, it seems inappropriate to exempt wind turbine towers from such requirements or those associated with public notification.

I urge the Council to seriously consider the implications of wind energy project development and permitting, and not to act precipitously out of a false sense of urgency or lack of understanding of the issues. Given that there is substantial disagreement on the effectiveness of small wind energy systems and that they may result in significant environmental and other impacts, it seems appropriate to ensure that all issues are examined and understood before proceeding. Armed with the appropriate information, Edgewood may enact a wind energy system permitting strategy that focuses on the effective use of wind energy without sacrificing biodiversity or threatening the interests of the Town's current and future residents. If we proceed in haste, and adopt a strategy that threatens biodiversity (after all, if we are willing to sacrifice ecosystems to "save the planet," what is it that we are seeking to save?) and/or raises public criticism of wind energy projects, we run the risk of becoming a focus of criticism of the very cause we may wish to advance.

I also urge the Town to broaden its approach and consider the development of a renewable energy strategic plan that addresses all potential (and reasonable) renewable energy approaches – wind, solar thermal, solar photovoltaic, etc. – before adopting any legislation.

Thank you for considering these comments on the proposed ordinance. These comments will be posted in an article at NM-Central.com to ensure that they are available to all interested parties. Should you have any questions or require further information, please do not hesitate to contact me at or by e-mail at .

***Comments on the Town of Edgewood Draft Proposed Zoning Ordinance –  
Conditional Use Permit Wind Energy Systems  
John E. Weckerle***

***October 4, 2009***

Sincerely,

John E. Weckerle  
Edgewood

October 4, 2009

# DRAFT

## Zoning Ordinance amendment Section 33. \_\_\_\_ Conditional Use Permit Wind Energy Systems (WECS)

There is hereby adopted a new section to the Town of Edgewood Zoning Ordinance, designated Section 33. Conditional Use Permits, WECS, which shall read as follows:

**Purpose.** The purpose of this section is to:

- (1) Oversee the permitting of small wind energy systems
- (2) Preserve and protect public health and safety without significantly increasing the cost or decreasing the efficiency of a small wind energy system

**Definitions.** In this section:

- (1) "Administrator" means the Town of Edgewood Administrator or his/her designee.
- (2) "Meteorological tower" (met tower) is defined to include the tower, base plate, anchors, guy cables and hardware, anemometers (wind speed indicators), wind direction vanes, booms to hold equipment anemometers and vanes, data logger, instrument wiring, and any telemetry devices that are used to monitor or transmit wind speed and wind flow characteristics over a period of time for either instantaneous wind information or to characterize the wind resource at a given location.
- (3) Non-Commercial wind energy system means a wind energy conversion system that is incidental and subordinate to another use on the same parcel and supplies electrical power solely for applicant's on-site energy generation and consumption with an aggregate generating capacity of 100 kw or less and generate less than 40 dba at the property line.
- (4) "Owner" shall mean the individual or entity that intends to own and operate the small wind energy system in accordance with this ordinance.
- (5) "Rotor diameter" means the cross sectional dimension of the circle swept by the rotating blades.
- (6) "Small wind energy system" means a wind energy system that
  - (a) is used to generate electricity;
  - (b) has a nameplate capacity of 100 kilowatts or less; and
  - (c) has a total height of 170 feet or less.
- (6) "Total height" means the vertical distance from ground level to the tip of a wind generator blade when the tip is at its highest point.
- (7) "Tower" means the monopole, freestanding, or guyed structure that supports a wind generator.
- (8) "Wind energy system" means equipment that converts and then stores or transfers energy from the wind into usable forms of energy. This equipment includes any base, blade, foundation, generator, nacelle, rotor, tower, transformer, vane, wire, inverter, batteries or other component used in the system.
- (9) "Wind generator" means blades and associated mechanical and electrical conversion components mounted on top of the tower.

### Standards.

A non-commercial WECS shall be a conditional use in all zoning districts subject to the following requirements:

- (1) Setbacks. A wind tower for a small wind system shall be set back a distance equal to a distance of 1.10 its total height from:
  - (a) any public road right of way, unless written permission is granted by the governmental entity with jurisdiction over the road;
  - (b) any overhead utility lines, unless written permission is granted by the affected utility;
  - (c) all property lines, unless written permission is granted from the affected land owner or neighbor.

**Comment [J1]:** This acronym does not match the phrase it represents. It is also used inconsistently – WECS as plural, and WECS as singular. Consider changing the phrase to "small wind energy conversion system" or adjusting the acronym to WES; either way, make sure usage is consistent throughout the ordinance.

**Comment [J2]:** This would appear to prohibit cogeneration and/or net metering. Since this may be critical to the feasibility of small wind systems, this section should be revised to allow net metering to the extent that total generation may not exceed the applicant's on-site electrical power use on an annual basis.

**Comment [J3]:** Allowable tower heights should be assigned to zoning districts and/or overlays.

**Comment [J4]:** This could be construed to exclude vertical-axis wind generating systems.

**Comment [J5]:** This section should require that a wind energy system be capable of withstanding a certain maximum wind speed.

**Comment [J6]:** Any State or County requirements that may be applicable should be referenced in this subsection.

**Comment [J7]:** At a minimum, the provisions of the Cell Tower Ordinance, §6(2) and (BB) should be applied here. An analysis of potential effects on raptors and migratory birds should also be required. Lattice-type towers, which are attractive to raptors, should be specifically prohibited.

**Comment [J8]:** Restrictions on tower placement and height that may result from proximity to the Sandia Airpark should be included, as should compliance with any associated FAA restrictions. Section 9 of the zoning ordinance should be specifically referenced.

**Comment [J9]:** The section should also include restrictions based on wildlife protection, such as reasonable limitations based on proximity to raptor nesting and hunting habitat.

**Comment [J10]:** If the purpose of the setbacks is to prevent injury or death caused by falling towers or blades, it may be appropriate to require similar setbacks from on-site residential structures.

**Comment [J11]:** Because Edgewood is a developing area, not all utility lines are now in place that may be needed in the future. Many property lines have associated utility easements and/or road easements. Towers setbacks should be 1.10 times the total height from these easements. For this reason, it may not be feasible to allow variances by written permission of neighbors. The Town should also specifically reserve the right to deny the permit regardless of such permissions (same as with (9)(1)(b)).

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- (2) Access. Applicant or his/her agent shall take all reasonable measures to insure that the tower and its' various appurtenances are not allowed to become an attractive nuisance. These measures may include but are not limited to limited access ladders, fencing or no-climb design.
- (3) Electrical Wires. All electrical wires associated with a small wind energy system, other than wires necessary to connect the wind generator to the tower wiring, the tower wiring to the disconnect junction box, and the grounding wires shall be located underground.
- (4) Lighting. A wind tower and generator shall not be artificially lighted unless such lighting is required by the Federal Aviation Administration.
- (5) Appearance, Color, and Finish. The wind generator and tower shall remain painted or finished the color or finish that was originally applied by the manufacturer, unless approved in the building permit.
- (6) Signs. All signs, other than the manufacturer's or installer's identification, appropriate warning signs, or owner identification on a wind generator, tower, building, or other structure associated with a small wind energy system visible from any public road shall be prohibited.
- (7) Code Compliance. A WECS including tower shall comply with all applicable state construction and electrical codes.
- (8) Utility notification and interconnection. Small wind energy systems that connect to the electric utility shall comply with the Public Regulatory Commission of New Mexico.
- (9) Met towers (*Meteorological towers*) shall be permitted under the same standards, permit requirements, restoration requirements, and permit procedures as a WECS.
- (10) Multiple WECS. Multiple Non-Commercial WECS are allowed on a single parcel as long as the WECS are installed in compliance with minimum setbacks and clear zone requirements and the minimum distance between Non-Commercial WECS shall be equivalent to one hundred percent of the combined height of the tower plus the blade length.

**Comment [J12]:** This term is not defined here or in the main body of the zoning ordinance. A definition should be provided either here or elsewhere and referenced here. The definition contained in §339 in the Restatement (Second) of Torts is recommended.

**Comment [J13]:** This sentence appears incomplete; compliance is with regulations or requirements, and not with an agency.

#### **Permit Requirements.**

- (1) Building Permit. An application for a building permit shall be required for the installation of a WECS.
- (2) Documents: The building permit application shall be accompanied by a plot plan which includes the following:
- (a) Property lines and physical dimensions of the property
  - (b) Location, dimensions, and types of existing major structures on the property
  - (c) Location of the proposed wind system tower
  - (d) The right-of-way of any public road that is contiguous with the property.
  - (e) Any overhead utility lines.
  - (f) Wind system specifications, including manufacturer and model, rotor diameter, tower height, tower type (freestanding or guyed)
  - (g) Tower foundation blueprints or drawings
  - (h) Tower blueprint or drawing
- (3) Fees. The application for a building permit for a WECS must be accompanied by the fee required for a building permit and for a Conditional Use Permit.
- (4) Expiration. A permit issued pursuant to this ordinance shall expire if:
- (a) The WECS is not installed and functioning within 24-months from the date the permit is issued;
  - or,
  - (b) The WECS is out of service or otherwise unused for a continuous 12-month period.

**Comment [J14]:** It should be required that blueprints be stamped by a Professional Engineer and the plot plan be prepared by a licensed surveyor. Also, inspections to be conducted at key milestones during construction, as with any other building project, should be considered.

**Comment [J15]:** Existing rights-of-way that do not currently have roads should be included.

**Comment [J16]:** Existing rights-of-way that do not currently have lines installed should be included.

#### **Abandonment.**

- (1) A WECS that is out-of-service for a continuous 12-month period will be deemed to have been abandoned. The Administrator may issue a Notice of Abandonment to the owner of a WECS that is deemed to have been abandoned. The Owner shall have the right to respond to the Notice of Abandonment within 30 days from Notice receipt date. The Administrator shall withdraw the Notice of Abandonment and notify the owner that the Notice has been withdrawn if the owner provides information that demonstrates the WECS has not been abandoned.
- (2) If the WECS is determined to be abandoned, the owner of a WECS system shall remove the wind generator from the tower at the Owner's sole expense within 3 months of receipt of Notice of Abandonment. If the owner fails to remove the wind generator from the tower, the Administrator may pursue a legal action

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to have the wind generator removed at the Owner's expense.

**Building Permit Application Procedure**

- (1) An Owner shall submit an application to the Administrator for a building permit for a small wind energy system. The application must be on a form approved by the Administrator and must be accompanied by two copies of the plot plan identified above.
- (2) The Administrator shall schedule the public hearing on the application within one month of the date on which the application is received.
- (3) If the application is approved, the Administrator will return one signed copy of the application with the permit and retain the other copy with the application.
- (5) If the application is rejected, the Administrator will notify the applicant in writing and provide a written statement of the reason why the application was rejected. The applicant may appeal the Administrator's decision pursuant to New Mexico Statutes. The applicant may reapply if the deficiencies specified by the Administrator are resolved.
- (6) The Owner shall conspicuously post an approved development application/building permit on the premises so as to be visible to the public at all times until construction or installation of the small wind energy system is complete.

**Comment [J17]:** This is inconsistent with the zoning ordinance, which specifies that building permits are submitted to the Zoning Office (§7A).

**Comment [J18]:** What appeals processes are available to neighboring landowners who wish to appeal approved permits?

**Violations.**

It is unlawful for any person to construct, install, or operate a small wind energy system that is not in compliance with this ordinance or with any condition contained in a building permit issued pursuant to this ordinance. Small wind energy systems installed prior to the adoption of this ordinance are exempt.

**Administration and Enforcement.**

- (1) This section shall be administered by the Administrator or other official as designated.
- (2) The Administrator may enter any property for which a building permit has been issued under this ordinance to conduct an inspection to determine whether the conditions stated in the permit have been met.
- (3) The Administrator may issue orders to abate any violation of this ordinance.
- (4) The Administrator may issue a citation for any violation of this ordinance.
- (5) The Administrator may refer any violation of this ordinance to legal counsel for enforcement.

**Penalties.**

- (1) Any person who fails to comply with any provision of this ordinance or a building permit issued pursuant to this ordinance shall be subject to enforcement and penalties as stipulated in the zoning code.
- (2) Nothing in this section shall be construed to prevent the Town of Edgewood from using any other lawful means to enforce this section.

**Severability.** The provisions of this ordinance are severable, and the invalidity of any section, subdivision, paragraph, or other part of this ordinance shall not affect the validity or effectiveness of the remainder of the ordinance.