WIND ENERGY SYSTEMS

FACT SHEET

COUNTY CASS ENVIRONMENTAL SERVICES

1119 RENEWABLE ENERGY SYSTEMS AND FACILITIES

1119.1 Wind Energy Systems

Wind energy systems shall be divided into the following categories and shall meet the respective requirements:

A. Hobbyist. This type of system is designed for small load personal use or to supplement commercial grid supplied electricity. The system may be connected to the commercial electrical grid and electricity sold..

1. Require a land use permit including a site plan

2. Towers are free standing or guyed, non-latticed and do not exceed 75 feet in height

3. Maximum electrical output does not exceed 10 kilowatts

4. Systems that directly connect to the commercial electrical grid shall conform to National Electrical Code (NEC).

5. Applications for wind energy systems that directly connect to the commercial electrical grid shall be accompanied by a Net Excess Generation(NEG) contract with the respective electrical power company.

B. Residential/Commercial. These systems are designed primarily to supply electricity for personal use. The system may be connected to the commercial electrical grid and electricity sold.

1. Require a land use permit for towers 170 feet or less in height including a site plan

2. Require a conditional use permit for towers greater than170 feet in height including a site plan.

3. Non-free standing, guyed non-lattice towers shall not exceed 120 feet in height.

4. Guyed lattice towers shall not exceed 270 feet in height.

5. Maximum electrical output does not exceed 400 kilowatts.

6. Wind energy structural and mechanical systems engineering plan including soil investigation shall be developed by a qualified and licensed professional engineer to conform to applicable structural and mechanical standards.

7. Systems that directly connect to the commercial electrical grid shall conform to National Electrical Code (NEC).

8. Applications for wind energy systems that directly connect to the commercial electrical grid shall be accompanied by a Net Excess Generation (NEG) contract with the respective electrical power company.

C. Commercial. These systems are designed exclusively to be connected to the commercial electrical grid and electricity sold.

1. Require a conditional use permit.

2. Towers shall not exceed 300 feet in height.

3. Maximum electrical output exceeds 400 kilowatts.

4. Wind energy structural and mechanical systems engineering plan including soil investigation shall be developed by a qualified and licensed professional engineer to conform to applicable structural and mechanical standards.

5. Commercial systems shall conform to National Electrical Code (NEC).

6. Applications shall be accompanied by a Net Excess Generation (NEG) contract with the respective electrical power company.

D. Experimental. These systems are designed and operated exclusively for research, testing, prototyping, education, demonstration, and development to supply electricity to loads isolated from the commercial grid. The system may be not be connected to the commercial electrical grid and no electricity sold.

1. Require a land use permit for towers 170 feet or less in height including a site plan

2. Require a conditional use permit for towers more than 170 feet in height including a site plan.

3. Non-free standing, guyed non-lattice towers shall not exceed 120 feet in height.

4. Guyed lattice towers shall not exceed 270 feet in height.

1119.2 Additional Standards

In addition to the standards in section 1119.1, all wind energy systems shall comply with the following standards:

A. Towers shall be constructed of, and/or treated with, corrosive resistant material.

B. Wind energy system towers and electrical equipment shall be maintained and inspected according to manufacture's requirements by qualified personnel. Annual tower inspection reports shall be provided to the Department on forms provided.

C. Wind energy system electrical and mechanical equipment that is connected to a commercial electrical grid shall be maintained and inspected according to manufacture's requirements by qualified personnel. Annual electrical equipment inspection reports shall be provided to the Department on forms provided and shall include total annual energy generated, total annual energy sold, average daily generation, and instantaneous maximum generation**.**

D. Wind energy system electrical equipment that is connected to a commercial electrical grid shall automatically disconnect from the commercial electrical grid within 5 seconds after a grid outage.

E. The use of any portion of a wind energy tower for signs/placards other than warning, identification, or equipment information sign/placards is prohibited. Signs or placards for warning, identification, or equipment information shall not exceed six square feet.

F. The addition of any non-wind energy systems equipment to a wind energy systems tower is prohibited. Towers that do not exceed 75 feet in height are exempt from this requirement.

G. . Wind energy system towers shall blend into the surrounding environment to a height 10 feet above the surrounding foliage through the use of color and camouflaging architectural treatment. From that point to the top of the tower, the tower color shall obviously contrast to the surrounding environment, except in instances where color is dictated by federal or state regulations. Towers that do not exceed 75 feet in height are exempt from this requirement..

H. No wind energy system shall have constructed thereon, or attached thereto, in any way, any platform, catwalk, crow's nest, or like structure, except during periods of construction, repair, monitoring, or inspection..

I. For towers over 75 feet tall, suitable protective anti-climbing fencing with a minimum height of 6 feet shall be provided around any tower and guy wires.

J. Setbacks

1. Towers shall be setback from all property lines and public road right-of-ways an amount equal to the height of the tower plus 25 feet.

2. Guy wires for towers shall be set back 25 feet from all property lines and public road rights-of-way.

K. Each wind energy system permit or conditional use permit may include a utility building for protection of associated equipment not to exceed 100 square feet.