

CITY OF LUNA PIER
ORDINANCE NUMBER 211-B

AN ORDINANCE TO AMEND THE ZONING ORDINANCE NUMBER 211 TO ADD ARTICLE 33-ALTERNATIVE ENERGY STRUCTURE REGULATIONS

The City of Luna Pier ordains:

Section 1. Title.

This Ordinance shall be known as the Zoning Amendment Ordinance for Alternative Energy Structure Regulations and will repeal Zoning Ordinance 211, Article 31, Section 3103, Numbers 5 & 6.

Section 2. Addition of Special Use.

Article 33, of the City of Luna Pier Zoning Ordinance, Ordinance 211 as amended, are hereby amended to add Alternative Energy Structure Regulations and subject to Planning Commission Approval.

Section 3 Addition of-Article 33- Alternative Energy Structure Regulations

3300 Purpose

With volatile energy prices and increasing interest in environmental sustainability, a growing number of energy production systems are in demand and are evident in communities at various scales of production and use. The purpose of this Article is to provide basic and essential regulations to address various levels of local energy production in terms of both accessory uses and as principal uses. These regulations are focused principally on limiting off-site impacts to surrounding property and on preserving and protecting property values. These regulations shall also rely on standards and procedures required by Plot Plan and Site Plan review requirements (Article 26 & Article 30) and Special Land Use requirements in certain cases (Article 31).

3301, Outdoor Furnaces

The following Section 3301 is hereby added to the City of Luna Pier Zoning Ordinance 211 as amended:

3301 Outdoor Furnaces

Outdoor furnaces are permitted in any district as an accessory use subject to the following requirements:

- (A) **Type of materials burned.** The following types of materials shall not be burned within an outdoor furnace: leaves, rubbish or garbage, waste oil or other oily wastes; asphalt and products containing asphalt, chemically-treated or painted wood, any plastic material, rubber and synthetic rubber-like products, or any material treated with petroleum products or chemicals.
- (B) **Performance.** An outdoor furnace shall be installed in accordance with the manufacturers recommendations and comply with all applicable federal, state and local standards governing air quality, emissions and fire safety.
- (C) **Placement.** An outdoor furnace shall not be placed between the principal structure and the road right of way, nor closer than 40 feet to the side or rear property line of the parcel on which it is located. An outdoor furnace shall also not be located closer than 50 feet from any outdoor propane tank, principal structure, outdoor shed, garage or any other structure on the lot.
- (D) **Locations of burnable stockpiles:** Stockpiles of burnable materials may be kept inside of a building or out of doors. If kept indoors, the building may not also house the outdoor furnace. If kept out of doors, the stockpiles may not be located between the principal structure and the road right of way, less than 25 feet to the side lot line, or less than 5 feet from a rear property line. If the burnable stockpiles includes corn, or other edible materials, stockpiles shall be stored in a vermin-proof container. In any Residential District, stockpiles of burnable material may not exceed more space than is required to contain 2 full cords of wood (a full cord of wood is defined as 4 feet wide, 4 feet high and 8 feet long), or an equal volume of other burnable material
- (E) **Venting stack heights:** The vents of outdoor furnaces shall be designed in accordance with the following table:

Distance to Closest Residence Not Served By An Outdoor Furnace	Minimum Height
50 feet or less	The height of the roof peak of the adjacent residence plus 2 feet.
More than 50 feet, but less than 100 feet	75 percent of the height of the roof peak of the adjacent residence plus 2 feet.
More than 100 feet but less than 150 feet	50 percent of the height of the roof peak of the adjacent residence plus 2 feet
More than 150 feet	25 percent of the height of the roof peak of the adjacent residence plus 2 feet

3302 Accessory Wind Energy Systems – General Requirements.

The requirements of this Article apply to accessory wind energy systems as defined in Article 2. Any system that has been installed, but not used for two consecutive years, may not be subsequently used without meeting the requirements of this Section. No pre-existing system shall be altered in any manner that would increase the degree of non-conformity with the requirements of this Chapter and no alterations shall be made to a non-conforming, pre-existing system during its life which exceeds 50 percent of its fair market value. If such system is destroyed or damaged to the extent of more than 50 percent of its fair market value at the time of destruction or damage, it shall not be reconstructed except in conformity with this Chapter.

3303 Accessory Wind Energy Systems – Specific Requirements.

- (A) **Permitted Location.** An accessory wind energy system is permitted in any Industrial Zoning District (I-1,I-2), provided all other requirements listed hereunder are met. If one or more of the following specific requirements are not met, such accessory wind energy system is reclassified as a special use pursuant to Section 31.
- (B) **Minimum Lot Size.** No wind energy system shall be erected on any lot less than ten acres in size.
- (C) **Total Height.** For property sizes between one acre and two acres, the total height of any tower shall not exceed 30 feet. For property sizes between two and five acres, the total height shall not exceed 40 feet. For property sizes greater than five acres, the total height shall not exceed 50 feet. Total height means the distance measured from ground level to the blade extended at its highest point or to the top of the tower, whichever is the highest.
- (D) **Location on a Lot:** No accessory wind energy system shall be located within 300 feet of a property line in any front or side yard, and must be set back from the nearest property line, public road right-of-way and communication and electrical line a distance that is not less than 1.1 times its total height. Further, an accessory wind energy system shall be set back from the nearest inhabited building a distance not less than 1.5 times its total height.
- (E) **Design Standards:** The design of the accessory wind energy system or tower shall be of a monopole or freestanding design without guy wires.
- (F) **Turbine Blade:** The minimum height of the lowest extent of a turbine blade shall be 20 feet above the ground or 30 feet above any structure or obstacle within 100 feet from the tower.
- (G) **Climbing Apparatus:** No tower shall have a climbing apparatus within 15 feet of the ground. All access doors or access ways to towers and electrical equipment shall be able to be locked.
- (H) **Noise:** No accessory wind energy system shall exceed 60 dBA as measured at the property line or 50 dBA as measured at the nearest neighboring habitable building.
- (I) **Finish:** Accessory wind energy system towers shall be finished in a rust-resistant, non-obtrusive finish and color that is non-reflective. No accessory wind energy system or tower shall be lighted unless required by the FAA. No flags, streamers, decorations, advertising signs of any kind or nature whatsoever shall be permitted

on any accessory wind energy system and/or tower.

- (J) **Electrical Connections:** All electrical interconnection or distribution lines shall be underground and comply with all applicable codes and public utility requirements.
- (K) **Interference:** No accessory wind energy system or tower shall cause permanent and material interference with television or other communication signals.
- (L) **Speed Controls:** Every accessory wind energy system shall be equipped with both manual and automatic over-speed controls.

3304 Commercial Wind Energy Systems – General Requirements.

Commercial wind energy systems, as defined in Article 2, is a permitted use in certain zoning districts subject to the requirements listed hereunder are met.

- (A) **Minimum Lot Size.** There is no minimum lot size, provided all required setbacks and other requirements are met.
- (B) **Setbacks from Occupied Buildings:** Each commercial wind energy system shall be set back from the nearest residence, school, hospital, church or public library, or any other occupied buildings a distance no less than the greater of (a) two (2) times its Hub Height, or (b) one thousand (1,000) feet, whichever is greater.
- (C) **Setbacks from Lot Lines:** Commercial wind energy systems shall not be located within 1.5 times the Hub Height of a property line associated with land owned by an individual or entity that is not related to commercial wind energy system facility.
- (D) **Setbacks from Public Roads:** Commercial wind energy systems shall be set back from the nearest public road a distance no less than 400 feet or 1.5 times its Hub Height, whichever is greater.
- (E) **Setbacks from Railroads:** Each commercial wind energy system shall be set back from the nearest Railroad no less than 400 feet or 1.5 times its Hub Height, whichever is greater.
- (F) **Location on a Lot:** Commercial wind energy systems may be located anywhere on a lot provided all setback requirements are met. The Planning Commission shall review the placement of all commercial wind energy systems in terms of mitigating off-site noise and visual impacts to surrounding property as part of the site plan review process. Commercial wind energy systems and associated access roads shall be located so as to minimize the disruption to agricultural activity and, therefore, the location of towers and access routes is encouraged along internal property lines.
- (G) **Total Height.** Commercial wind energy systems shall demonstrate compliance with the Michigan Tall Structure Act (MCL 259.481 and following), FAA guidelines, and any related regulations as part of the approval process.
- (H) **Design Standards:** Tubular towers associated with commercial wind energy systems shall be painted with a non-reflective and subdued color. The appearance of the commercial wind energy system, equipment and related buildings shall be maintained throughout the life of the wind energy facility (i.e., condition of paint, signs, landscaping, etc). Commercial wind energy systems shall not be artificially lighted, except to the extent required by the FAA or other applicable authority, or otherwise necessary for the reasonable safety and security thereof. Commercial wind energy systems shall not be used for displaying any advertising except for reasonable identification of the manufacturer or operator of the system. The electrical collection system shall be placed underground at a depth designed to accommodate the existing agricultural land use to the maximum extent practicable.

- (I) **Noise:** Commercial wind energy systems shall not exceed 50 db(A) at the habitable structure closest to the wind energy system. This sound pressure level may be exceeded during short-term events such as utility outages and/or severe wind storms. If the ambient sound pressure level exceeds 50 dB(A), the standard shall be ambient dB(A) plus 5 dB(A).
- (J) **Shadow Flicker:** Commercial wind energy systems shall be located in such a manner so as to not generate shadow flicker on any habitable building.

3305 Freestanding Accessory Solar Energy Systems

The following standards shall apply to the Freestanding Accessory Solar Energy Systems which are allowed in any zoning district. To be considered to be an accessory solar energy systems it must be associated with a habited or non-habited building which represents a principal use of the subject property. All freestanding accessory solar energy systems shall be located on the same Lot as the building being served. Where there is no principal building, an accessory solar energy system is not allowed.

- (A) **Location:** Freestanding accessory solar energy systems are permitted in certain zoning districts as shown in Table 10-2. If one or more of the following requirements are not met, such freestanding accessory solar energy systems are reclassified as a special use pursuant to Section 11.31.
- (B) **Setbacks:** Freestanding accessory solar energy systems may not be located between the front lot line and the principal building on the lot, and must meet all applicable setbacks associated the principal building on the lot.
- (C) **Height:** Freestanding accessory solar energy systems may not exceed 6 feet in height. The height may be increased by up to 50% when the setback is 25 feet or greater, and the height may be increased by up to 100% when the setback is 50 feet or greater. The height shall be measured from the grade at system base to the highest peak, including the highest position of any adjustable system or associated apparatus.
- (D) **Size of Freestanding Accessory Solar Energy System:** Systems shall be included in, and not exceed the maximum permitted lot coverage for all structures (table 10-3) if the property is zoned for residential purposes. When property is zoned for non-residential purposes, systems may not occupy more than five percent of the parcel upon which it is located, or one-half (1/2) of the footprint of the principal building served, whichever is greater.

3306 Attached Accessory Solar Energy Systems

The following standards shall apply to the Attached Accessory Solar Energy Systems which are allowed in any zoning district. To be considered to be an accessory solar energy systems it must be associated with a habited or non-habited building which represents a principal use of the subject property. All accessory freestanding accessory solar energy systems shall be located on the same lot as the building being served. Where there is no principal building, an accessory solar energy system is not allowed.

- (A) **Wall Mounted:** In the case of wall mounting, no part of the system shall project more than five (5) feet from the building. No part of the system shall extend into any required side or rear setback, and no part of the system shall extend into any required front setback.

- (B) Roof Attached Systems:** Roof attached systems may be mounted on principal and accessory building roofs provided they conform to the maximum height standards established in the zoning district. Systems shall be mounted parallel to the pitch of the roof and shall be no higher than 12 inches from the roof surface, if visible from the road right of way, or any residentially-zoned property. When roof attached systems are not visible from any residentially-zoned property, such systems may include racks and similar structural supports to tilt such solar panels to a desired angle for maximum solar gain. No part of the system shall project more than ten (10) feet from the roof, and no part of the system shall exceed the maximum height permitted for the accessory structure to which it is attached.
- (C) Exemptions:** Attached Accessory Solar Energy Systems which have a total surface area of ten (10) square feet or less are exempt from zoning approvals.

3307 Solar Power Plant

A Solar Power Plant is a utility-scale commercial facility that converts sunlight into electricity, whether by photovoltaics (PV), concentrating solar thermal devices (CST), or various experimental solar technologies, for the primary purpose of wholesale or retail sales of generated electricity. Solar Power Plants are permitted or special uses in zoning districts in accordance with Article 10, are subject to site plan review pursuant to Article 4 and must meet the following development requirements:

- (A) Maximum Height:** The maximum height for all structures associated with a Solar Power Plant is equal to the maximum permitted height of principal structures in the district it is located in.
- (B) Setbacks:** Solar power plant structures shall be set back from all property lines and public road rights-of-way at least thirty feet, or one and one-half times the height of the structure, whichever is greater. In addition, solar power plant structures must be located at least one hundred feet from all residentially zoned lots and existing residences. Additional setbacks may be required to mitigate noise and glare impacts, or to provide for designated road or utility corridors, as identified through the site plan review process.
- (C) Safety/Access:** An appropriate security fence (height and material to be established through the site plan review process) shall be placed around the perimeter of the solar power plant. Knox boxes and keys shall be provided at locked entrances for emergency personnel access.
- (D) Noise:** No operating solar power plant shall produce noise that exceeds 50 dBA, as measured at the property line of any residentially-zoned lot (R-1, R-2, R-3, R-4, R-5), or 60 dBA as measured at any other property lines. Adequate setbacks shall be provided to comply with these limitations.
- (E) Visual Appearance:** Solar power plant buildings and accessory structures shall, to the extent reasonably possible, use materials, colors, and textures that will blend the facility into the existing environment. Appropriate landscaping and/or screening materials may be required to help screen the solar power plant and accessory structures from major roads and neighboring residences. No solar power plant tower or other tall structure associated with a solar power plant shall be lighted unless required by the Federal Aviation Administration (FAA). When lighting is required by FAA, it shall be the red, intermittent, glowing-style, rather than the white, strobe-style, unless disclosed and justified through the application review process. Aircraft sensor systems to turn the lights on only when low-flying aircraft are in the area may be required.

- (F) Lighting:** Lighting of the solar power plant and accessory structures shall be limited to the minimum necessary and full cut-off lighting may be required when determined necessary to mitigate visual impacts.
- (G) Glare:** No solar power plant shall produce glare that would constitute a nuisance to occupants of neighboring properties or persons traveling neighboring roads.
- (H) Electrical Interconnections.** All electrical interconnection and distribution lines within the project boundary shall be underground, unless determined otherwise by the planning commission because of severe environmental constraints (e.g. wetlands, cliffs, hard bedrock), and except for power lines that leave the project or are within the substation. All electrical interconnections and distribution components must comply with all applicable codes and public utility requirements.

Section 4. Additional Definitions to be added to Article 2 for alternative energy chapter

db(A): The sound pressure level in decibels. Refers to the "a" weighted scale defined by ANSI. A method for weighting the frequency spectrum to mimic the human ear.

Hub Height: The distance measured from ground level to the center of the turbine hub. Hub height is defined as the height from the ground level at which the hub of the windmill or the hub of the propeller blades of the wind energy generator is situated.

Outdoor Furnace: An outdoor furnace is an apparatus designed to burn solid or liquid combustible materials (e.g., corn, ear corn, wood, wood pellets, coal, fuel oil) to produce heat and/or heat hot water for a building on the same lot.

Photovoltaics: Photovoltaics (PV) is a technology that converts light directly into electricity.

Rotor: An element of a wind energy system that acts as a multi-bladed airfoil assembly, thereby extracting through rotation, kinetic energy directly from the wind.

Shadow Flicker: Alternating changes in light intensity caused by the moving blade of a wind energy system casting shadows on the ground and stationary objects, such as a window in a dwelling.

Solar Power Plant: A utility-scale commercial facility that converts sunlight into electricity, whether by photovoltaics (PV), concentrating solar thermal devices (CST), or various experimental solar technologies, for the primary purpose of wholesale or retail sales of generated electricity.

Wind Energy System: A wind energy conversion system which converts wind energy into electricity through the use of a wind turbine generator and includes the turbine, blades, and tower as well as related electrical equipment.

Wind Energy System – Accessory: A wind energy conversion system consisting of a wind turbine, a tower and associated control or conversion electronics which will be used primarily to reduce on-site consumption of utility power. A small wind energy system shall not exceed a rated capacity of 50 kWh.

Wind Energy System – Commercial: An electricity generating facility consisting of one or more wind turbines under common ownership or operation control, and includes substations, MET Towers, cables/wires and other buildings accessory to such facility, whose main purpose is to supply electricity to offsite customers. This includes systems designed and built to provide electricity to the electric utility grid.

Section 5. Addition to table-Article 17

Land Uses	R1	R2	R3	RM	MH	B1	DM	B2	ES	WM	MU	I1	I2
OTHER PRINCIPAL AND ACCESSORY USES													
Attached Accessory Solar Energy System	X	X	X	X	X	X	X	X	X	X	X	X	X
Freestanding Accessory Solar Energy	S	S	S	S	S	S	S	S	S	S	S	X	X
Solar Power Plant												X	X
Commercial Wind Energy System												S	X
Accessory Wind Energy System	S	S	S	S	S	S	S	S	S	S	S	X	X

Section 6. Additions to -Article 31, Section 3103

5. Outdoor Furnaces. Outdoor furnaces shall meet the Special Use standards and requirements of Article 33.

6. Wind Energy Systems. Wind Energy Systems shall meet the Special Use standards and requirements of Article 33.

8. Solar Energy Systems. Solar Energy Systems shall meet the Special Use standards and requirements of Article 33.

Section 7. Effective Date.

This Ordinance shall become effective twenty (20) days after final passage and publication.

I hereby certify that this ordinance was passed at a regular meeting of the City Council of the City of Luna Pier, Michigan held, Thursday, the 14th day of November, 2019.

Jolene Upchurch, Deputy Clerk

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