

# Legislative Analysis

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## **AERONAUTICS: METEOROLOGICAL EVALUATION TOWERS**

Phone: (517) 373-8080  
<http://www.house.mi.gov/hfa>

**House Bill 4727 (H-1) as reported from committee**  
**Sponsor: Rep. Triston Cole**  
**Committee: Local Government**  
**Complete to 10-13-15**

Analysis available at  
<http://www.legislature.mi.gov>

**BRIEF SUMMARY:** The bill would put in place regulations for meteorological evaluation towers to increase their visibility for airplane pilots.

**FISCAL IMPACT:** A fiscal analysis is in process.

### ***THE APPARENT PROBLEM:***

When energy corporations conduct optimal location research before installing a field of wind turbines, they raise a metal pole having electronic equipment that measures and records weather patterns, chiefly the speed, duration, and direction of the winds. The pole is sometimes called a 'meteorological evaluation tower.'

The metal-grey meteorological evaluation towers are often erected overnight, stand up to 200 feet in the air, are six to ten inches in diameter, and stay upright under the countervailing pressure of taut guy wires. Customarily, the towers remain in place for six months to two-years, to create a record of meteorological data for the future wind farm.

The meteorological evaluation towers are tall but compact, and virtually impossible for airplane pilots to see along the horizon—a fact confirmed by cockpit videotape shared during committee testimony. See ***Background Information*** below. The 'invisible' poles create safety hazards for pilots. Consequently, the National Safety Aviation Board has asked that the Departments of Transportation across the 50 states regulate their meteorological evaluation towers, with the aim of increasing their visibility, and avoiding air accidents.

Legislation has been introduced to require that the location of each existing meteorological tower be tallied and reported to the Michigan Aeronautics Commission. Further, the proposed bill requires that all new meteorological evaluation towers be painted (in safety stripes, orange alternating with white) and their guy wires clearly marked, although the owners of already installed meteorological towers would have one year to comply with these new safety requirements.

### ***THE CONTENT OF THE BILL:***

House Bill 4727 (H-1) would amend the Tall Structure Act (MCL 259.481 et al.) to revise the regulations for meteorological towers. A more detailed description of the bill follows.

**Local zoning variance.** House Bill 4727 would retain a provision of the law that prohibits the Michigan Aeronautics Commission from issuing a permit that allows construction, replacement, or an increase in height of a structure that violates the requirements of an applicable zoning ordinance adopted by a political subdivision under the Airport Zoning Act, unless the applicant obtains the approval of a variance from the ordinance, and an airspace study has been conducted by the commission resulting in a finding of non-interference to air navigation.

**Marking the Tower.** Under the bill, a meteorological tower that is 50 feet in height above the ground or higher, and the appearance of which is not otherwise regulated by state or federal law, must comply with all of the following:

- be painted in equal, alternating bands of orange and white (beginning with orange at the top of the tower and ending with orange at the bottom of the tower);
- have at least 7-foot safety sleeves placed at each anchor point that extends from the anchor point along each guy wire;
- have at least one orange marker ball attached to each guy wire at the highest point that does not affect the stability of the tower and the measurement of wind speed.

House Bill 4727 (H-1) requires that within one year after the effective date of this legislation, an owner of an existing Michigan meteorological tower must mark the tower, as described above.

**Meteorological tower inventory.** House Bill 4727 (H-1) allows (but does not require) the Aeronautics Commission to establish, maintain and publish a database that contains the locations of all existing meteorological towers.

Further, within 60 days after the effective date of the bill, an owner of any existing meteorological tower erected in Michigan must provide the Aeronautics Commission with all of the following:

- the global positioning system coordinates of the center of the meteorological tower;
- the elevation of the site, in feet;
- the structure's height above ground level, in feet;
- the owner's or lessee's name, address, telephone number, and electronic mail address, if any; and
- the name of any owner's representative.

**New tower location & old tower removal.** Further, the bill specifies that 10 days (or more) before the erection of a new meteorological tower, an owner must provide the location, size, and contact information, described above, to the Aeronautics Commission. Within

10 days after the removal of a meteorological tower, an owner would be required to notify the commission of its removal.

**Lighting.** House Bill 4727 specifies that a permit may require lighting to be operational during daylight hours, upon consideration of relevant facts, and notwithstanding any federal guidelines.

Now under the law, unless waived by the commission due to federal permit requirements or other valid reasons, the obstruction lights for a structure more than 800 feet above the ground must be high intensity white obstruction lights. House Bill 4727 retains this provision, and extends it to also require that the white obstruction lights be operational during daylight hours, in addition to any nighttime lighting requirement.

**30-Day determination period.** Under current law, the Aeronautics Commission must notify meteorological tower applicants of the commission's decisions about their requests by first class mail. The determination is then final 20 days after the notice is served, unless the applicant, within that 20-day period, requests (in writing) a hearing before the commission. House Bill 4727 retains this provision, but changes the notice deadline from 20 days to 30 days.

**Definitions.** The bill defines "anemometer" to mean an instrument for measuring and recording the speed of the wind. Also newly defined is the term "conical surface" to mean an imaginary plane extending outward and upward from the perimeter of a runway's horizontal surface at one of the following slopes, as applicable: (i) if the airport at which the runway is located has a published instrument approach procedure, at a slope of 50 to 1; (ii) if subparagraph (i) does not apply, at a slope of 20 to 1.

The bill defines "meteorological tower" to mean a structure, including all guy wires and accessory facilities, on which an anemometer is mounted for the purposes of documenting wind resources for the operations of a wind turbine generator. The bill redefines "runway" to mean the portion of an airport designated as either of the following: (1) an area used for the landing or takeoff of aircraft; or (2) an area proposed, and approved by the commission, to be used for the landing or takeoff of aircraft. Finally, the bill defines "utility runway" to mean a runway that is constructed for and intended to be used by propeller-driven aircraft with a maximum gross weight of 12,500 pounds or less.

The bill would take effect 90 days after it was enacted into law.

### ***BACKGROUND INFORMATION:***

To learn more about meteorological evaluation towers, and the risk they pose to small aircraft, visit this website for a 5-minute video explanation.

<https://www.youtube.com/watch?v=Mc6TdFmqkE8>

***ARGUMENTS:***

***For:***

Proponents say that this legislation is needed to ensure air safety. Meteorological evaluation towers—reaching 200 feet into the air to measure weather patterns for proposed wind turbine farms—pose a safety hazard for the pilots of small aircraft, because the towers are 'invisible' while in-flight. The National Safety Aviation Board has adopted guidelines that encourage state aeronautics commissions to inventory all meteorological towers so pilots know their location. Further, the board recommends that the towers be painted uniformly (in safety stripes, orange alternating with white) and their guy wires demarcated, so the towers' visibility is heightened, and air accidents can be avoided.

***POSITIONS:***

The Michigan Department of Transportation supports the bill. (10-7-15)

The Aircraft Owners & Pilots Association supports the bill. (10-7-15)

DTE Energy supports the bill. (10-7-15)

Legislative Analyst: J. Hunault  
Fiscal Analyst: William E. Hamilton

■ This analysis was prepared by nonpartisan House Fiscal Agency staff for use by House members in their deliberations, and does not constitute an official statement of legislative intent.