



Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

Aeronautical Study No.
 2020-WTE-101-OE

Issued Date: 03/10/2020

Tyler Wilhelm
 Crowned Ridge Wind, LLC
 700 Universe Blvd.
 Juno Beach, FL 33408

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ** (REVISED)**

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Met Tower (w/WT Farm) East Radar
 Location: Milbank, SD
 Latitude: 45-02-38.47N NAD 83
 Longitude: 96-48-20.56W
 Heights: 1806 feet site elevation (SE)
 78 feet above ground level (AGL)
 1884 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is to be marked/lighted with (see page 4).

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Your request for consideration to utilize an Aircraft Detection Lighting System to operate the recommended lighting is approved. See attached for additional condition(s) or information.

This determination expires on 09/06/2021 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.

- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates and heights. This determination is valid for coordinates within one (1) second latitude/longitude and up to the approved AMSL height listed above (provided the AGL height does not exceed 499 feet). If a certified 1A or 2C accuracy survey was required to mitigate an adverse effect, any change in coordinates or increase in height will require a new certified accuracy survey and may require a new aeronautical study.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. All information from submission of Supplemental Notice (7460-2 Part 2) will be considered the final data (including heights) for this structure. Any future construction or alteration, including but not limited to changes in heights, requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-101-OE.

Signature Control No: 427487559-433083977

(DNE -WT)

Lan Norris
Specialist

Attachment(s)
Additional Information
Case Description
Frequency Data
Map(s)

Additional information for ASN 2020-WTE-101-OE

Our review of your request to utilize an Aircraft Detection Lighting System to operate the lights for this wind farm was conducted without regard to whether the final lighting plan approved includes lighting this structure. Unless changed or amended, this determination, as it applies to the use of this type system, is valid for this structure whether it requires a light now or at some point in the future.

We have no objection to your request to omit marking and lighting of this structure. However, The FAA recommends voluntary marking of METs less than 200 feet (61 m) AGL in accordance with marking guidance contained in AC 70/7460-1L, CHG 2. Historically, this guidance has not been applied. However, the FAA recognizes the need to address safety impacts to low-level agricultural flight operations, and it believes that voluntarily marking METs less than 200 feet (61 m) AGL in remote and rural areas enhance the conspicuity of these structures.

Ref. AC 70/7460-1L, CHG 2, Chapter 2.7:

Painting.

The meteorological evaluation tower (MET) should be painted in accordance with the criteria contained in Chapter 3, paragraphs 3.1 through 3.4, specifically, with alternate bands of aviation orange and white paint. In addition, paragraph 3.5 states that all markings should be replaced when faded or otherwise deteriorated.

High-Visibility Sleeves.

It is recommended that several high-visibility sleeves be installed on the MET's outer guy wires. One high-visibility sleeve should be installed on each guy wire, as close to the anchor point as possible, but at a height well above the crop or vegetation canopy. A second sleeve should be installed on the same outer guy wires midway between the location of the lower sleeve and the upper attachment point of the guy wire to the MET. The use of sleeves should not impact the placement of spherical marker balls.

Spherical Markers.

It is also recommended that high-visibility aviation orange spherical marker (or cable) balls be attached to the guy wires. The FAA recommends a total of 8 high visibility spherical marker (or cable balls) of aviation orange color attached to the guy wires; 4 marker balls should be attached to guy wires at the top of the tower no further than 15 feet from the top wire connection to the tower, and 4 marker balls at or below the mid point of the structure on the outer guy wires.

The FAA recognizes that various weather conditions and manufacturing placement standards may affect the placement and use of high-visibility sleeves and/or spherical markers. Thus, some flexibility is allowed when determining sleeve length and marker placement on METs.

Case Description for ASN 2020-WTE-101-OE

Radar towers associated with ADLS filing on wind farm.

Frequency Data for ASN 2020-WTE-101-OE

LOW FREQUENCY	HIGH FREQUENCY	FREQUENCY UNIT	ERP	ERP UNIT
9.2	9.5	GHz	188	W

Sectional Map for ASN 2020-WTE-101-OE





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Structure: Met Tower (w/WT Farm) West Radar
 Location: Milbank, SD
 Latitude: 45-04-39.94N NAD 83
 Longitude: 97-00-05.08W
 Heights: 2005 feet site elevation (SE)
 48 feet above ground level (AGL)
 2053 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is to be marked/lighted with (see page 4).

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Signature Control No: 427487563-433083978

(DNE -WT)

Lan Norris
Specialist

Attachment(s)
Additional Information
Case Description
Frequency Data
Map(s)

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Radar towers associated with ADLS filing on wind farm.

Frequency Data for ASN 2020-WTE-102-OE

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9.2	9.5	GHz	188	W

Sectional Map for ASN 2020-WTE-102-OE

