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 Southwest Regional Office
 Obstruction Evaluation Group
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**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

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: Wind Turbine T50
 Location: Ruso, ND
 Latitude: 47-51-49.66N NAD 83
 Longitude: 101-06-15.39W
 Heights: 2119 feet site elevation (SE)
 600 feet above ground level (AGL)
 2719 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 L Change 2, Obstruction Marking and Lighting, white paint/synchronized red lights - Chapters 4,12&13(Turbines).

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 60 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.

While the structure does not constitute a hazard to air navigation, it would be located within or near a military training area and/or route.

This determination expires on 05/01/2021 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 subject to review if an interested party files a petition that is received by the FAA on or before December 01, 2019. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager of the Airspace Policy Group. Petitions can be submitted via mail to Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591, via email at OEPetitions@faa.gov, or via facsimile (202) 267-9328.

This determination becomes final on December 11, 2019 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Policy Group via telephone – 202-267-8783.

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. 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.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

This determination cancels and supersedes prior determinations issued for this structure.

If we can be of further assistance, please contact Lan Norris, at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2019-WTE-1222-OE.

Signature Control No: 395837111-421565219

(DNH -WT)

Mike Helvey

Manager, Obstruction Evaluation Group

Attachment(s)

Additional Information

Map(s)

Additional information for ASN 2019-WTE-1222-OE

Abbreviations:

AGL, Above Ground Level

AMSL, Above Mean Sea Level

ARTCC, Air Route Traffic Control Center

ASN, Aeronautical Study Number

CFR, Code of Federal Regulations

MVA, Minimum Vectoring Altitude

NM, Nautical Mile

This notice is for 61 proposed wind turbines as a part of a wind farm project that would be located approximately 17.05 - 24.14 NM northeast of the Airport Reference Point for the Garrison Municipal Airport (D05), Garrison, ND. The ASNs with AGL heights, AMSL heights and coordinates for each turbine are listed on page one. The proposed structures would exceed the obstruction standards of 14 CFR Part 77 as follows:

Section 77.17(a)(1) by 101 feet; a height that exceeds 499 feet AGL.

Section 77.17(a)(3); A height that increases a minimum instrument flight altitude within a terminal area. The following structures would increase the MVA for Minneapolis ARTCC (ZMP), Minneapolis MN; ZMP_TAV_2016, Sector PDVL01 from 3500 feet AMSL to _____feet AMSL.

- 3500 feet to 3700 feet

2019-WTE-1194-OE

2019-WTE-1199-OE

2019-WTE-1201-OE

2019-WTE-1204-OE

2019-WTE-1205-OE

2019-WTE-1228-OE

2019-WTE-1233-OE

2019-WTE-1238-OE

- 3500 feet to 3800 feet

2019-WTE-1182-OE

2019-WTE-1183-OE

2019-WTE-1184-OE

2019-WTE-1188-OE

2019-WTE-1189-OE

2019-WTE-1190-OE

2019-WTE-1191-OE

2019-WTE-1192-OE

2019-WTE-1193-OE

2019-WTE-1195-OE

2019-WTE-1197-OE

2019-WTE-1198-OE

2019-WTE-1200-OE

2019-WTE-1202-OE

2019-WTE-1203-OE

2019-WTE-1206-OE

2019-WTE-1207-OE
2019-WTE-1208-OE
2019-WTE-1217-OE
2019-WTE-1226-OE
2019-WTE-1227-OE
2019-WTE-1236-OE

In order to facilitate the public comment process, the studies were circularized under ASN 2019-WTE-1173-OE on 09/24/2019, to all known aviation interests and to non-aeronautical interests that may be affected by the proposal. No letters of objection were received as a result of the circularization concluding on 10/31/2019.

The aeronautical study disclosed that the proposed structures would have the adverse effect as described above on instrument flight procedures. MVAs are not circulated for public comment as they are solely used by ATC and not published for public use. The aeronautical study disclosed that increasing the MVA in the area of the turbines would not impact a significant number of operations. The proposed structures would have no other effect on any existing or proposed arrival, departure, or en route IFR operations or procedures.

Study for possible VFR effect disclosed that the proposals would have no effect on existing or proposed VFR arrival or departure operations. The proposals are beyond traffic pattern airspace. Therefore, the proposal would not have an adverse effect on VFR traffic pattern operations at D05 or any other known public use or military airports. At 600 feet AGL, the structures would extend upwards into altitudes commonly used for en route VFR flight, however no information was received to indicate they would be located within any regularly used VFR routes. Therefore, they would not have a substantial adverse effect on en route VFR flight operations.

The proposed structures would be appropriately obstruction marked/lighted to make them more conspicuous to airmen should circumnavigation be necessary.

The cumulative impact of the proposed structures, when combined with other proposed and existing structures, is not considered to be significant. Study did not disclose any significant adverse effect on existing or proposed public-use or military airports or navigational facilities, nor would the proposals affect the capacity of any known existing or planned public-use or military airport.

Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination are met.

Additional conditions:

As a condition of this determination it is required that Notice of Actual Construction or Alteration (7460-2 Part 1) be E-filed at least 60 full days prior to the start of construction so that appropriate action can be taken to amend the effected procedure(s) and/or altitude(s).

NOTE: The Department of Defense and the United States Air Force identified the structures as being located within the confines or near a military training route or military training area. They request that all turbines associated with this project be installed with night vision goggle (NVG) compatible lighting.

