Ruso Wind Partners, LLC
Ruso Wind Project
Docket No. PU-19-28

Supplement to Late-Filed Exhibit No. 51 – Issuance of Determinations of No Hazard

Since filing Late-Filed Exhibit No. 51 regarding interactions with the Department of Defense and the Federal Aviation Administration ("FAA"), Ruso Wind Partners, LLC ("Ruso") received final Determinations of No Hazard ("DNHs") from the FAA for its currently proposed turbine array. A copy of one of the DNHs is attached as **Late-Filed Exhibit No. 51(e)**. As noted in the DNH, the DNH was final on December 11, 2019 unless a petition for review was filed with the FAA on or before December 1, 2019. Attached as **Late-Filed Exhibit No. 51(f)** is a copy of e-mail correspondence from the FAA on December 4, 2019 confirming no valid petitions were filed and, thus, the Project's DNHs are final.

The DNHs also state the Project "would be located within or near a military training area and/or route" that the FAA's Determinations are conditioned upon use of standard turbine lighting for the Project: "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)." Additionally, the Determinations note that the Department of Defense and the United States Air Force requested that all Project turbines be installed with night vision goggle ("NVG") compatible lighting due to the Project's proximity to a military training route or military training area, and Ruso will comply with this request.

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

Aeronautical Study No.
2019-WTE-1173-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T1
Location:	Ruso, ND
Latitude:	47-51-41.35N NAD 83
Longitude:	101-08-45.86W
Heights:	2131 feet site elevation (SE)
	600 feet above ground level (AGL)
	2731 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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-1173-OE.

Signature Control No: 395836972-421565096 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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.

Sectional Map for ASN 2019-WTE-1173-OE

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

Aeronautical Study No.
2019-WTE-1174-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T2
Location:	Ruso, ND
Latitude:	47-52-11.83N NAD 83
Longitude:	101-08-07.20W
Heights:	2127 feet site elevation (SE)
	600 feet above ground level (AGL)
	2727 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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.
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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.

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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-1174-OE.

Signature Control No: 395836975-421565102 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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

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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.

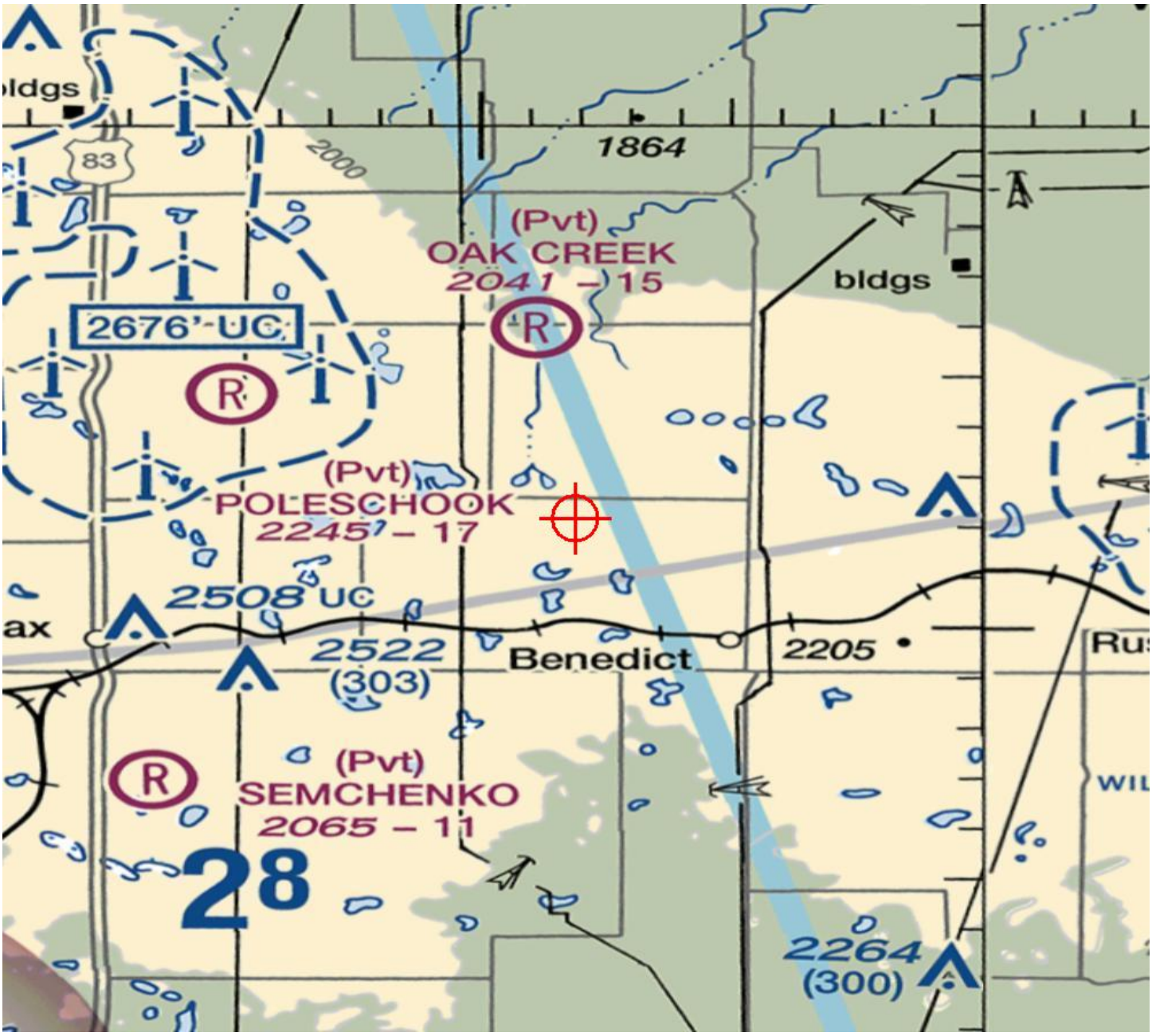
Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination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

Sectional Map for ASN 2019-WTE-1174-OE



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

Aeronautical Study No.
2019-WTE-1175-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T3
Location:	Ruso, ND
Latitude:	47-52-21.76N NAD 83
Longitude:	101-07-31.87W
Heights:	2153 feet site elevation (SE)
	600 feet above ground level (AGL)
	2753 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.

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__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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.

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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-1175-OE.

Signature Control No: 395836982-421565111 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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.

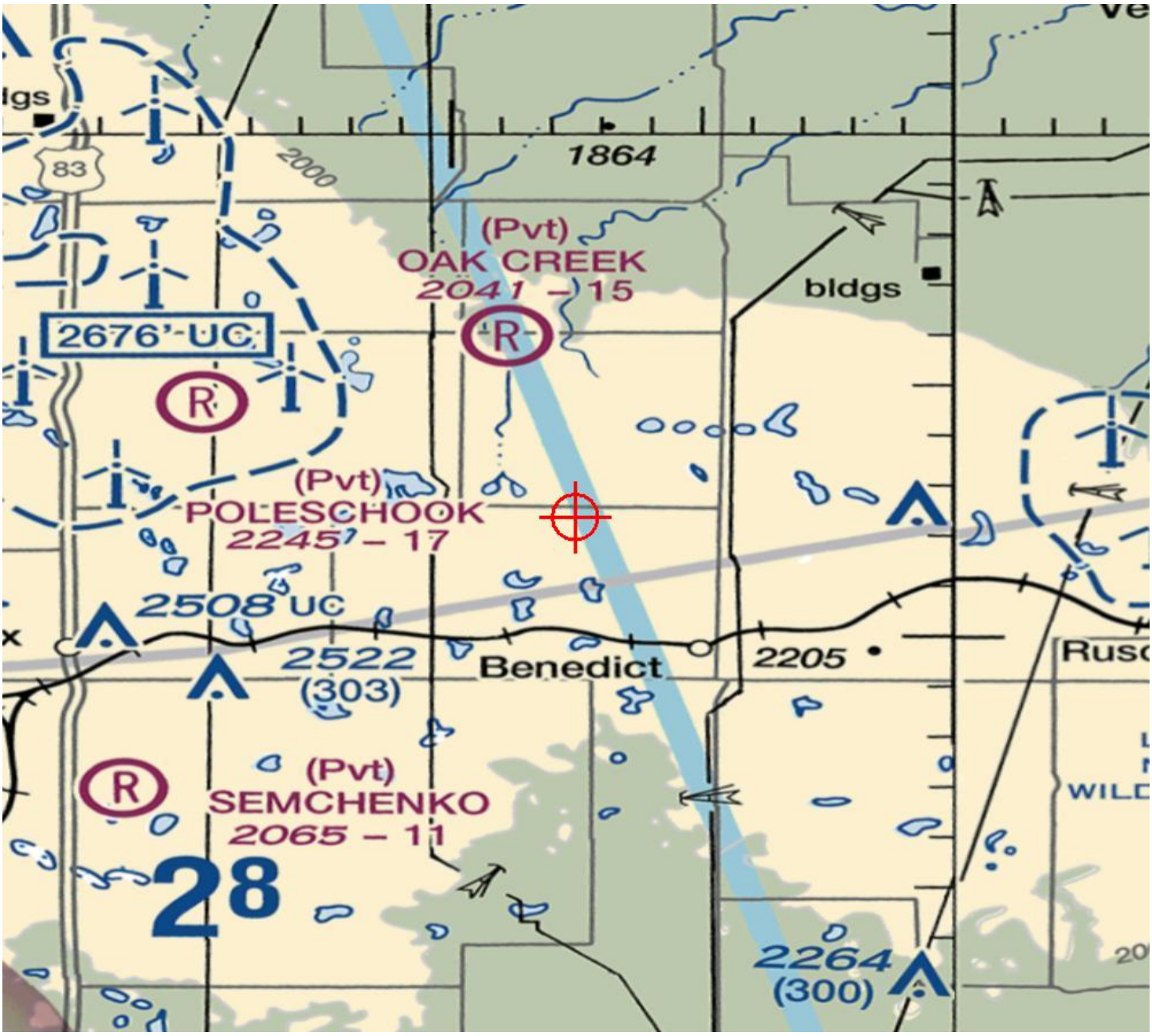
Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination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

Sectional Map for ASN 2019-WTE-1175-OE



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

Aeronautical Study No.
2019-WTE-1176-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T4
Location:	Ruso, ND
Latitude:	47-52-20.73N NAD 83
Longitude:	101-07-05.14W
Heights:	2149 feet site elevation (SE)
	600 feet above ground level (AGL)
	2749 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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-1176-OE.

Signature Control No: 395836993-421565099 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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

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2019-WTE-1188-OE
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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.

Sectional Map for ASN 2019-WTE-1176-OE

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

Aeronautical Study No.
2019-WTE-1177-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T5
Location:	Ruso, ND
Latitude:	47-52-47.99N NAD 83
Longitude:	101-09-36.85W
Heights:	2114 feet site elevation (SE)
	600 feet above ground level (AGL)
	2714 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:

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__X__ At least 60 days prior to start of construction (7460-2, Part 1)
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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:

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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-1177-OE.

Signature Control No: 395836998-421565110 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

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Map(s)

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2019-WTE-1192-OE
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2019-WTE-1217-OE
2019-WTE-1226-OE
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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.

Sectional Map for ASN 2019-WTE-1177-OE

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

Aeronautical Study No.
2019-WTE-1178-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T6
Location:	Ruso, ND
Latitude:	47-53-03.32N NAD 83
Longitude:	101-09-31.34W
Heights:	2139 feet site elevation (SE)
	600 feet above ground level (AGL)
	2739 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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-1178-OE.

Signature Control No: 395836999-421565098 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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.

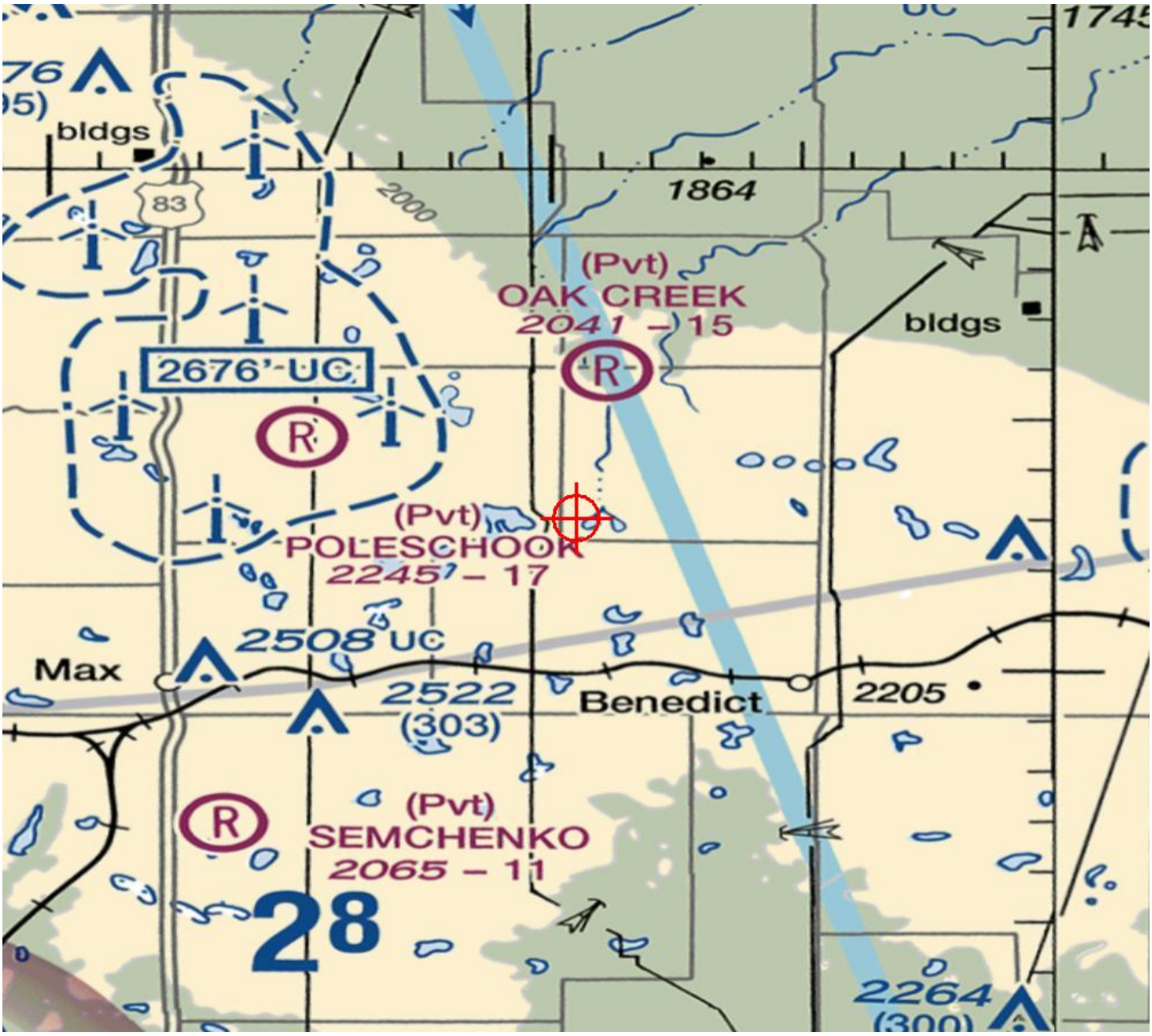
Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination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

Sectional Map for ASN 2019-WTE-1178-OE



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

Aeronautical Study No.
2019-WTE-1179-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T7
Location:	Ruso, ND
Latitude:	47-54-08.76N NAD 83
Longitude:	101-09-27.01W
Heights:	2124 feet site elevation (SE)
	600 feet above ground level (AGL)
	2724 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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-1179-OE.

Signature Control No: 395837000-421565097 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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.

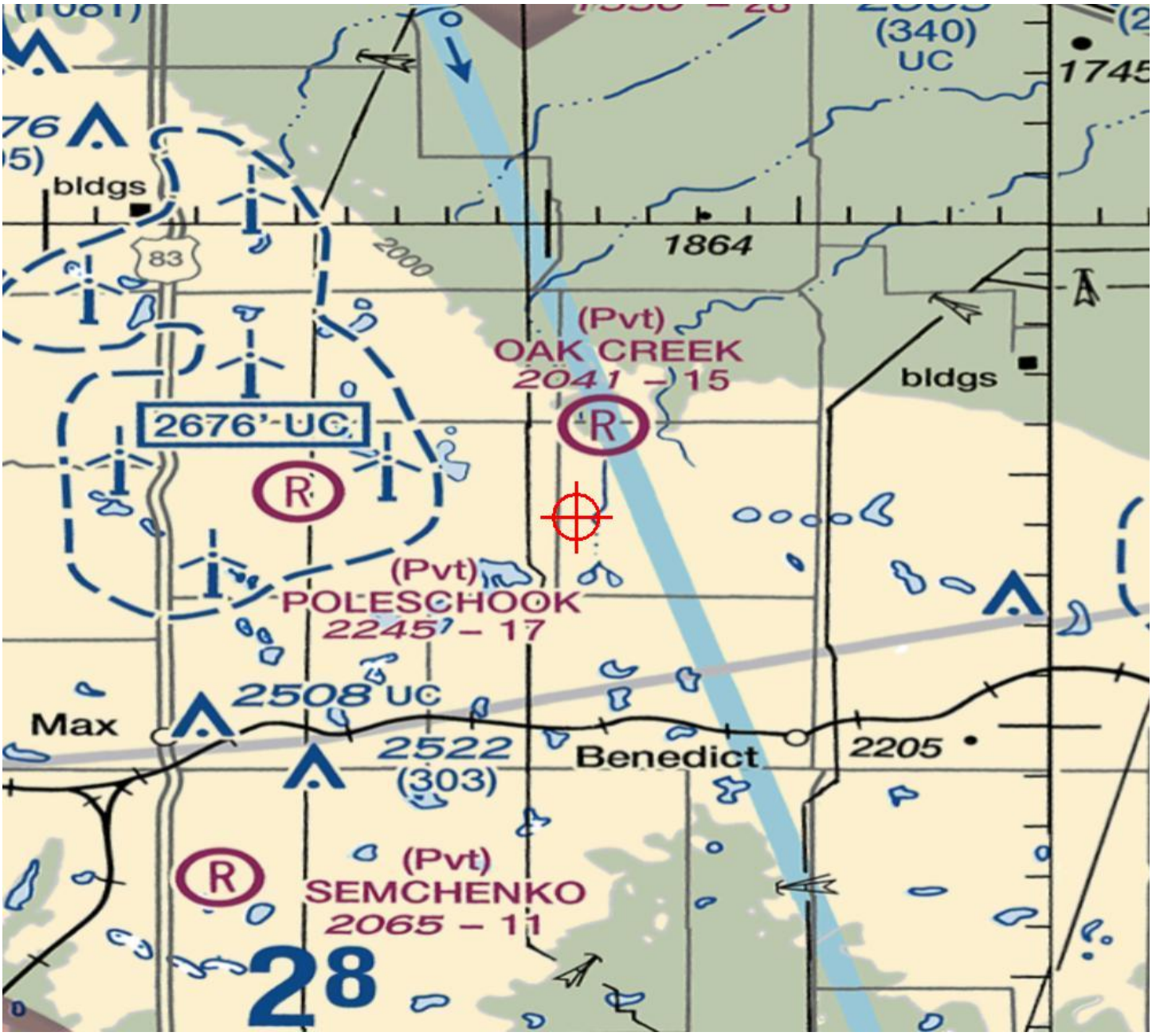
Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination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

Sectional Map for ASN 2019-WTE-1179-OE



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

Aeronautical Study No.
2019-WTE-1180-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T8
Location:	Ruso, ND
Latitude:	47-54-05.66N NAD 83
Longitude:	101-08-23.56W
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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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-1180-OE.

Signature Control No: 395837003-421565101 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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.

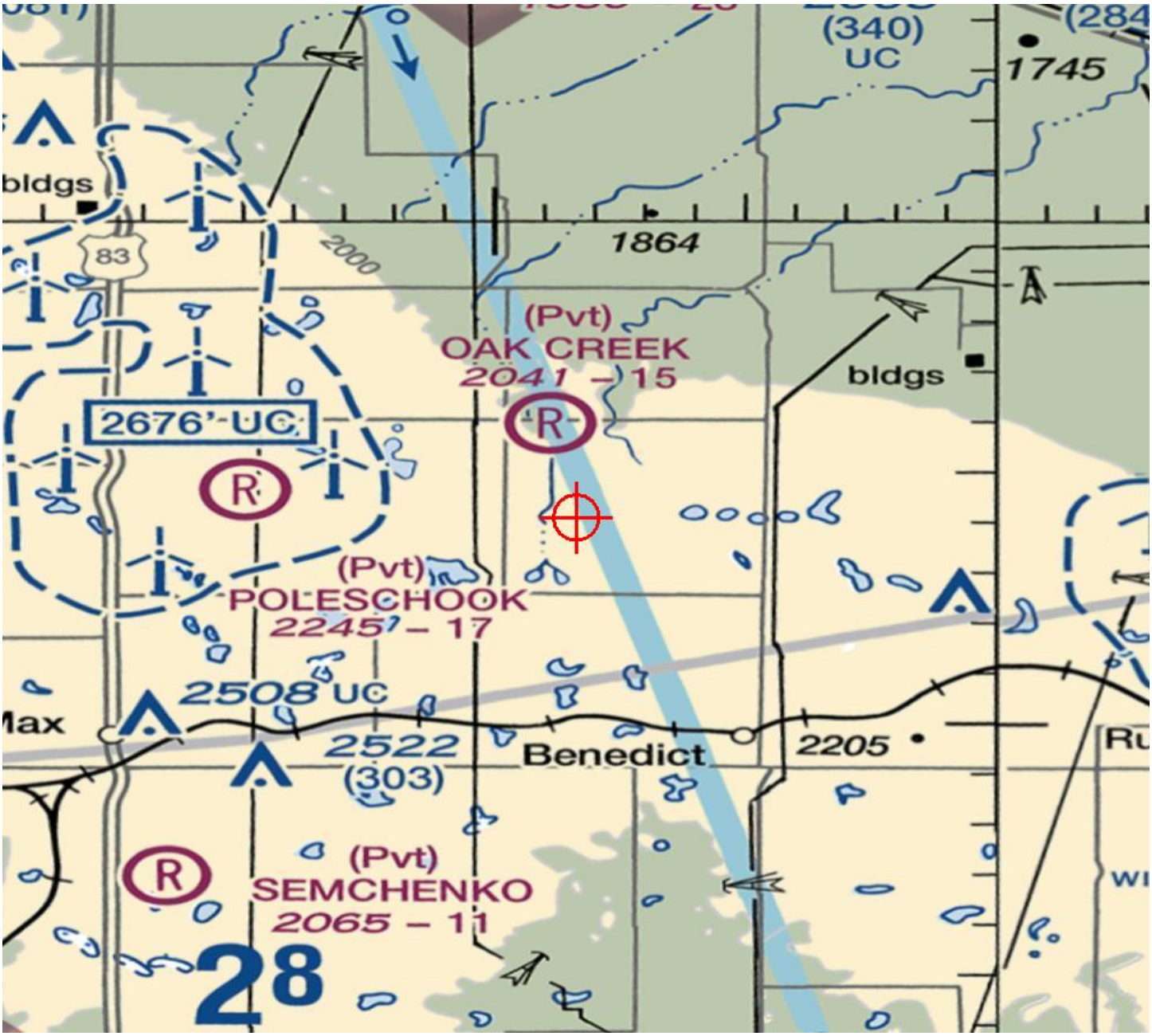
Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination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

Sectional Map for ASN 2019-WTE-1180-OE



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

Aeronautical Study No.
2019-WTE-1181-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T9
Location:	Ruso, ND
Latitude:	47-55-03.56N NAD 83
Longitude:	101-08-16.00W
Heights:	2073 feet site elevation (SE)
	600 feet above ground level (AGL)
	2673 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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-1181-OE.

Signature Control No: 395837004-421565109 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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
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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.

Sectional Map for ASN 2019-WTE-1181-OE

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

Aeronautical Study No.
2019-WTE-1182-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T10
Location:	Ruso, ND
Latitude:	47-54-55.85N NAD 83
Longitude:	101-07-30.50W
Heights:	2078 feet site elevation (SE)
	600 feet above ground level (AGL)
	2678 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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.

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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.

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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-1182-OE.

Signature Control No: 395837008-421565107 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

Abbreviations:
AGL, Above Ground Level
AMSL, Above Mean Sea Level
ARTCC, Air Route Traffic Control Center
ASN, Aeronautical Study Number
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MVA, Minimum Vectoring Altitude
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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:

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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
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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.

Sectional Map for ASN 2019-WTE-1182-OE

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

Aeronautical Study No.
2019-WTE-1183-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T11
Location:	Ruso, ND
Latitude:	47-54-50.88N NAD 83
Longitude:	101-06-28.60W
Heights:	2138 feet site elevation (SE)
	600 feet above ground level (AGL)
	2738 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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-1183-OE.

Signature Control No: 395837022-421565106 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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.

Sectional Map for ASN 2019-WTE-1183-OE

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

Aeronautical Study No.
2019-WTE-1184-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T12
Location:	Ruso, ND
Latitude:	47-55-07.78N NAD 83
Longitude:	101-06-23.34W
Heights:	2122 feet site elevation (SE)
	600 feet above ground level (AGL)
	2722 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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-1184-OE.

Signature Control No: 395837026-421565115 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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.

Sectional Map for ASN 2019-WTE-1184-OE

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

Aeronautical Study No.
2019-WTE-1188-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T16
Location:	Ruso, ND
Latitude:	47-54-03.25N NAD 83
Longitude:	101-04-03.45W
Heights:	2140 feet site elevation (SE)
	600 feet above ground level (AGL)
	2740 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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-1188-OE.

Signature Control No: 395837044-421565104 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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.

Sectional Map for ASN 2019-WTE-1188-OE

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

Aeronautical Study No.
2019-WTE-1189-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T17
Location:	Ruso, ND
Latitude:	47-54-34.91N NAD 83
Longitude:	101-05-00.34W
Heights:	2161 feet site elevation (SE)
	600 feet above ground level (AGL)
	2761 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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-1189-OE.

Signature Control No: 395837055-421565100 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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
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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.

Sectional Map for ASN 2019-WTE-1189-OE

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

Aeronautical Study No.
2019-WTE-1190-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T18
Location:	Ruso, ND
Latitude:	47-55-02.67N NAD 83
Longitude:	101-05-38.84W
Heights:	2150 feet site elevation (SE)
	600 feet above ground level (AGL)
	2750 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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.

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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-1190-OE.

Signature Control No: 395837061-421565108 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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.

Sectional Map for ASN 2019-WTE-1190-OE

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

Aeronautical Study No.
2019-WTE-1191-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T19
Location:	Ruso, ND
Latitude:	47-55-01.22N NAD 83
Longitude:	101-05-00.36W
Heights:	2166 feet site elevation (SE)
	600 feet above ground level (AGL)
	2766 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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-1191-OE.

Signature Control No: 395837062-421565113 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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.

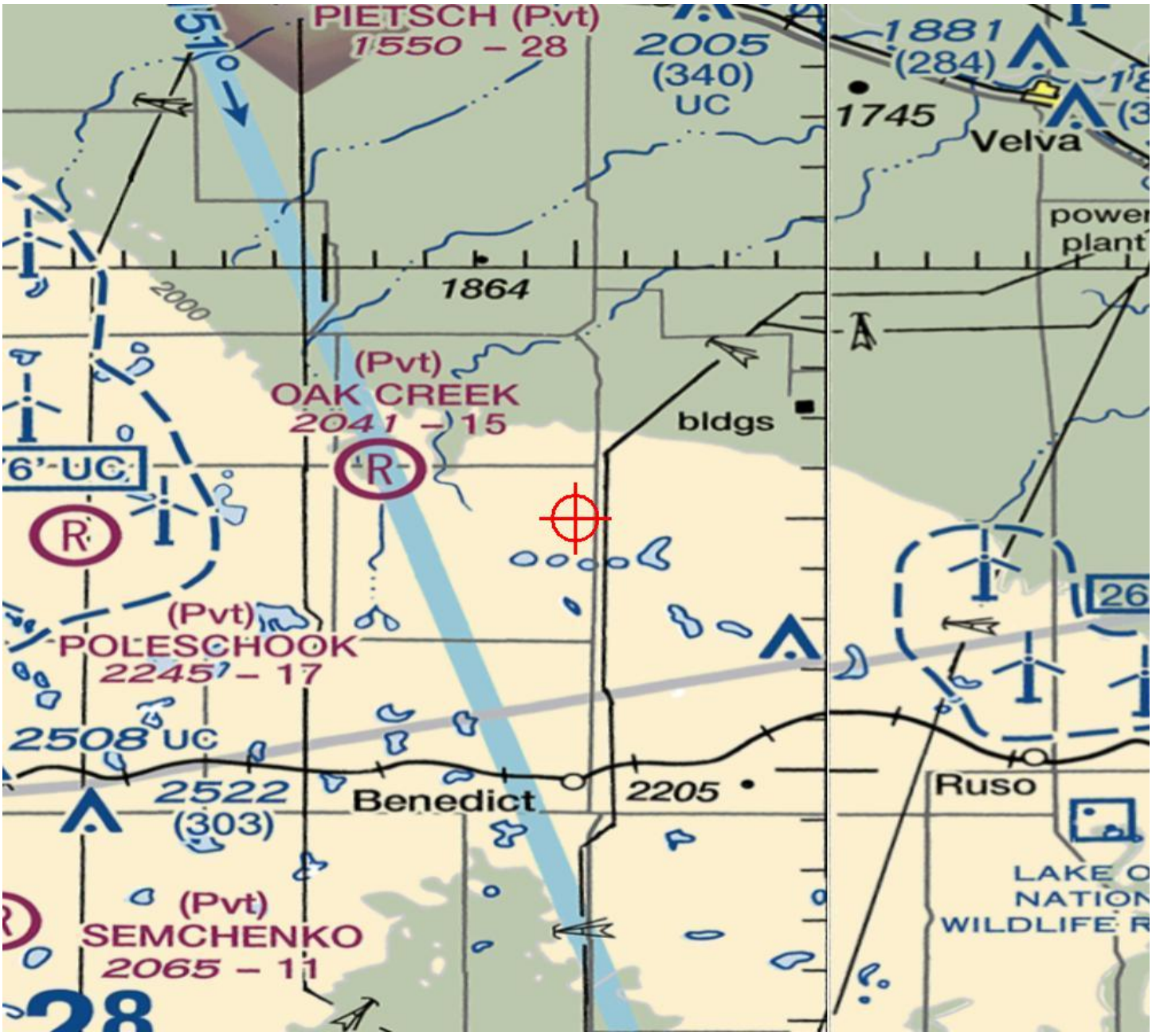
Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination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

Sectional Map for ASN 2019-WTE-1191-OE



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

Aeronautical Study No.
2019-WTE-1192-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T20
Location:	Ruso, ND
Latitude:	47-55-24.11N NAD 83
Longitude:	101-05-06.51W
Heights:	2157 feet site elevation (SE)
	600 feet above ground level (AGL)
	2757 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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-1192-OE.

Signature Control No: 395837064-421565103 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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.

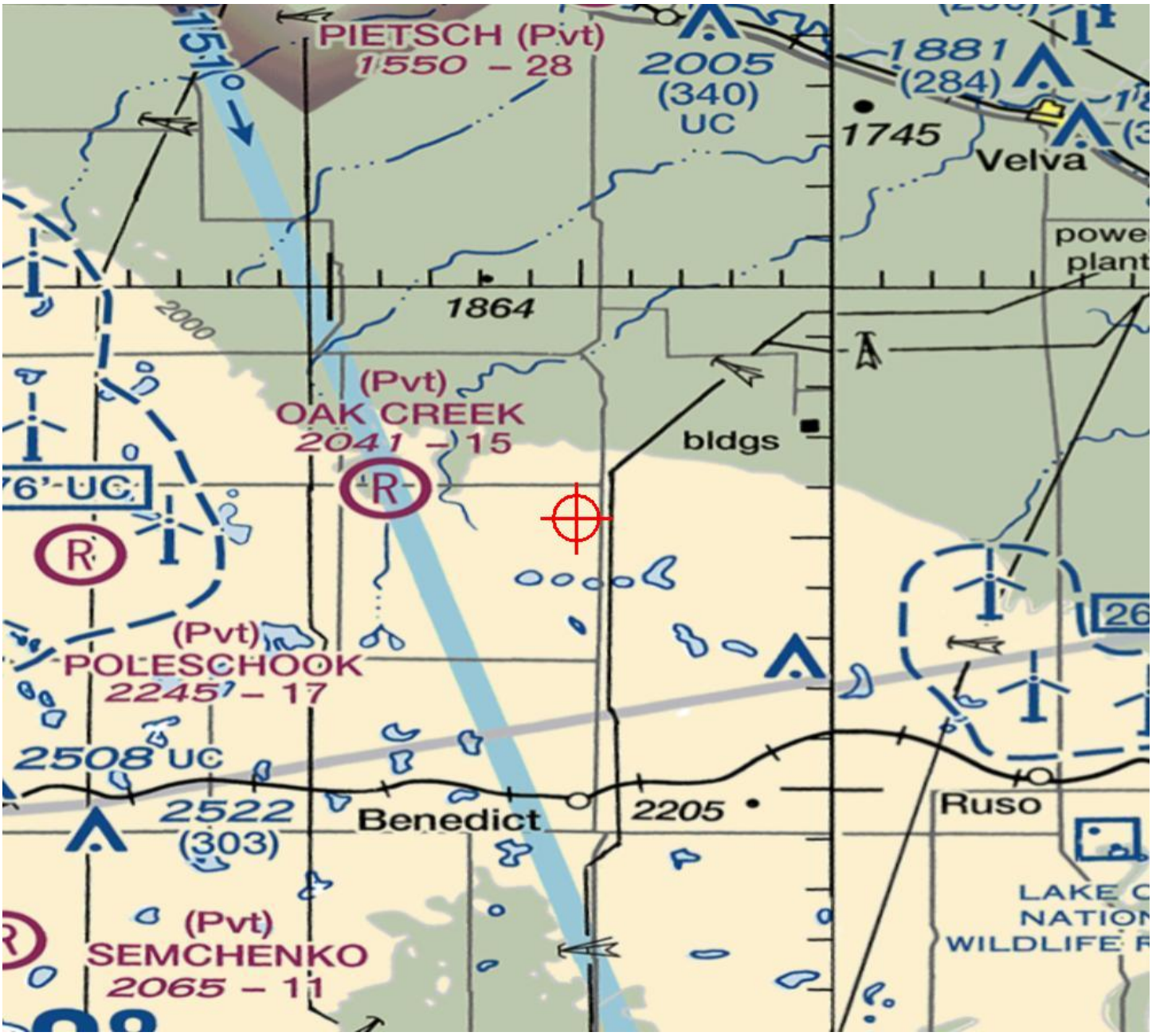
Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination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

Sectional Map for ASN 2019-WTE-1192-OE



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

Aeronautical Study No.
2019-WTE-1193-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T21
Location:	Ruso, ND
Latitude:	47-55-40.38N NAD 83
Longitude:	101-05-31.97W
Heights:	2133 feet site elevation (SE)
	600 feet above ground level (AGL)
	2733 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.

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__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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.

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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.

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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-1193-OE.

Signature Control No: 395837065-421565112 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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.

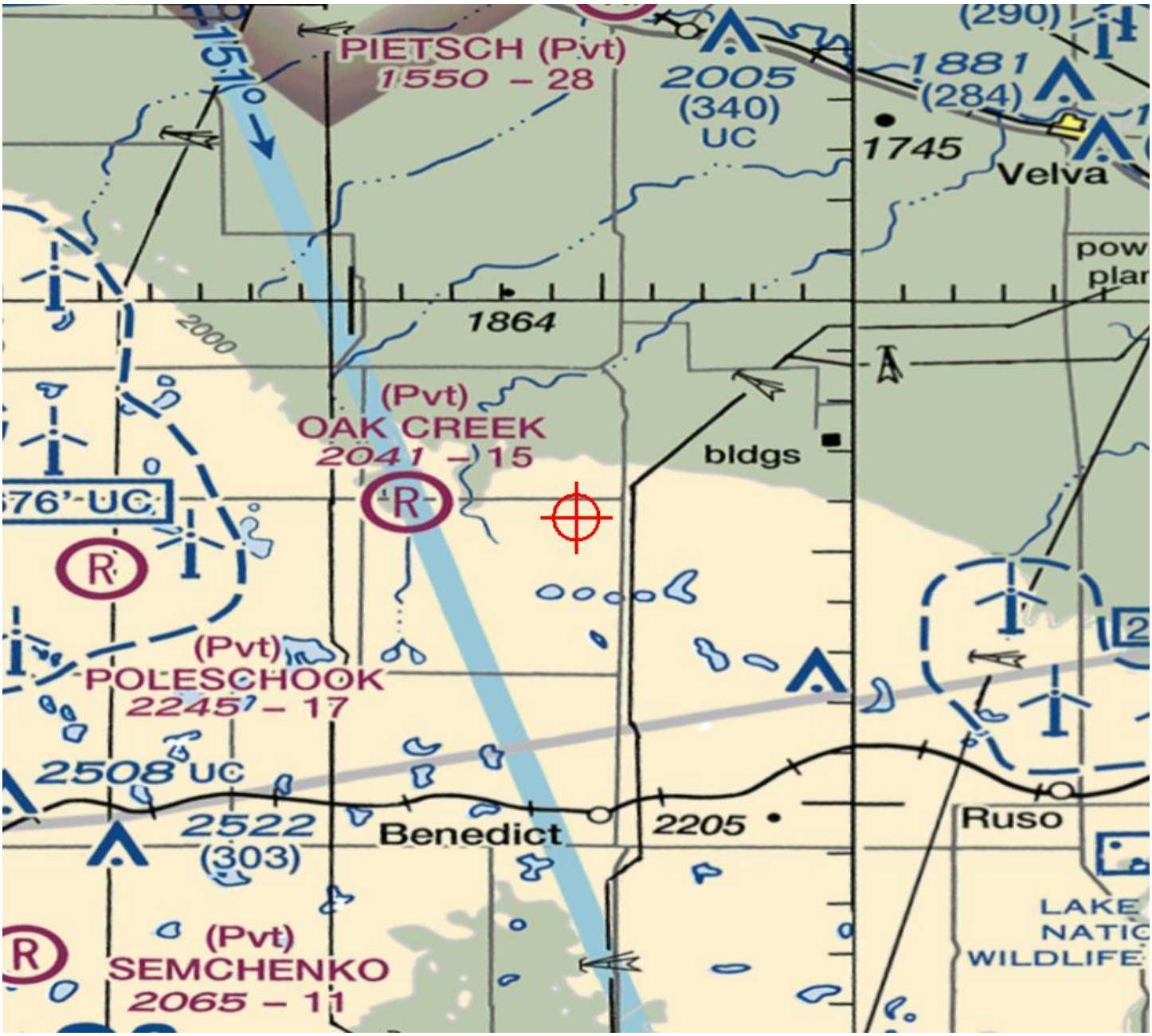
Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination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

Sectional Map for ASN 2019-WTE-1193-OE



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

Aeronautical Study No.
2019-WTE-1194-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T22
Location:	Ruso, ND
Latitude:	47-56-15.44N NAD 83
Longitude:	101-05-34.81W
Heights:	2060 feet site elevation (SE)
	600 feet above ground level (AGL)
	2660 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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-1194-OE.

Signature Control No: 395837066-421565105 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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.

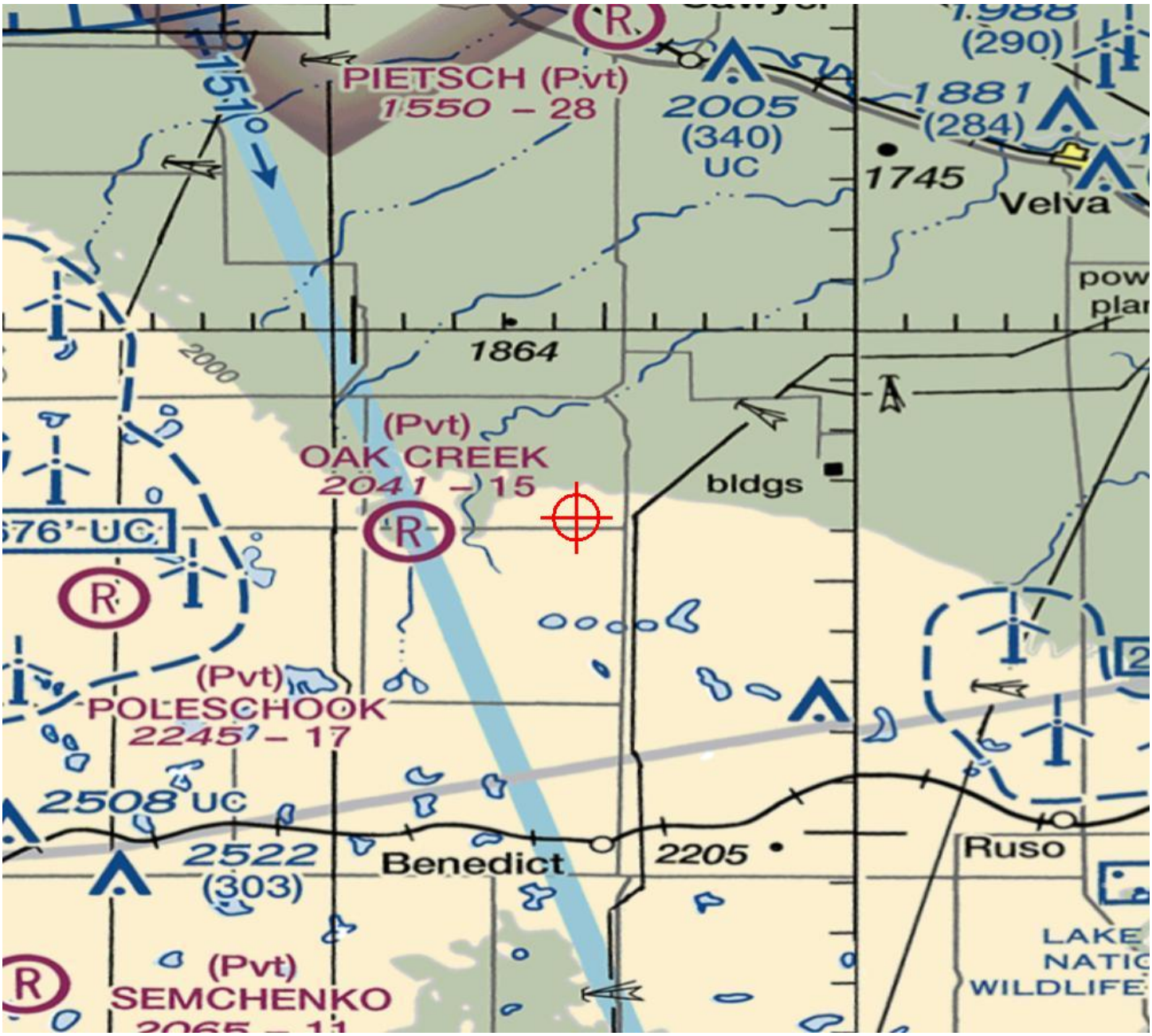
Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination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

Sectional Map for ASN 2019-WTE-1194-OE



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

Aeronautical Study No.
2019-WTE-1195-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T23
Location:	Ruso, ND
Latitude:	47-55-59.73N NAD 83
Longitude:	101-04-54.54W
Heights:	2146 feet site elevation (SE)
	600 feet above ground level (AGL)
	2746 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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-1195-OE.

Signature Control No: 395837067-421565114 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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.

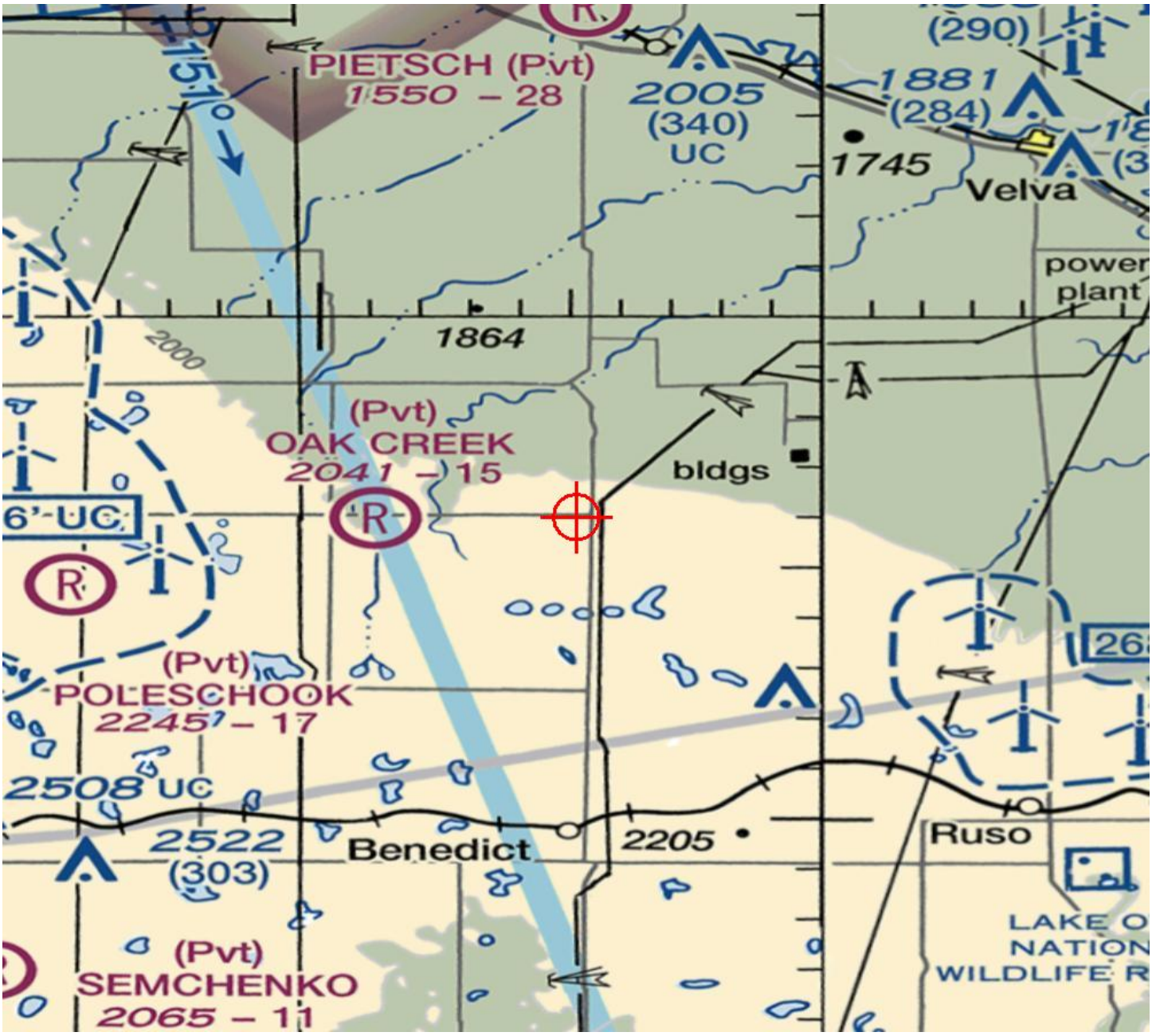
Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination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

Sectional Map for ASN 2019-WTE-1195-OE



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

Aeronautical Study No.
2019-WTE-1196-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T24
Location:	Ruso, ND
Latitude:	47-55-22.12N NAD 83
Longitude:	101-04-19.27W
Heights:	2190 feet site elevation (SE)
	600 feet above ground level (AGL)
	2790 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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-1196-OE.

Signature Control No: 395837068-421565146 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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.

Sectional Map for ASN 2019-WTE-1196-OE

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

Aeronautical Study No.
2019-WTE-1197-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T25
Location:	Ruso, ND
Latitude:	47-56-00.57N NAD 83
Longitude:	101-04-27.67W
Heights:	2151 feet site elevation (SE)
	600 feet above ground level (AGL)
	2751 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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-1197-OE.

Signature Control No: 395837069-421565145 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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
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2019-WTE-1191-OE
2019-WTE-1192-OE
2019-WTE-1193-OE
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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.

Sectional Map for ASN 2019-WTE-1197-OE

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

Aeronautical Study No.
2019-WTE-1198-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T26
Location:	Ruso, ND
Latitude:	47-55-48.82N NAD 83
Longitude:	101-03-55.31W
Heights:	2155 feet site elevation (SE)
	600 feet above ground level (AGL)
	2755 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).

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__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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.

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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-1198-OE.

Signature Control No: 395837070-421565149 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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
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2019-WTE-1198-OE
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2019-WTE-1202-OE
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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.

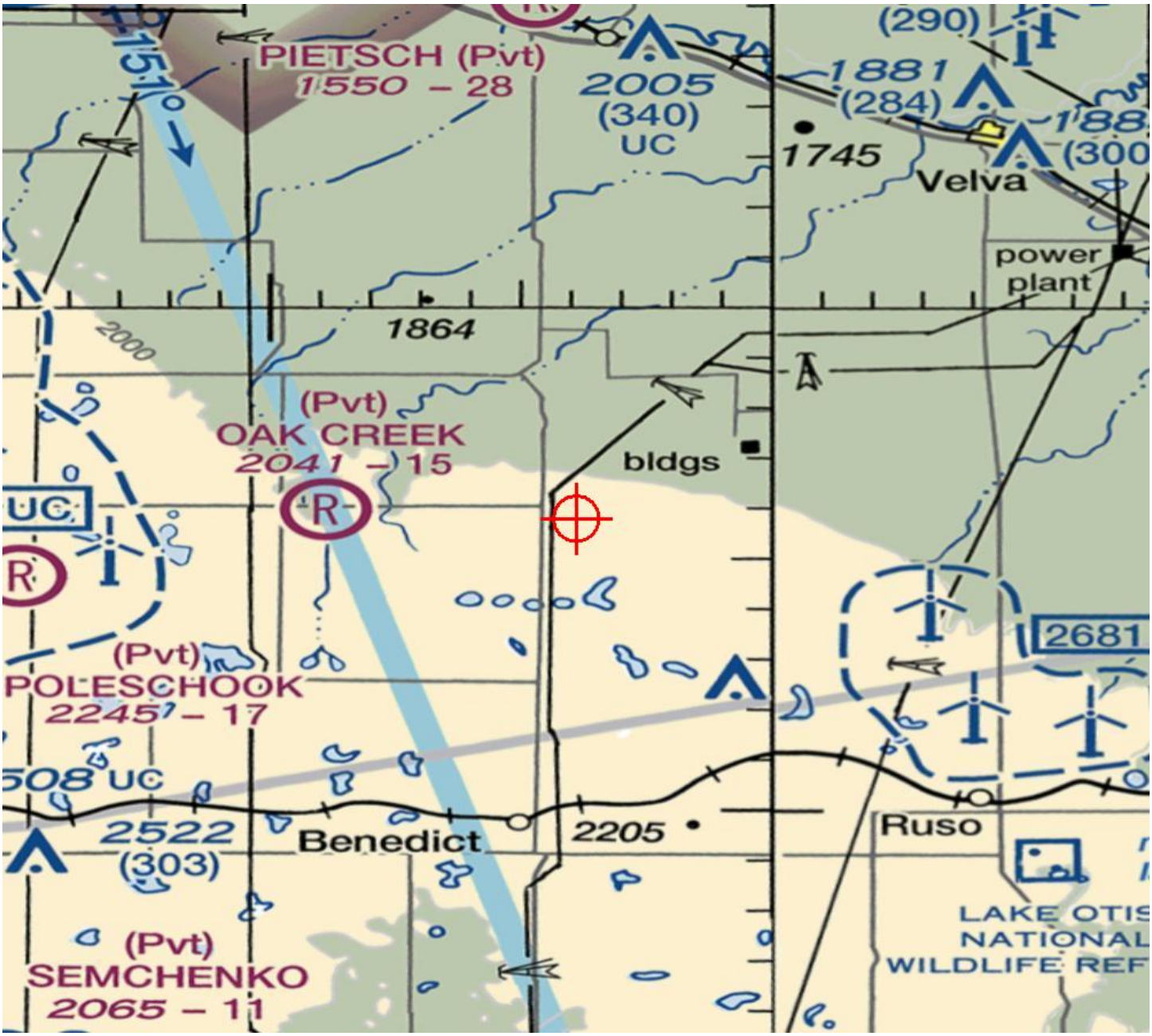
The cumulative impact of the proposed structures, when combined with other proposed and existing structures, is not considered to be significant. Study did not disclose any significant adverse effect on existing or proposed public-use or military airports or navigational facilities, nor would the proposals 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.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2041 – 15
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Benedict
2205
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LAKE OTIS
NATIONAL
WILDLIFE REF
(Pvt)
SEMCHENKO
2065 – 11

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

Aeronautical Study No.
2019-WTE-1200-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T28
Location:	Ruso, ND
Latitude:	47-56-13.98N NAD 83
Longitude:	101-03-50.57W
Heights:	2150 feet site elevation (SE)
	600 feet above ground level (AGL)
	2750 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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-1200-OE.

Signature Control No: 395837072-421565153 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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.

Sectional Map for ASN 2019-WTE-1200-OE

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

Aeronautical Study No.
2019-WTE-1201-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T29
Location:	Ruso, ND
Latitude:	47-56-17.54N NAD 83
Longitude:	101-03-26.74W
Heights:	2110 feet site elevation (SE)
	600 feet above ground level (AGL)
	2710 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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.

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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.

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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-1201-OE.

Signature Control No: 395837076-421565155 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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
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2019-WTE-1184-OE
2019-WTE-1188-OE
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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.

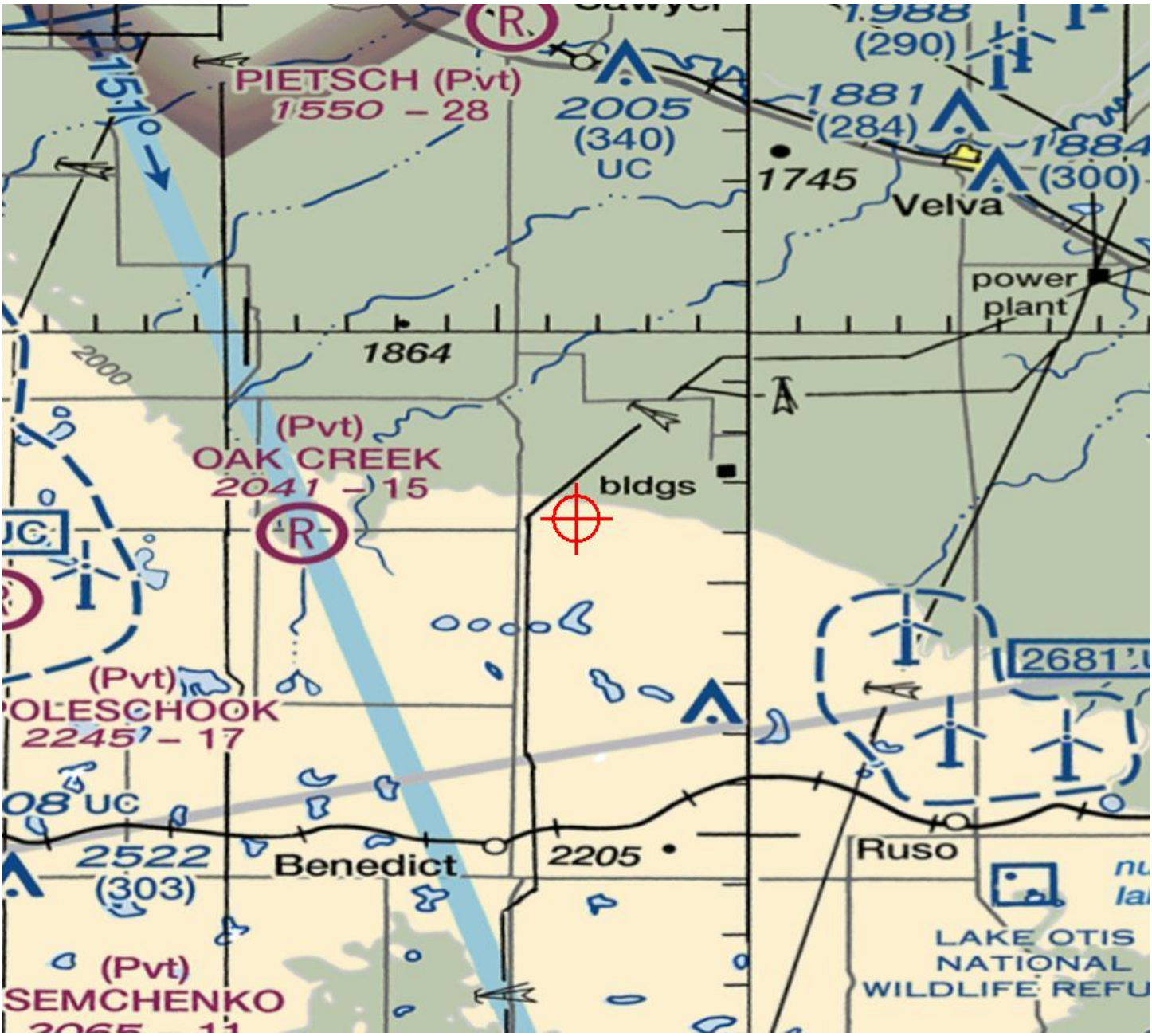
Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination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

Sectional Map for ASN 2019-WTE-1201-OE



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

Aeronautical Study No.
2019-WTE-1202-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T30
Location:	Ruso, ND
Latitude:	47-55-46.06N NAD 83
Longitude:	101-01-56.13W
Heights:	2122 feet site elevation (SE)
	600 feet above ground level (AGL)
	2722 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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-1202-OE.

Signature Control No: 395837077-421565156 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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.

Sectional Map for ASN 2019-WTE-1202-OE

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

Aeronautical Study No.
2019-WTE-1203-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T31
Location:	Ruso, ND
Latitude:	47-55-52.89N NAD 83
Longitude:	101-01-30.36W
Heights:	2118 feet site elevation (SE)
	600 feet above ground level (AGL)
	2718 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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-1203-OE.

Signature Control No: 395837080-421565158 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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
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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.

Sectional Map for ASN 2019-WTE-1203-OE

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

Aeronautical Study No.
2019-WTE-1204-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T32
Location:	Ruso, ND
Latitude:	47-55-44.53N NAD 83
Longitude:	101-01-00.15W
Heights:	2123 feet site elevation (SE)
	600 feet above ground level (AGL)
	2723 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.

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__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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.

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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-1204-OE.

Signature Control No: 395837081-421565161 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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
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2019-WTE-1205-OE
2019-WTE-1228-OE
2019-WTE-1233-OE
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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.

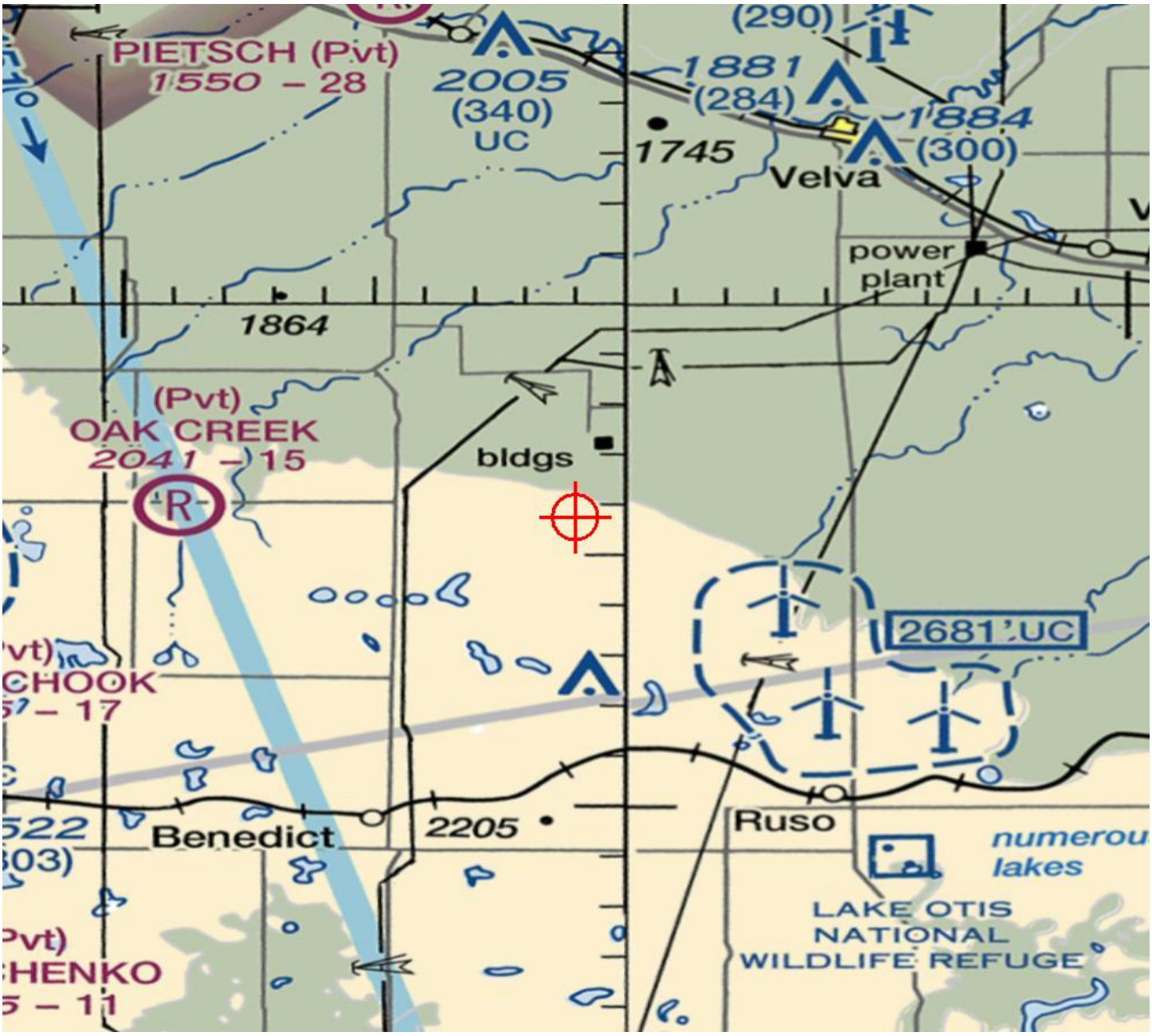
Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination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

Sectional Map for ASN 2019-WTE-1204-OE



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

Aeronautical Study No.
2019-WTE-1205-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T33
Location:	Ruso, ND
Latitude:	47-55-38.70N NAD 83
Longitude:	101-00-25.99W
Heights:	2092 feet site elevation (SE)
	600 feet above ground level (AGL)
	2692 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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-1205-OE.

Signature Control No: 395837082-421565162 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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.

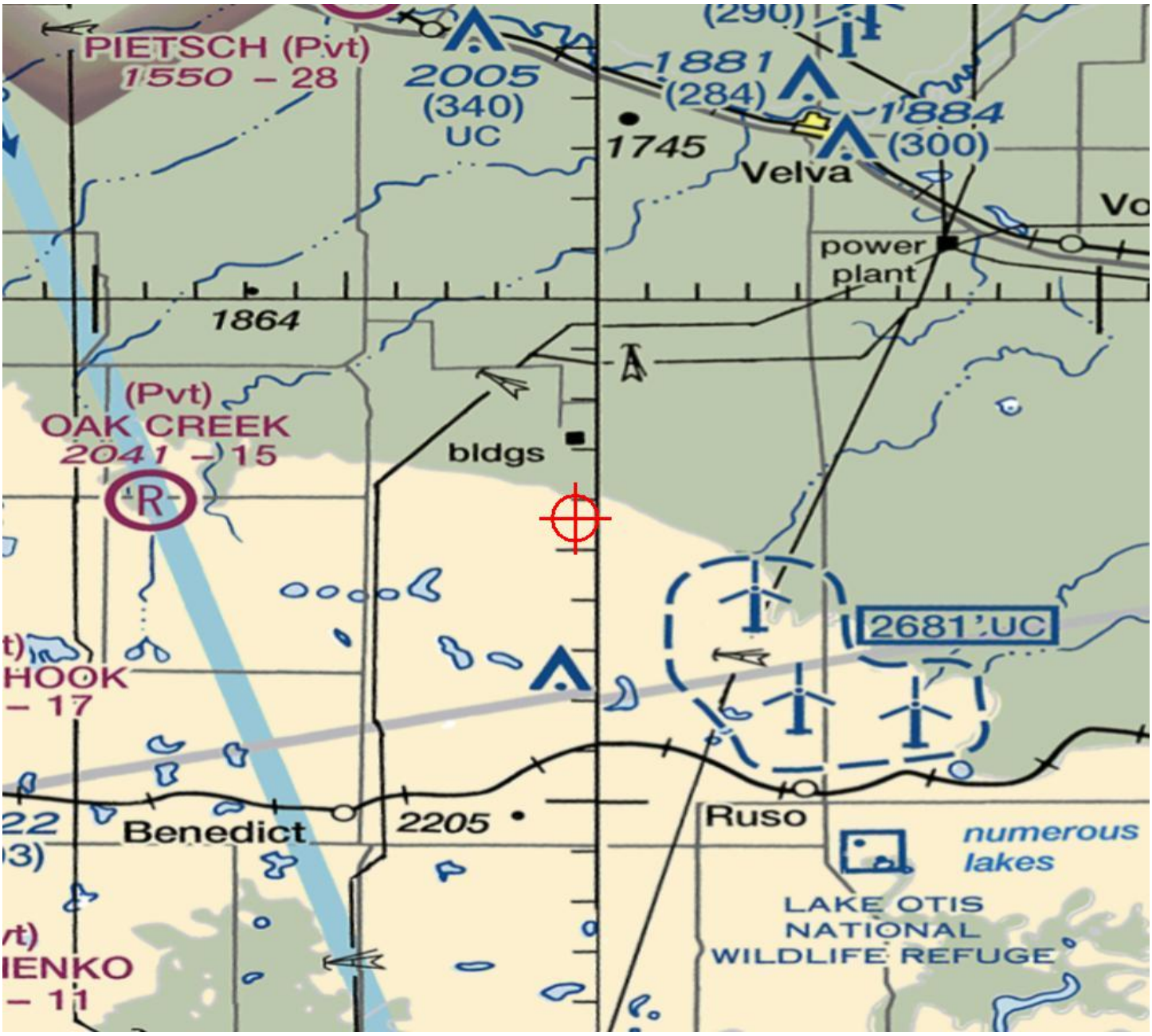
Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination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

Sectional Map for ASN 2019-WTE-1205-OE



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

Aeronautical Study No.
2019-WTE-1206-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T34
Location:	Ruso, ND
Latitude:	47-55-05.49N NAD 83
Longitude:	101-00-43.42W
Heights:	2158 feet site elevation (SE)
	600 feet above ground level (AGL)
	2758 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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-1206-OE.

Signature Control No: 395837083-421565164 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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.

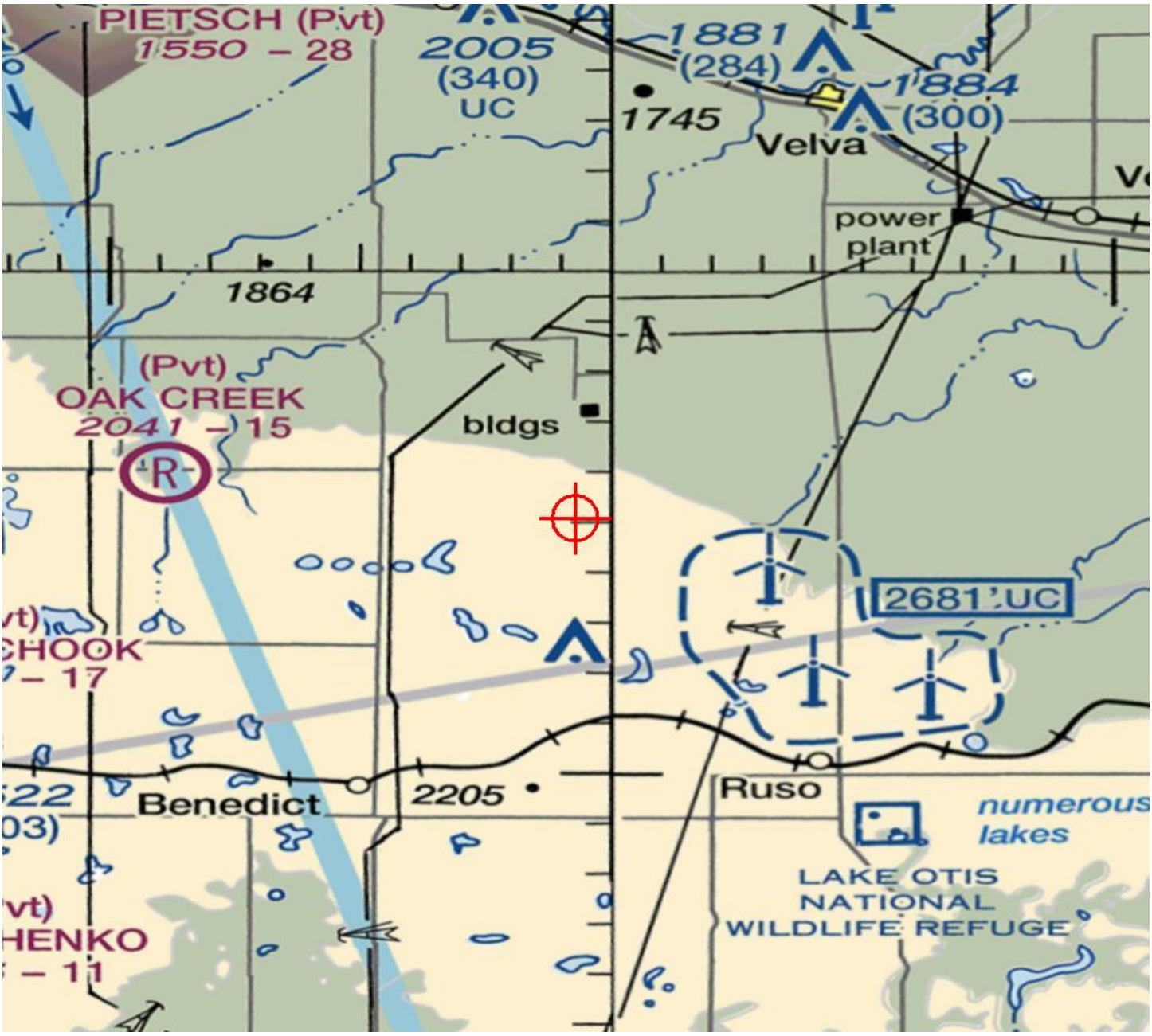
Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination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

Sectional Map for ASN 2019-WTE-1206-OE



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

Aeronautical Study No.
2019-WTE-1207-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T35
Location:	Ruso, ND
Latitude:	47-54-47.92N NAD 83
Longitude:	101-01-01.21W
Heights:	2172 feet site elevation (SE)
	600 feet above ground level (AGL)
	2772 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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-1207-OE.

Signature Control No: 395837084-421565167 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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.

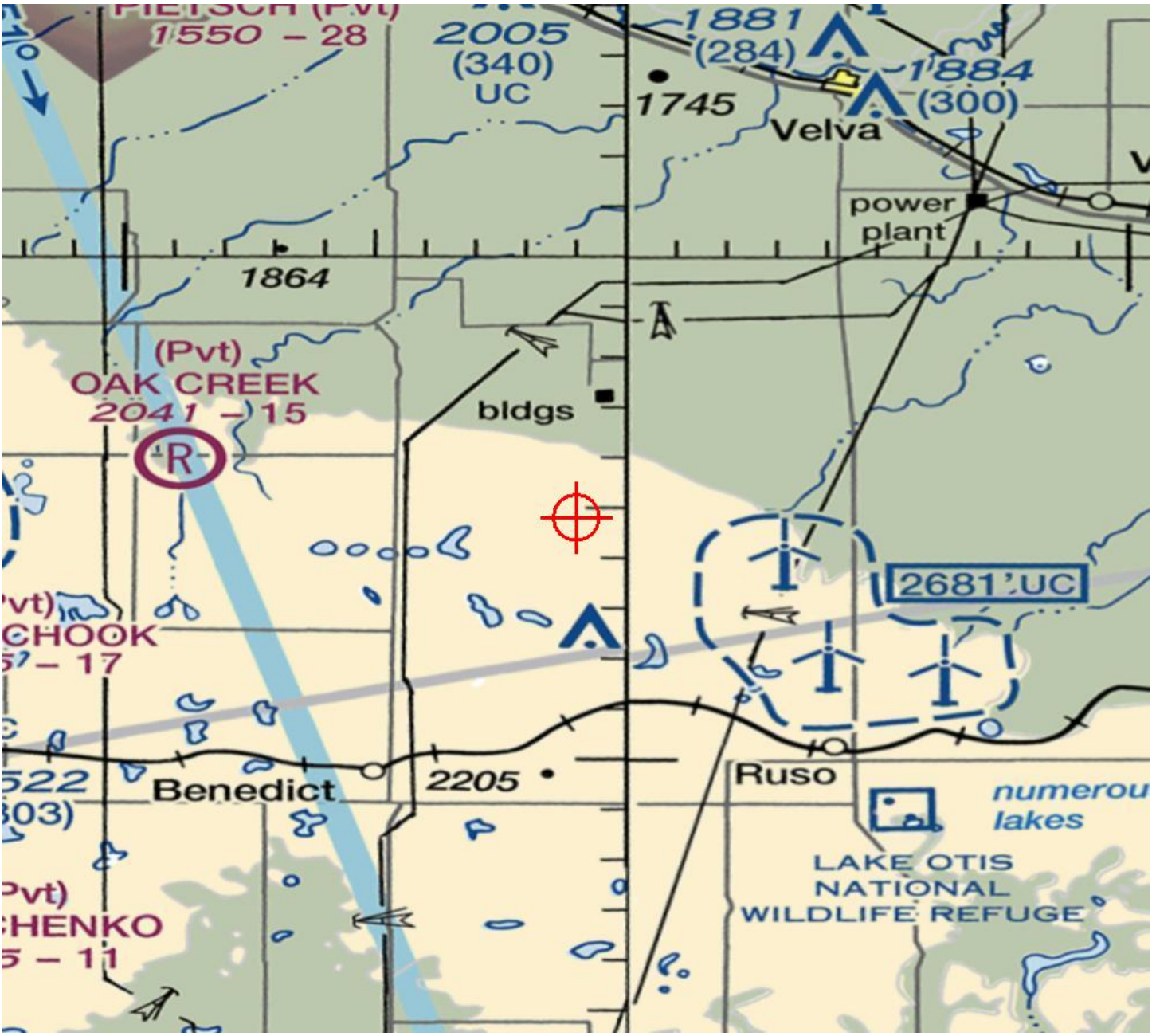
Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination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

Sectional Map for ASN 2019-WTE-1207-OE



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

Aeronautical Study No.
2019-WTE-1208-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T36
Location:	Ruso, ND
Latitude:	47-55-07.05N NAD 83
Longitude:	101-01-17.95W
Heights:	2165 feet site elevation (SE)
	600 feet above ground level (AGL)
	2765 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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-1208-OE.

Signature Control No: 395837087-421565171 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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

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2019-WTE-1182-OE
2019-WTE-1183-OE
2019-WTE-1184-OE
2019-WTE-1188-OE
2019-WTE-1189-OE
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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.

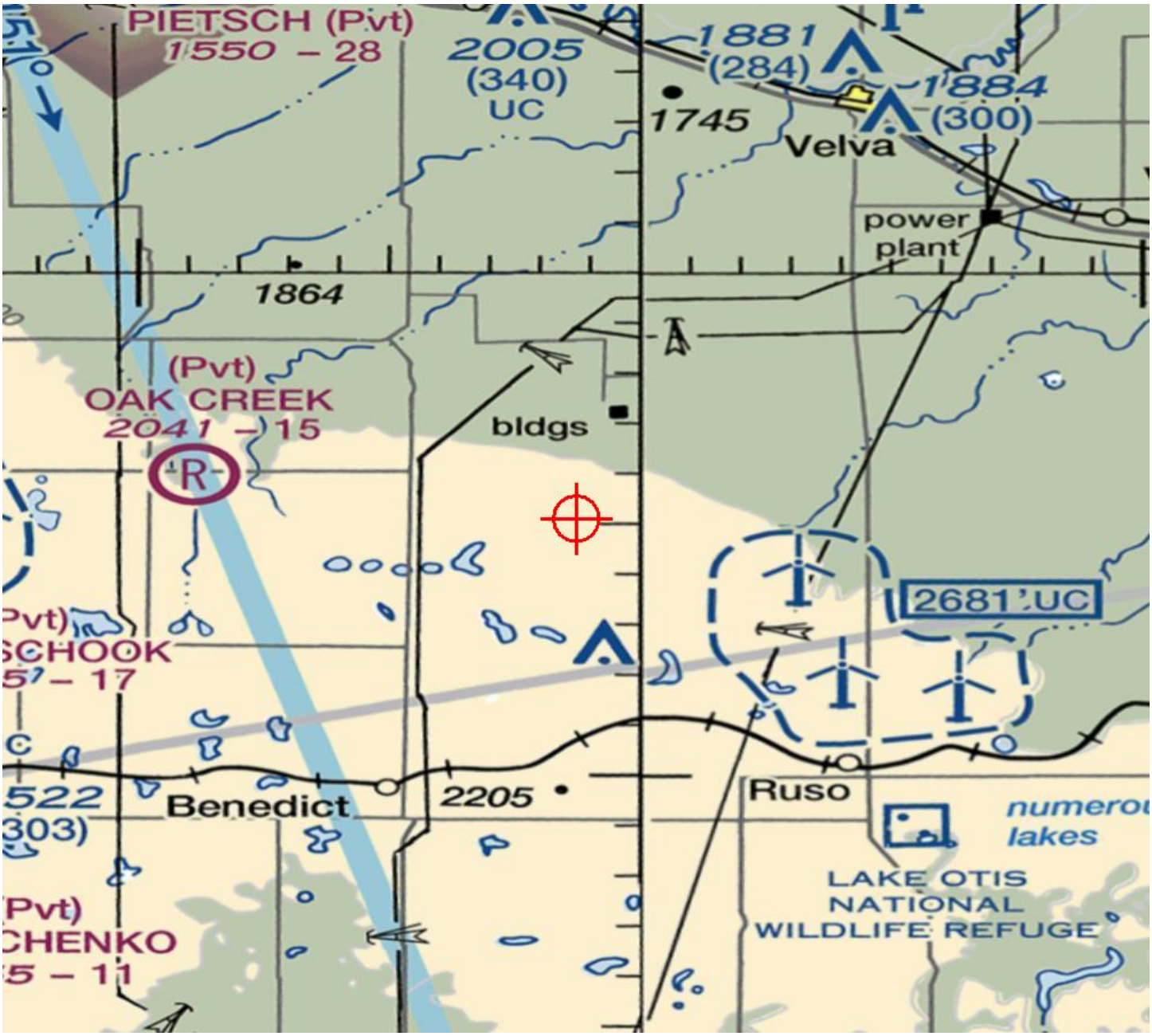
Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination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

Sectional Map for ASN 2019-WTE-1208-OE



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

Aeronautical Study No.
2019-WTE-1209-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T37
Location:	Ruso, ND
Latitude:	47-53-19.63N NAD 83
Longitude:	101-07-54.98W
Heights:	2141 feet site elevation (SE)
	600 feet above ground level (AGL)
	2741 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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.
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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-1209-OE.

Signature Control No: 395837088-421565173 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

Abbreviations:
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AMSL, Above Mean Sea Level
ARTCC, Air Route Traffic Control Center
ASN, Aeronautical Study Number
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2019-WTE-1193-OE
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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.

Sectional Map for ASN 2019-WTE-1209-OE

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

Aeronautical Study No.
2019-WTE-1210-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T38
Location:	Ruso, ND
Latitude:	47-53-07.17N NAD 83
Longitude:	101-07-29.21W
Heights:	2141 feet site elevation (SE)
	600 feet above ground level (AGL)
	2741 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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-1210-OE.

Signature Control No: 395837093-421565174 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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.

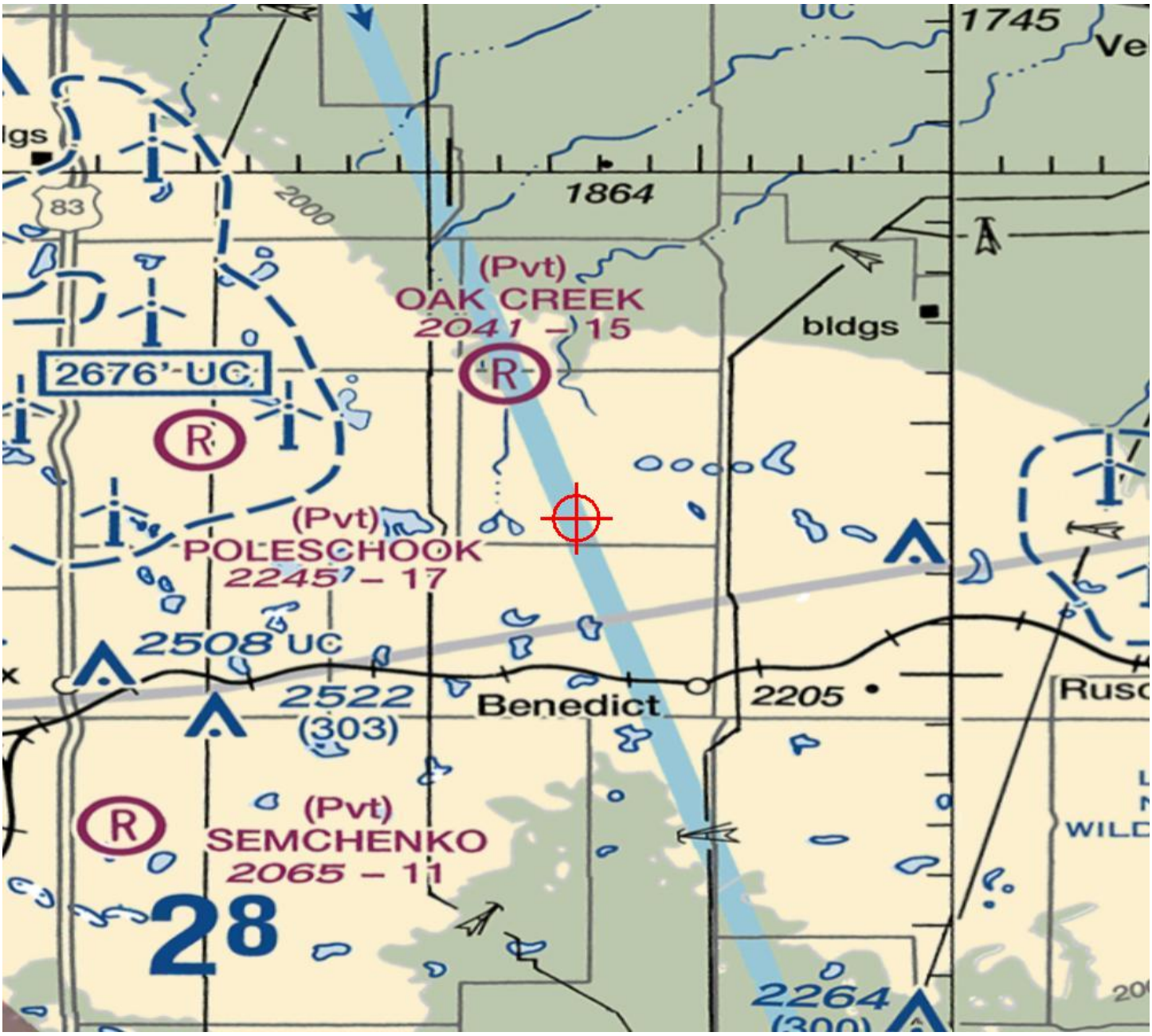
Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination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

Sectional Map for ASN 2019-WTE-1210-OE



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

Aeronautical Study No.
2019-WTE-1211-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T39
Location:	Ruso, ND
Latitude:	47-53-01.37N NAD 83
Longitude:	101-06-57.03W
Heights:	2180 feet site elevation (SE)
	600 feet above ground level (AGL)
	2780 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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-1211-OE.

Signature Control No: 395837094-421565175 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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.

Sectional Map for ASN 2019-WTE-1211-OE

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

Aeronautical Study No.
2019-WTE-1212-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T40
Location:	Ruso, ND
Latitude:	47-52-46.24N NAD 83
Longitude:	101-06-51.01W
Heights:	2175 feet site elevation (SE) 600 feet above ground level (AGL) 2775 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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-1212-OE.

Signature Control No: 395837095-421565177 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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.

Sectional Map for ASN 2019-WTE-1212-OE

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

Aeronautical Study No.
2019-WTE-1213-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T41
Location:	Ruso, ND
Latitude:	47-53-07.40N NAD 83
Longitude:	101-06-36.80W
Heights:	2176 feet site elevation (SE)
	600 feet above ground level (AGL)
	2776 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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-1213-OE.

Signature Control No: 395837096-421565178 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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
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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.

Sectional Map for ASN 2019-WTE-1213-OE

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

Aeronautical Study No.
2019-WTE-1214-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T42
Location:	Ruso, ND
Latitude:	47-53-18.24N NAD 83
Longitude:	101-06-19.05W
Heights:	2189 feet site elevation (SE)
	600 feet above ground level (AGL)
	2789 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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.

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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-1214-OE.

Signature Control No: 395837097-421565179 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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
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2019-WTE-1205-OE
2019-WTE-1228-OE
2019-WTE-1233-OE
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2019-WTE-1191-OE
2019-WTE-1192-OE
2019-WTE-1193-OE
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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.

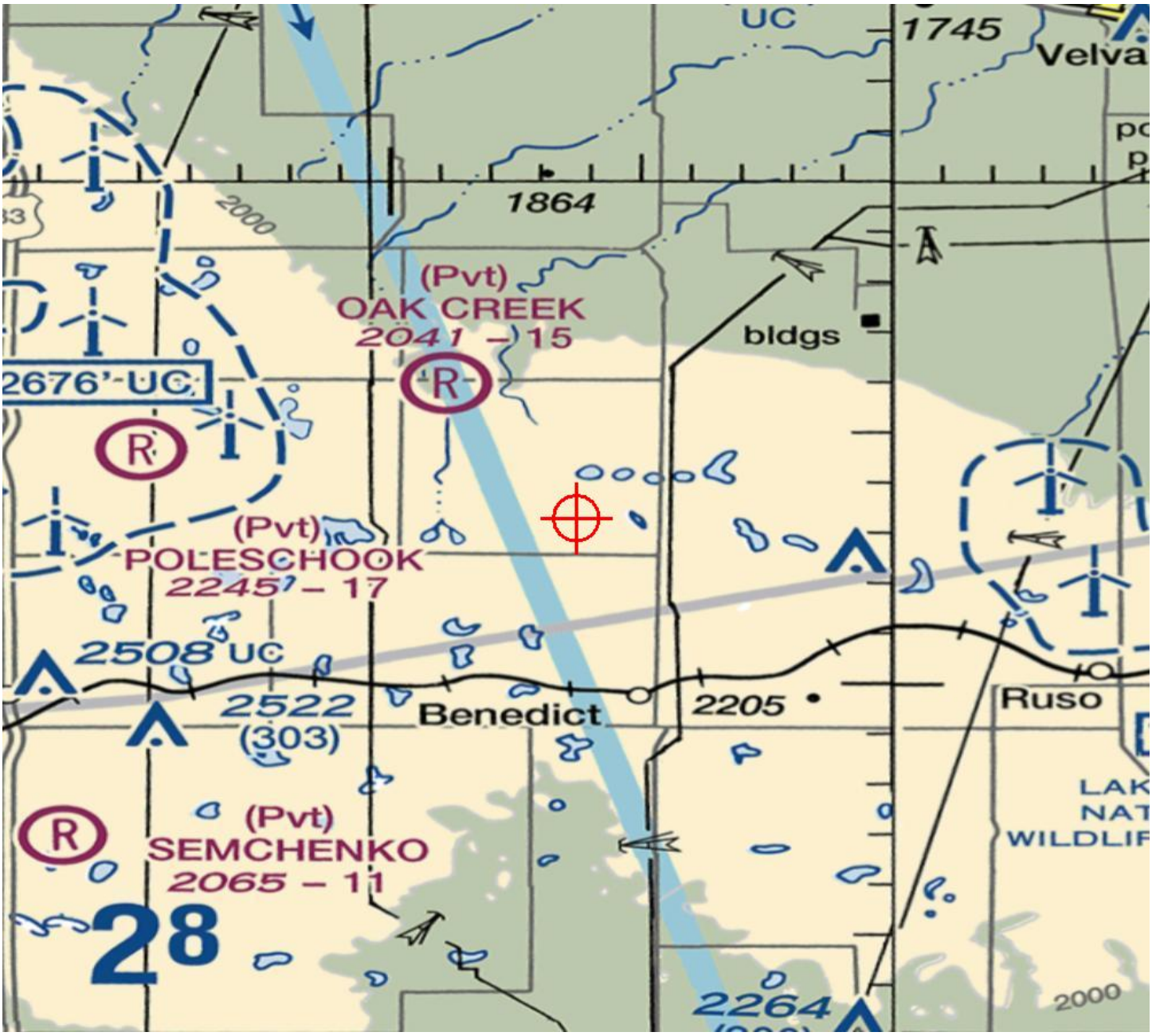
Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination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

Sectional Map for ASN 2019-WTE-1214-OE



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

Aeronautical Study No.
2019-WTE-1215-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T43
Location:	Ruso, ND
Latitude:	47-53-43.53N NAD 83
Longitude:	101-06-10.39W
Heights:	2166 feet site elevation (SE)
	600 feet above ground level (AGL)
	2766 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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-1215-OE.

Signature Control No: 395837098-421565187 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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.

Sectional Map for ASN 2019-WTE-1215-OE

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

Aeronautical Study No.
2019-WTE-1216-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T44
Location:	Ruso, ND
Latitude:	47-53-52.24N NAD 83
Longitude:	101-05-50.47W
Heights:	2161 feet site elevation (SE)
	600 feet above ground level (AGL)
	2761 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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-1216-OE.

Signature Control No: 395837099-421565191 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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.

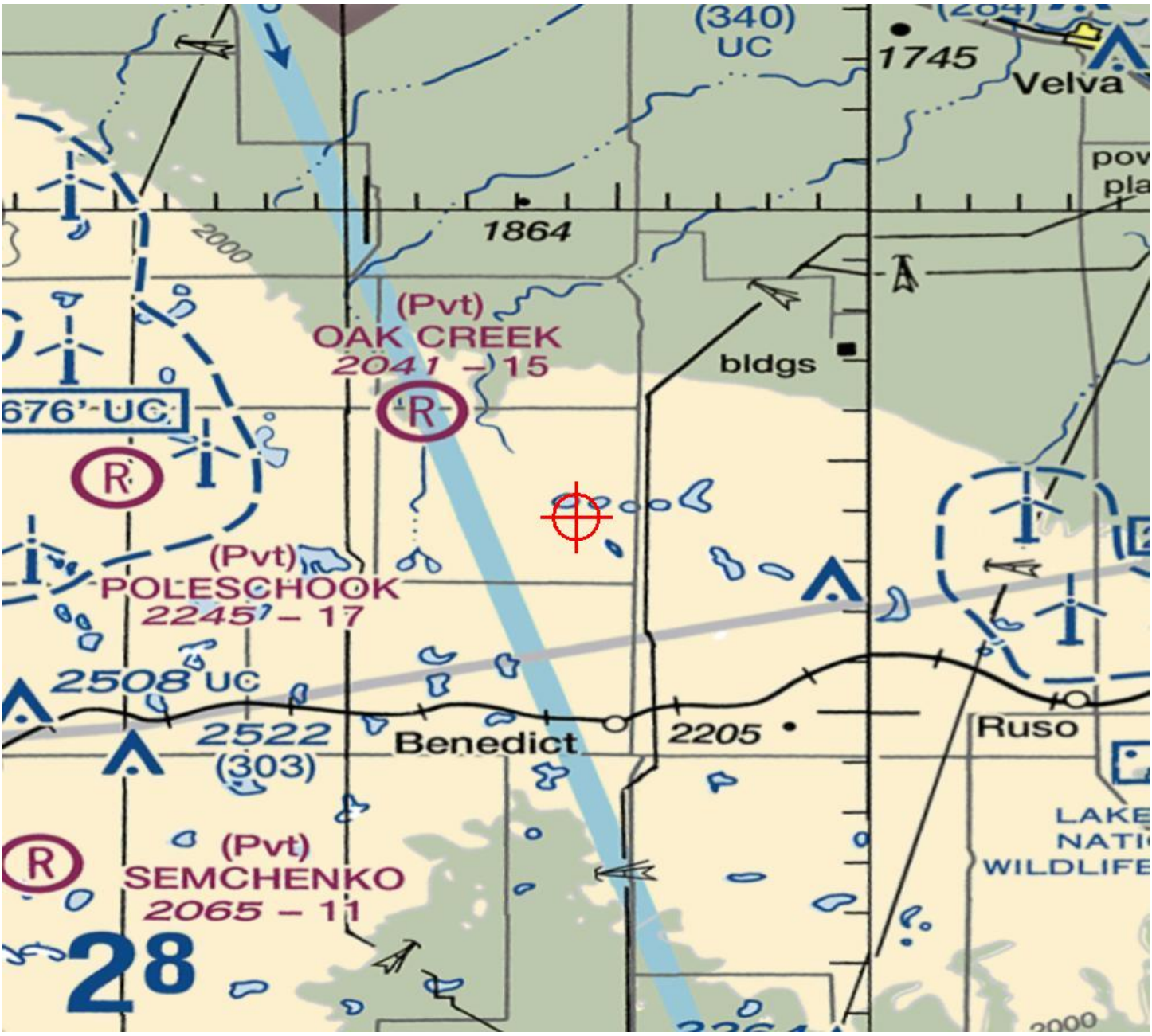
Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination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

Sectional Map for ASN 2019-WTE-1216-OE



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

Aeronautical Study No.
2019-WTE-1217-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T45
Location:	Ruso, ND
Latitude:	47-53-55.44N NAD 83
Longitude:	101-05-26.32W
Heights:	2159 feet site elevation (SE)
	600 feet above ground level (AGL)
	2759 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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-1217-OE.

Signature Control No: 395837102-421565192 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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.

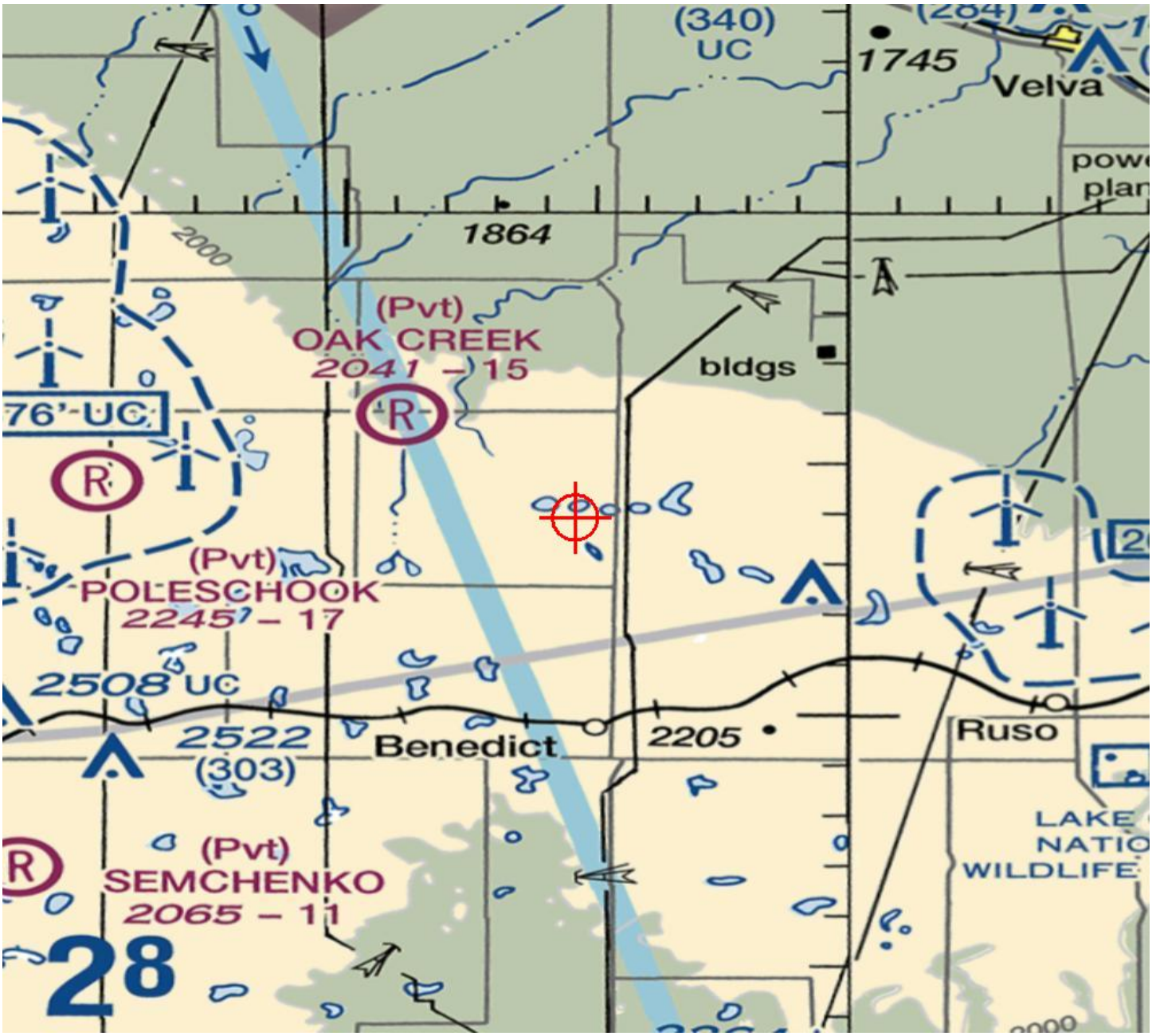
Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination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

Sectional Map for ASN 2019-WTE-1217-OE



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

Aeronautical Study No.
2019-WTE-1218-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T46
Location:	Ruso, ND
Latitude:	47-53-56.57N NAD 83
Longitude:	101-07-06.64W
Heights:	2149 feet site elevation (SE)
	600 feet above ground level (AGL)
	2749 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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-1218-OE.

Signature Control No: 395837107-421565195 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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
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2019-WTE-1184-OE
2019-WTE-1188-OE
2019-WTE-1189-OE
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2019-WTE-1192-OE
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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.

Sectional Map for ASN 2019-WTE-1218-OE

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

Aeronautical Study No.
2019-WTE-1219-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T47
Location:	Ruso, ND
Latitude:	47-54-11.74N NAD 83
Longitude:	101-07-26.63W
Heights:	2117 feet site elevation (SE)
	600 feet above ground level (AGL)
	2717 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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:

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(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.

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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.

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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.

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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-1219-OE.

Signature Control No: 395837108-421565212 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

Abbreviations:
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AMSL, Above Mean Sea Level
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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:

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- 3500 feet to 3700 feet
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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

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2019-WTE-1188-OE
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2019-WTE-1192-OE
2019-WTE-1193-OE
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2019-WTE-1197-OE
2019-WTE-1198-OE
2019-WTE-1200-OE
2019-WTE-1202-OE
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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.

Sectional Map for ASN 2019-WTE-1219-OE

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10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2019-WTE-1220-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T48
Location:	Ruso, ND
Latitude:	47-54-36.92N NAD 83
Longitude:	101-10-10.21W
Heights:	2114 feet site elevation (SE)
	600 feet above ground level (AGL)
	2714 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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-1220-OE.

Signature Control No: 395837109-421565216 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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.

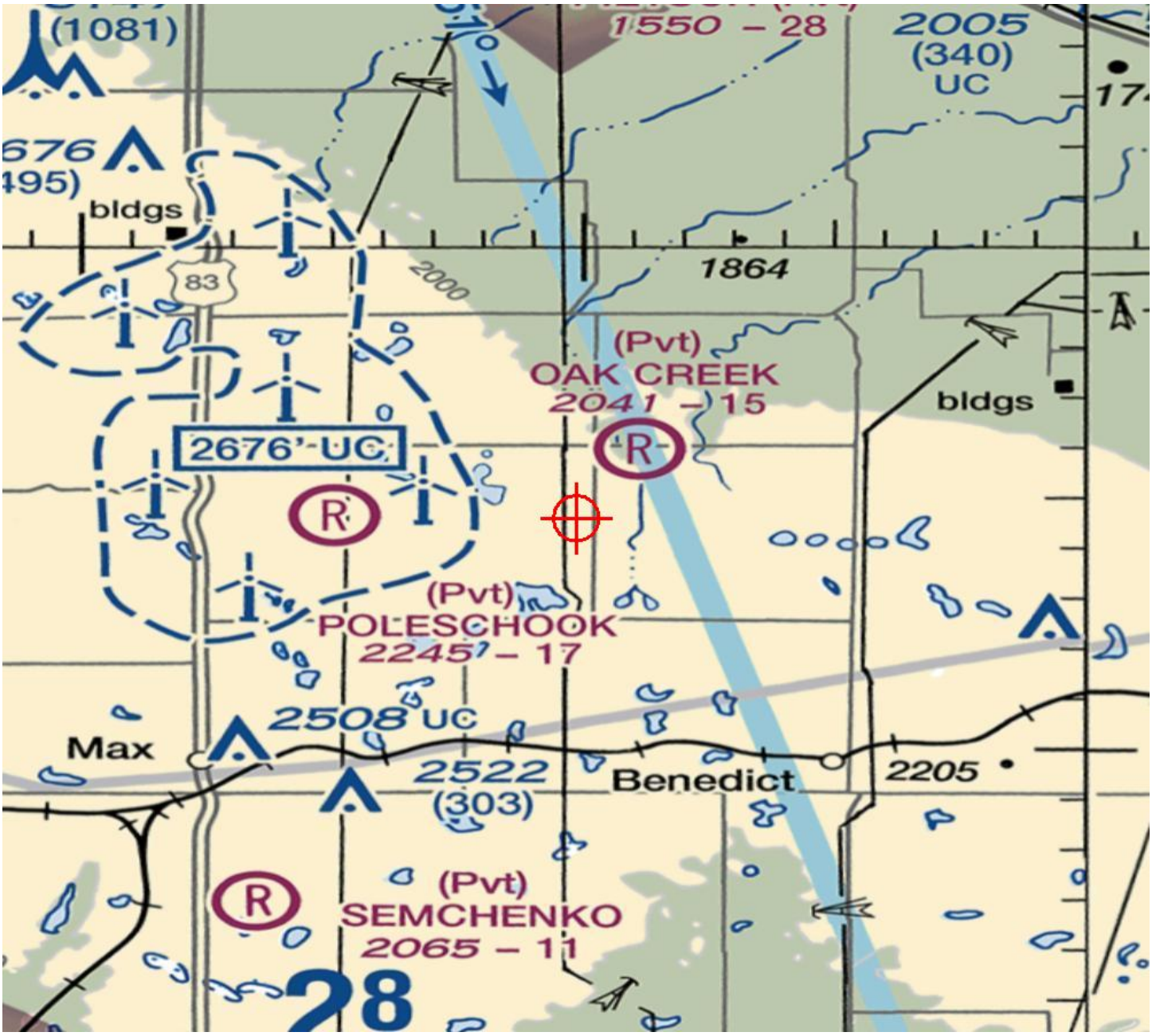
Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination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

Sectional Map for ASN 2019-WTE-1220-OE



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

Aeronautical Study No.
2019-WTE-1221-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T49
Location:	Ruso, ND
Latitude:	47-54-31.68N NAD 83
Longitude:	101-07-56.29W
Heights:	2071 feet site elevation (SE)
	600 feet above ground level (AGL)
	2671 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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.

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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.

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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.

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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-1221-OE.

Signature Control No: 395837110-421565217 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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.

Sectional Map for ASN 2019-WTE-1221-OE

Mail Processing Center
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Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2019-WTE-1222-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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:

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See attachment for additional condition(s) or information.

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(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.

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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.

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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)

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.

Sectional Map for ASN 2019-WTE-1222-OE

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

Aeronautical Study No.
2019-WTE-1223-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T51
Location:	Ruso, ND
Latitude:	47-51-29.26N NAD 83
Longitude:	101-05-02.60W
Heights:	2160 feet site elevation (SE)
	600 feet above ground level (AGL)
	2760 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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-1223-OE.

Signature Control No: 395837112-421565221 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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.

Sectional Map for ASN 2019-WTE-1223-OE

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

Aeronautical Study No.
2019-WTE-1224-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T52
Location:	Ruso, ND
Latitude:	47-53-47.23N NAD 83
Longitude:	101-06-37.10W
Heights:	2182 feet site elevation (SE)
	600 feet above ground level (AGL)
	2782 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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-1224-OE.

Signature Control No: 395837113-421565224 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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.

Sectional Map for ASN 2019-WTE-1224-OE

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

Aeronautical Study No.
2019-WTE-1225-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T53
Location:	Ruso, ND
Latitude:	47-53-24.63N NAD 83
Longitude:	101-05-55.34W
Heights:	2170 feet site elevation (SE)
	600 feet above ground level (AGL)
	2770 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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-1225-OE.

Signature Control No: 395837116-421565228 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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.

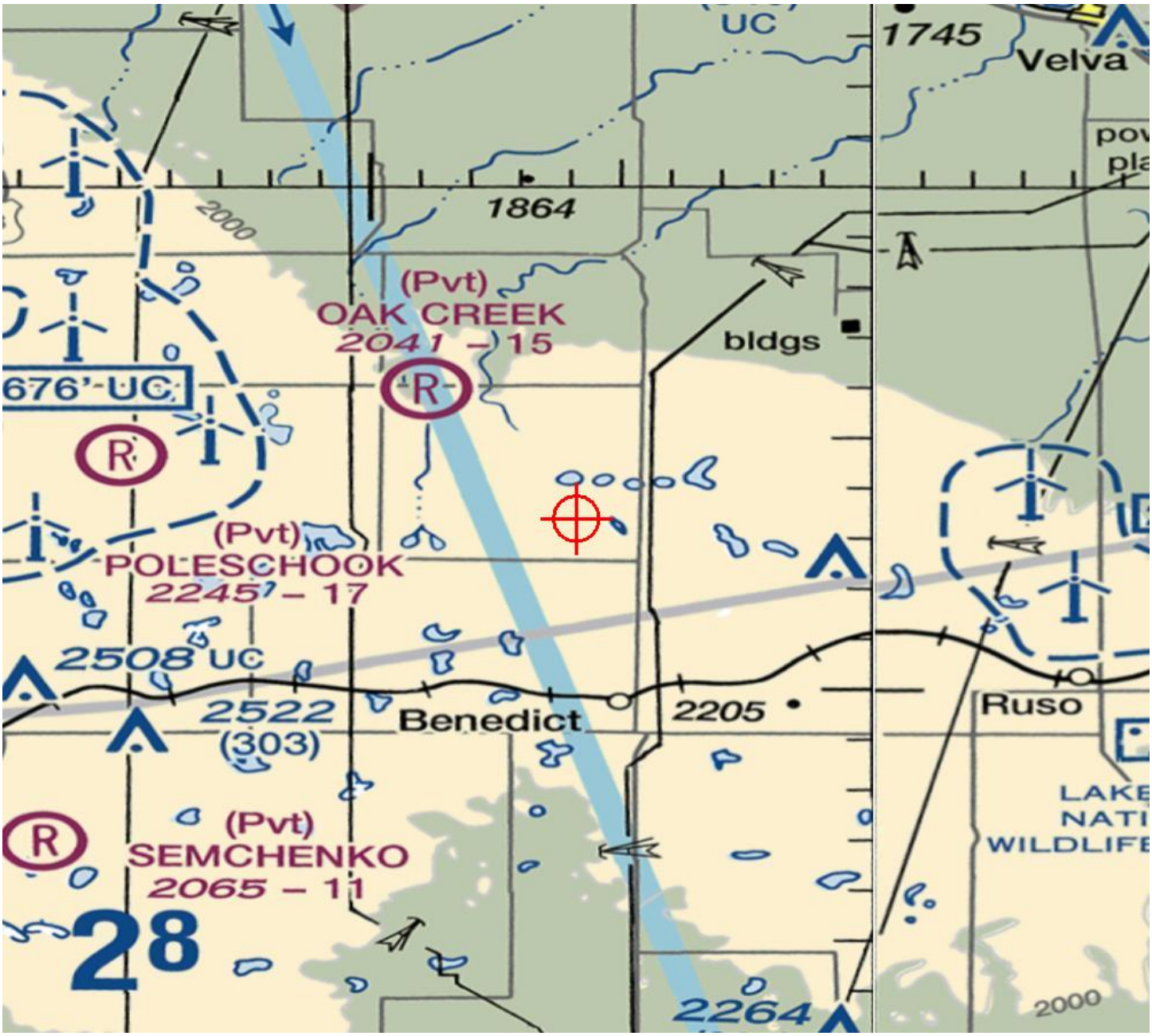
Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination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

Sectional Map for ASN 2019-WTE-1225-OE



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

Aeronautical Study No.
2019-WTE-1226-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T54
Location:	Ruso, ND
Latitude:	47-54-38.62N NAD 83
Longitude:	101-05-39.06W
Heights:	2170 feet site elevation (SE)
	600 feet above ground level (AGL)
	2770 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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-1226-OE.

Signature Control No: 395837119-421565230 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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
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2019-WTE-1188-OE
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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.

Sectional Map for ASN 2019-WTE-1226-OE

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

Aeronautical Study No.
2019-WTE-1227-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T55
Location:	Ruso, ND
Latitude:	47-55-40.48N NAD 83
Longitude:	101-04-31.12W
Heights:	2176 feet site elevation (SE)
	600 feet above ground level (AGL)
	2776 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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.
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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-1227-OE.

Signature Control No: 395837123-421565232 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

Abbreviations:
AGL, Above Ground Level
AMSL, Above Mean Sea Level
ARTCC, Air Route Traffic Control Center
ASN, Aeronautical Study Number
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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:

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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.

Sectional Map for ASN 2019-WTE-1227-OE

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

Aeronautical Study No.
2019-WTE-1228-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T56
Location:	Ruso, ND
Latitude:	47-55-30.72N NAD 83
Longitude:	100-59-36.43W
Heights:	2090 feet site elevation (SE)
	600 feet above ground level (AGL)
	2690 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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-1228-OE.

Signature Control No: 395837124-421565233 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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.

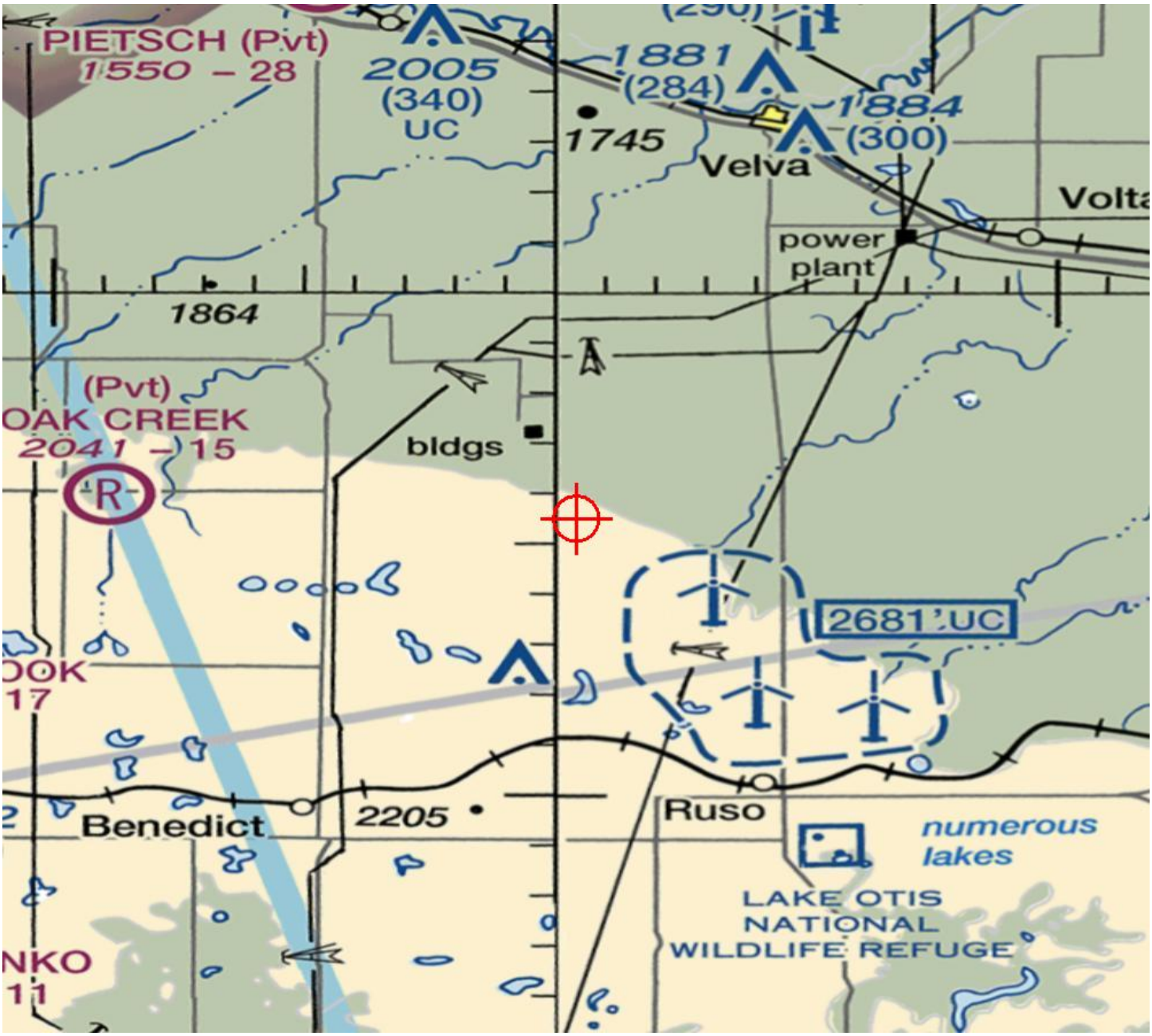
Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination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

Sectional Map for ASN 2019-WTE-1228-OE



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

Aeronautical Study No.
2019-WTE-1229-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T57
Location:	Ruso, ND
Latitude:	47-52-31.97N NAD 83
Longitude:	101-08-11.79W
Heights:	2123 feet site elevation (SE)
	600 feet above ground level (AGL)
	2723 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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-1229-OE.

Signature Control No: 395837128-421565234 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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.

Sectional Map for ASN 2019-WTE-1229-OE

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

Aeronautical Study No.
2019-WTE-1230-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T58
Location:	Ruso, ND
Latitude:	47-54-38.48N NAD 83
Longitude:	101-08-24.99W
Heights:	2072 feet site elevation (SE)
	600 feet above ground level (AGL)
	2672 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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-1230-OE.

Signature Control No: 395837132-421565236 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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
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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.

Sectional Map for ASN 2019-WTE-1230-OE

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

Aeronautical Study No.
2019-WTE-1231-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T59
Location:	Ruso, ND
Latitude:	47-51-52.35N NAD 83
Longitude:	101-08-24.30W
Heights:	2131 feet site elevation (SE)
	600 feet above ground level (AGL)
	2731 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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.

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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-1231-OE.

Signature Control No: 395837133-421565238 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
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Map(s)

Abbreviations:
AGL, Above Ground Level
AMSL, Above Mean Sea Level
ARTCC, Air Route Traffic Control Center
ASN, Aeronautical Study Number
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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.

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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.

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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.

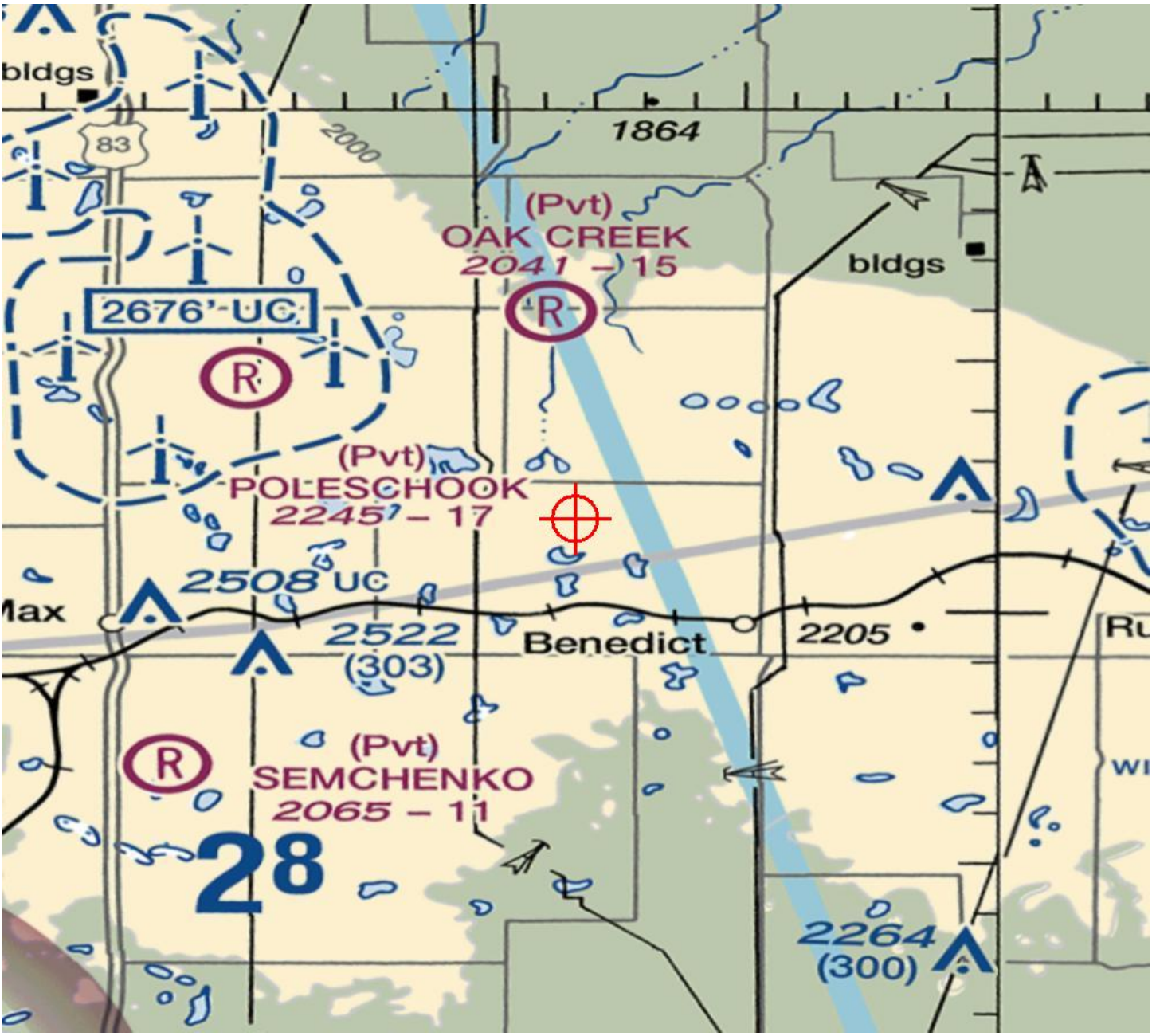
Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination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

Sectional Map for ASN 2019-WTE-1231-OE



Mail Processing Center
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Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2019-WTE-1231-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

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Structure:	Wind Turbine T59
Location:	Ruso, ND
Latitude:	47-51-52.35N NAD 83
Longitude:	101-08-24.30W
Heights:	2131 feet site elevation (SE)
	600 feet above ground level (AGL)
	2731 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:

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__X__ 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:

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Signature Control No: 395837133-421565238 (DNH -WT)
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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.

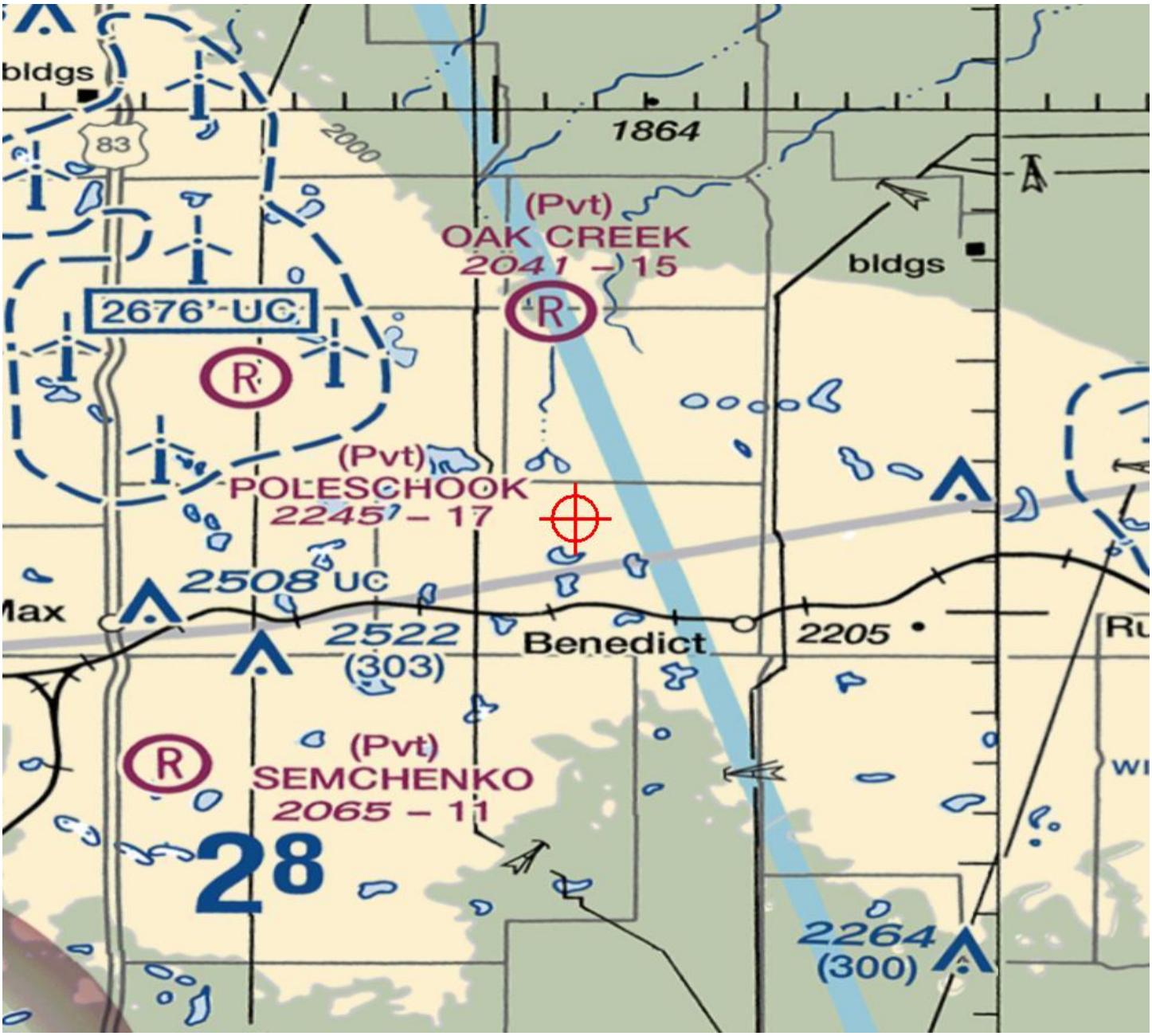
Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination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

Sectional Map for ASN 2019-WTE-1231-OE



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

Aeronautical Study No.
2019-WTE-1233-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T61
Location:	Ruso, ND
Latitude:	47-56-17.20N NAD 83
Longitude:	101-02-59.27W
Heights:	2099 feet site elevation (SE)
	600 feet above ground level (AGL)
	2699 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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-1233-OE.

Signature Control No: 395837138-421565253 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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.

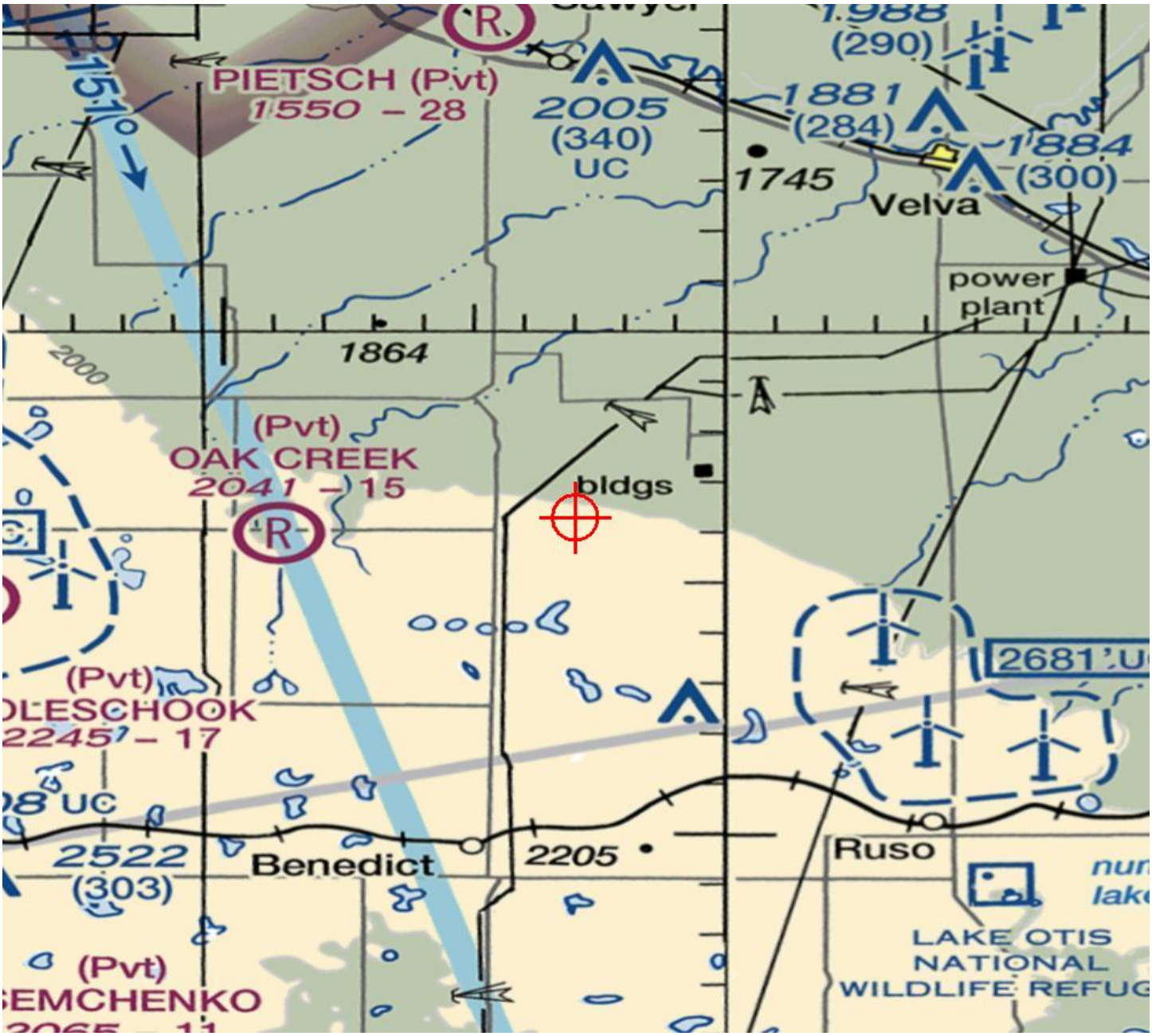
Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination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

Sectional Map for ASN 2019-WTE-1233-OE



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

Aeronautical Study No.
2019-WTE-1235-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T63
Location:	Ruso, ND
Latitude:	47-54-30.19N NAD 83
Longitude:	101-09-24.20W
Heights:	2103 feet site elevation (SE)
	600 feet above ground level (AGL)
	2703 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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-1235-OE.

Signature Control No: 395837143-421565255 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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.

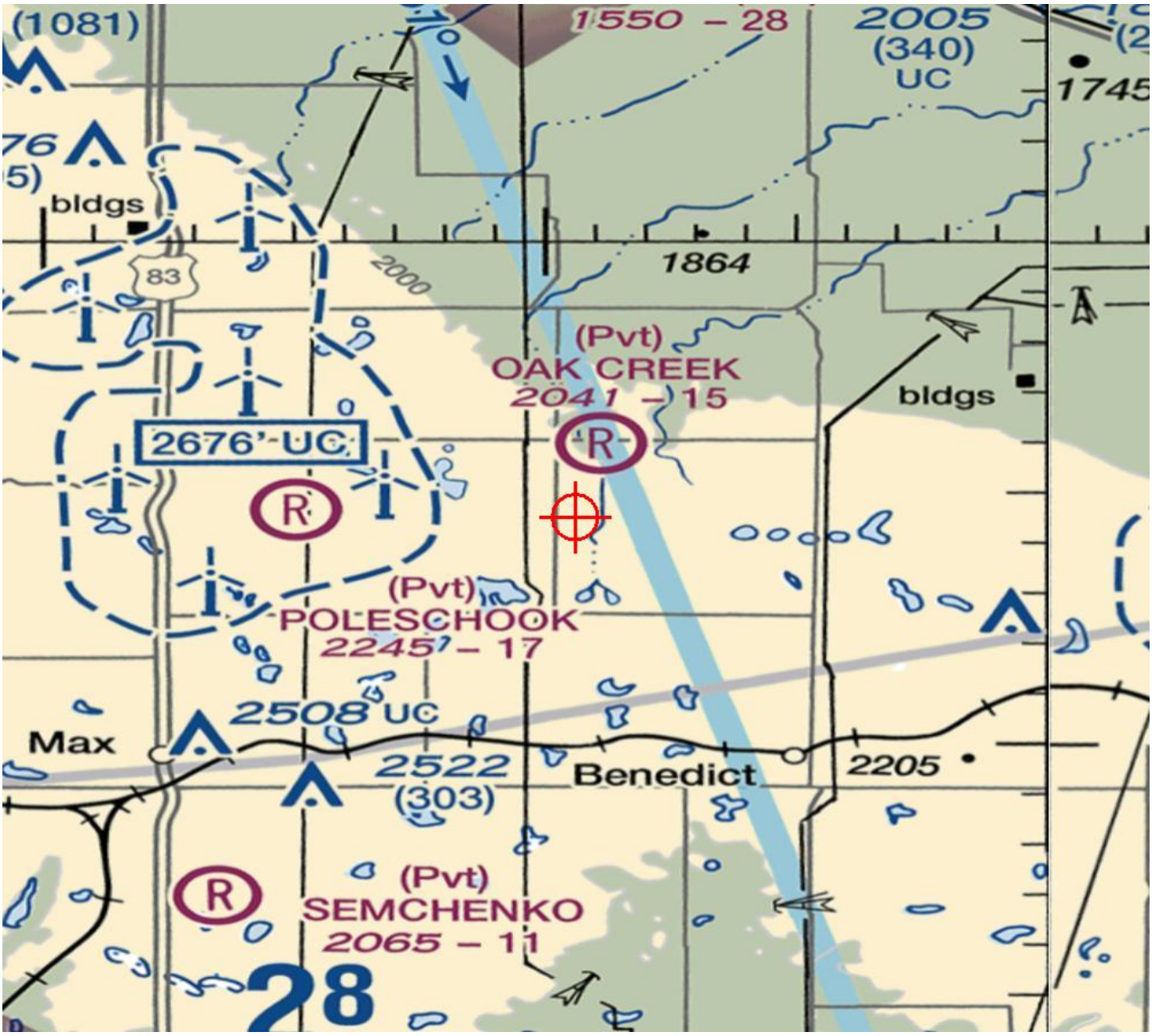
Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination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

Sectional Map for ASN 2019-WTE-1235-OE



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

Aeronautical Study No.
2019-WTE-1236-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T64
Location:	Ruso, ND
Latitude:	47-53-42.32N NAD 83
Longitude:	100-59-51.55W
Heights:	2186 feet site elevation (SE)
	600 feet above ground level (AGL)
	2786 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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-1236-OE.

Signature Control No: 395837144-421565256 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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.

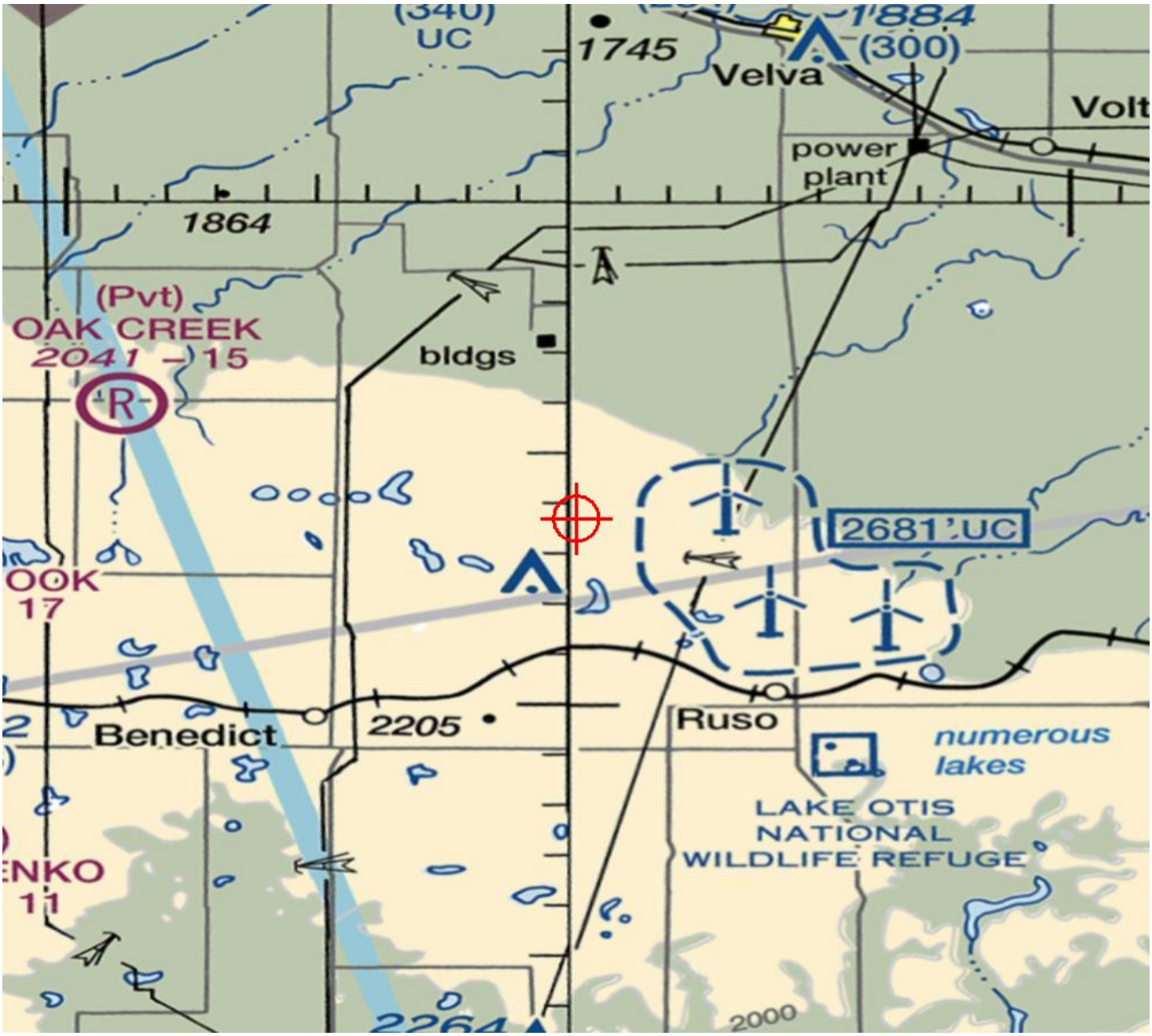
Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination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

Sectional Map for ASN 2019-WTE-1236-OE



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

Aeronautical Study No.
2019-WTE-1237-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T65
Location:	Ruso, ND
Latitude:	47-55-07.17N NAD 83
Longitude:	101-09-04.13W
Heights:	2074 feet site elevation (SE)
	600 feet above ground level (AGL)
	2674 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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-1237-OE.

Signature Control No: 395837147-421565258 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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
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2019-WTE-1207-OE
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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.

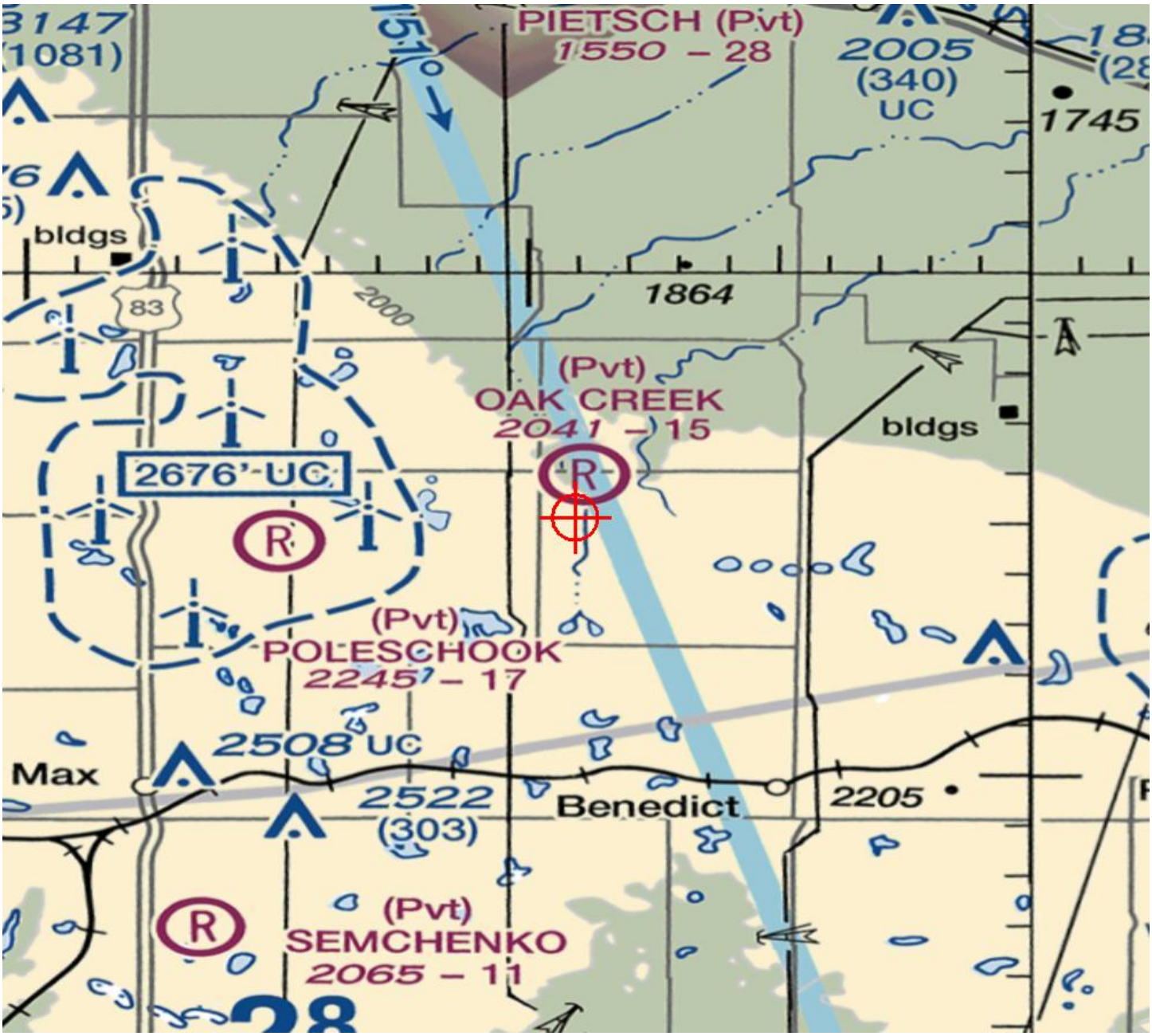
Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation providing the conditions set forth in this determination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

Sectional Map for ASN 2019-WTE-1237-OE



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

Aeronautical Study No.
2019-WTE-1238-OE

Issued Date: 11/01/2019

Rachel Garrett
Southern Power
3535 Colonnade Parkway
BIN S-855-EC
Birmingham, AL 35243

**** 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 T66
Location:	Ruso, ND
Latitude:	47-56-09.71N NAD 83
Longitude:	101-01-01.46W
Heights:	2063 feet site elevation (SE)
	600 feet above ground level (AGL)
	2663 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:

__X__ At least 60 days prior to start of construction (7460-2, Part 1)
__X__ 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.

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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-1238-OE.

Signature Control No: 395837150-421565259 (DNH -WT)
Mike Helvey
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

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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.

Sectional Map for ASN 2019-WTE-1238-OE