

January 13, 2021

**VIA FEDERAL EXPRESS**

Mr. Steven Kahl  
Executive Secretary  
North Dakota Public Service Commission  
600 E. Boulevard, Dept. 408  
Bismarck, ND 58505-0480

**RE: Aurora Wind Project, LLC  
Aurora Wind Project – Williams County  
Siting Application  
Case No. PU-18-352**

Dear Mr. Kahl:

In accordance with Certification Provision No. 3 of the North Dakota Public Service Commission's ("Commission") Order issuing a Certificate of Site Compatibility for the Aurora Wind Project ("Project"), Aurora Wind Project, LLC ("Aurora") hereby files two (2) copies of this letter and the following permits:

- Determination of No Hazard and Marking and Lighting Recommendation for ADLS Tower (2020-WTE-2117-OE);
- NPDES General Permit for Stormwater Discharges Associated with Construction Activity (Wind Project), Notice of Coverage (May 7, 2020), Permit ID NDR1105010000;
- NPDES General Permit for Stormwater Discharges Associated with Construction Activity (Substation), Notice of Coverage (May 7, 2020), Permit ID NDR110535; and
- Sewage Treatment System Plans Permit.

Electronic copies of the permits and this letter are provided on the enclosed USB drive.

If you have any questions, please let me know.

Sincerely,



MOLLIE M. SMITH

MMS/71912471  
Enclosures

Mr. Steven Kahl  
January 13, 2021  
Page 2

cc: Jerry Lein (via e-mail, w/o enclosure)  
Patrick Fahn (via e-mail, w/o enclosure)  
Jaimee Antognazzi (via e-mail, w/o enclosure)  
Jennifer Dean (via e-mail, w/o enclosure)  
Jeremy Price (via e-mail, w/o enclosure)

May 07, 2020

David Hart  
 RES Construction  
 11101 W 120th Ave.  
 Broomfield, CO 80021

**North Dakota Pollutant Discharge Elimination System (NDPDES)  
 General Permit for Stormwater Discharges from Construction Activity  
 NOTICE OF COVERAGE**

Coverage under the 2020 reissued construction general permit (NDR11-0000) is identified as follows:

<b>Permit Number</b>	<b>Storm Water Site Name</b>
NDR110501	Aurora Wind Project

Please remember to update the Stormwater Pollution Prevention Plan (SWPPP) as appropriate for site conditions. The best management practices (BMPs) and temporary structures must be inspected, maintained and adjusted until the site is stabilized following construction activities. Once the site is stabilized as outlined in the general permit, you may end permit coverage by filing a termination notice. Cities or counties may impose additional requirements and/or specific BMPs for construction affecting their storm drainage system. Please check with the local officials to be sure all local stormwater management considerations are addressed.

**Additional Information:**

The permit will expire on March 31, 2025. The permit conditions, forms and related information may be found on our web site at:

[https://deq.nd.gov/WQ/2\\_NDPDES\\_Permits/7\\_Stormwater/stw.aspx](https://deq.nd.gov/WQ/2_NDPDES_Permits/7_Stormwater/stw.aspx)

Should you have any questions on the permit, please contact a stormwater staff person listed below.

Dallas Grossman 701.328.5242 dgrossma@nd.gov	Sam DeVries 701.328.5215 sgDeVries@nd.gov	Allison Lightfoot 701.328.5285 alightfoot@nd.gov	Emily Joynt 701.328.5239 ejoynt@nd.gov	Brian O'Gorman 701.328.5177 bogorman@nd.gov
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918 East Divide Avenue   Bismarck ND 58501-1947   Fax 701-328-5200   deq.nd.gov					
Director's Office 701-328-5150	Division of Air Quality 701-328-5188	Division of Municipal Facilities 701-328-5211	Division of Waste Management 701-328-5166	Division of Water Quality 701-328-5210	Division of Chemistry 701-328-6140 2635 East Main Ave Bismarck ND 58501



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

Aeronautical Study No.  
 2020-WTE-2117-OE  
 Prior Study No.  
 2018-WTE-6956-OE

Issued Date: 04/17/2020

Leslie Strong  
 Aurora Wind Project, LLC  
 16105 W 113th Street  
 Suite 105  
 Lenexa, KS 66219

**\*\* 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: Met Tower (w/WT Farm) T-159-ADLS Antenna  
 Location: Tioga, ND  
 Latitude: 48-28-58.86N NAD 83  
 Longitude: 103-01-21.04W  
 Heights: 2354 feet site elevation (SE)  
 281 feet above ground level (AGL)  
 2635 feet above mean sea level (AMSL)

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

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 L Change 2, Obstruction Marking and Lighting, paint/red lights - Chapters 3(Marked),4,5(Red),&12.

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

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

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

**See attachment for additional condition(s) or information.**

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

This determination expires on 10/17/2021 unless:

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

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

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

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

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

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

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

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

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

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

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2117-OE.

**Signature Control No: 435305927-436847405**

( DNE -WT )

Lan Norris  
Specialist

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

## Additional information for ASN 2020-WTE-2117-OE

There is no objection to the use of an ADLS for the associated wind farm. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

NOTE: In addition to obstruction lighting, the structure should be marked in accordance with AC 70/7460-1L, CHG 2, Chapter 2.7:

### Painting.

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

### High-Visibility Sleeves.

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

### Spherical Markers.

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

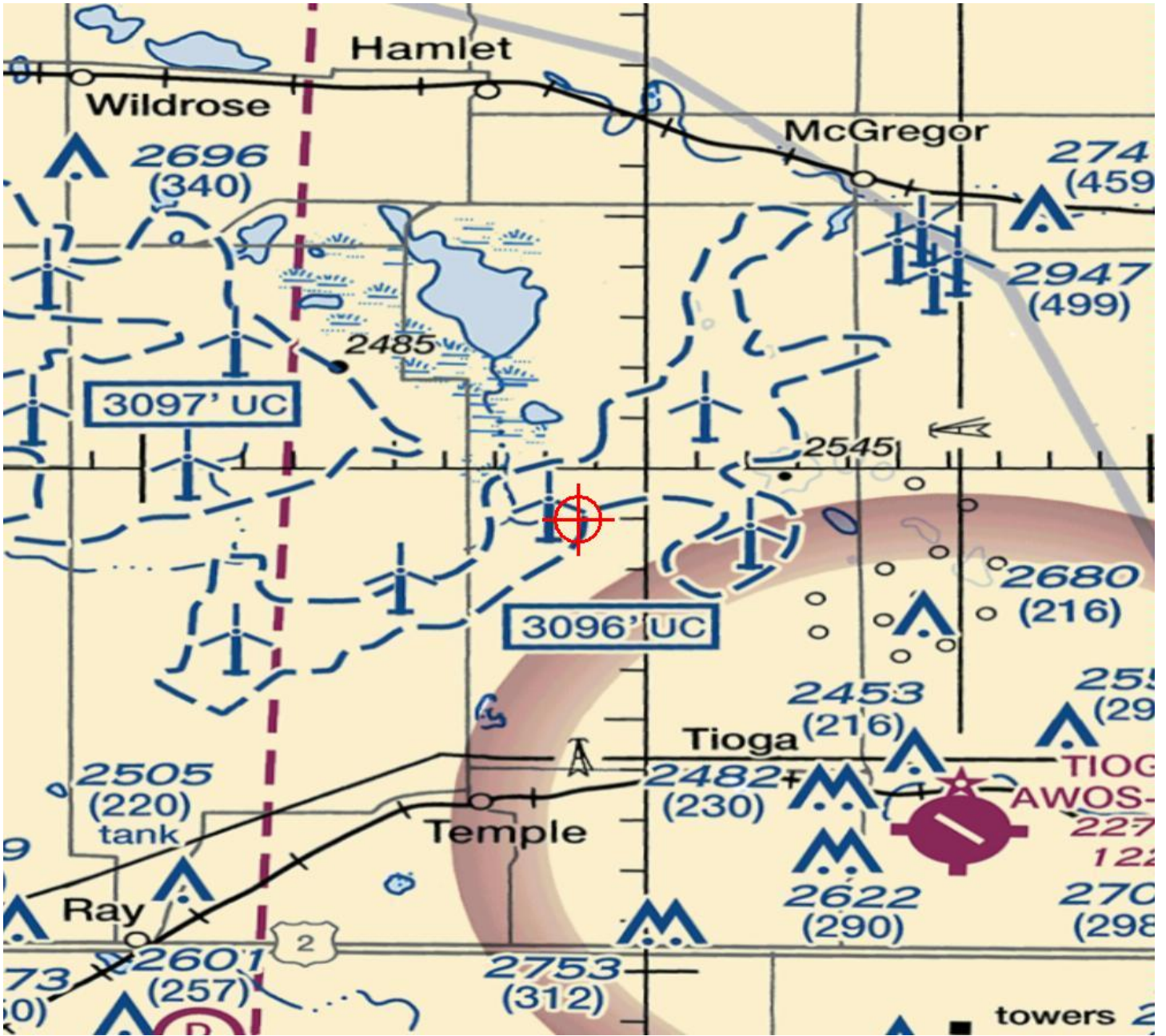
The FAA recognizes that various weather conditions and manufacturing placement standards may affect the placement and use of high-visibility sleeves and/or spherical markers. Thus, some flexibility is allowed when determining sleeve length and marker placement on METs.

## Case Description for ASN 2020-WTE-2117-OE

Filing is for ADLS consideration for wind farm located in Tioga, ND. ADLS Radar structure is replacing previously filed turbine 2018-WTE-6956-OE. Not all structures on project array are requesting ADLS. Tioga, ND.

Frequency Data for ASN 2020-WTE-2117-OE

<b>LOW FREQUENCY</b>	<b>HIGH FREQUENCY</b>	<b>FREQUENCY UNIT</b>	<b>ERP</b>	<b>ERP UNIT</b>
9000	9200	MHz	40.57	W
9200	9500	MHz	40.35	W
9300	9500	MHz	40.35	W



May 07, 2020

Georg Becker-Birck  
 Aurora Wind Project, LLC  
 100 Brickstone Square  
 Andover, MA 01810

**North Dakota Pollutant Discharge Elimination System (NDPDES)  
 General Permit for Stormwater Discharges from Construction Activity  
 NOTICE OF COVERAGE**

Coverage under the 2020 reissued construction general permit (NDR11-0000) is identified as follows:

Permit Number	Storm Water Site Name
NDR110535	Aurora Wind Project Substation
NDR110544	Aurora Wind Project Transmission Line

Please remember to update the Stormwater Pollution Prevention Plan (SWPPP) as appropriate for site conditions. The best management practices (BMPs) and temporary structures must be inspected, maintained and adjusted until the site is stabilized following construction activities. Once the site is stabilized as outlined in the general permit, you may end permit coverage by filing a termination notice. Cities or counties may impose additional requirements and/or specific BMPs for construction affecting their storm drainage system. Please check with the local officials to be sure all local stormwater management considerations are addressed.

**Additional Information:**

The permit will expire on March 31, 2025. The permit conditions, forms and related information may be found on our web site at:

[https://deq.nd.gov/WQ/2\\_NDPDES\\_Permits/7\\_Stormwater/stw.aspx](https://deq.nd.gov/WQ/2_NDPDES_Permits/7_Stormwater/stw.aspx)

Should you have any questions on the permit, please contact a stormwater staff person listed below.

Dallas Grossman	Sam DeVries	Allison Lightfoot	Emily Joynt	Brian O’Gorman
701.328.5242	701.328.5215	701.328.5285	701.328.5239	701.328.5177
dgrossma@nd.gov	sgDeVries@nd.gov	alightfoot@nd.gov	ejoynt@nd.gov	bogorman@nd.gov

918 East Divide Avenue   Bismarck ND 58501-1947   Fax 701-328-5200   deq.nd.gov					
Director’s Office	Division of	Division of	Division of	Division of	Division of Chemistry
701-328-5150	Air Quality	Municipal Facilities	Waste Management	Water Quality	701-328-6140
	701-328-5188	701-328-5211	701-328-5166	701-328-5210	2635 East Main Ave
					Bismarck ND 58501



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Southwest Regional Office  
Obstruction Evaluation Group  
10101 Hillwood Parkway  
Fort Worth, TX 76177

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Aeronautical Study No.  
2020-WTE-2012-OE  
Prior Study No.  
2018-WTE-6840-OE

Issued Date: 04/21/2020

Leslie Strong  
Aurora Wind Project, LLC  
16105 W 113th Street  
Suite 105  
Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-9
Location:	Tioga, ND
Latitude:	48-26-57.06N NAD 83
Longitude:	103-04-34.83W
Heights:	2396 feet site elevation (SE) 660 feet above ground level (AGL) 3056 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2012-OE.

**Signature Control No: 435305821-437123074**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Map(s)

cc: FCC

**Additional information for ASN 2020-WTE-2012-OE**

There is no objection to the use of an ADLS. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

NOTE: Associated ADLS antenna filed under ASN 2020-WTE-2117-OE.

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 Southwest Regional Office  
 Obstruction Evaluation Group  
 10101 Hillwood Parkway  
 Fort Worth, TX 76177

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Aeronautical Study No.  
 2020-WTE-2013-OE  
 Prior Study No.  
 2018-WTE-6841-OE

Issued Date: 04/21/2020

Leslie Strong  
 Aurora Wind Project, LLC  
 16105 W 113th Street  
 Suite 105  
 Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure: Lighting Study for Wind Turbine T-10  
 Location: Tioga, ND  
 Latitude: 48-27-21.95N NAD 83  
 Longitude: 103-04-39.79W  
 Heights: 2411 feet site elevation (SE)  
 660 feet above ground level (AGL)  
 3071 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2013-OE.

**Signature Control No: 435305822-437123090**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Map(s)

cc: FCC

**Additional information for ASN 2020-WTE-2013-OE**

There is no objection to the use of an ADLS. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

NOTE: Associated ADLS antenna filed under ASN 2020-WTE-2117-OE.

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Obstruction Evaluation Group  
10101 Hillwood Parkway  
Fort Worth, TX 76177

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Aeronautical Study No.  
2020-WTE-2015-OE  
Prior Study No.  
2018-WTE-6843-OE

Issued Date: 04/21/2020

Leslie Strong  
Aurora Wind Project, LLC  
16105 W 113th Street  
Suite 105  
Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-12
Location:	Tioga, ND
Latitude:	48-27-44.36N NAD 83
Longitude:	103-03-57.39W
Heights:	2422 feet site elevation (SE) 660 feet above ground level (AGL) 3082 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2015-OE.

**Signature Control No: 435305824-437123073**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Map(s)

cc: FCC

**Additional information for ASN 2020-WTE-2015-OE**

There is no objection to the use of an ADLS. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

NOTE: Associated ADLS antenna filed under ASN 2020-WTE-2117-OE.

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Southwest Regional Office  
Obstruction Evaluation Group  
10101 Hillwood Parkway  
Fort Worth, TX 76177

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Aeronautical Study No.  
2020-WTE-2016-OE  
Prior Study No.  
2018-WTE-6844-OE

Issued Date: 04/21/2020

Leslie Strong  
Aurora Wind Project, LLC  
16105 W 113th Street  
Suite 105  
Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-13
Location:	Tioga, ND
Latitude:	48-27-46.27N NAD 83
Longitude:	103-04-30.02W
Heights:	2412 feet site elevation (SE) 660 feet above ground level (AGL) 3072 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2016-OE.

**Signature Control No: 435305825-437123077**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Map(s)

cc: FCC

**Additional information for ASN 2020-WTE-2016-OE**

There is no objection to the use of an ADLS. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

NOTE: Associated ADLS antenna filed under ASN 2020-WTE-2117-OE.

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 Southwest Regional Office  
 Obstruction Evaluation Group  
 10101 Hillwood Parkway  
 Fort Worth, TX 76177

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Aeronautical Study No.  
 2020-WTE-2017-OE  
 Prior Study No.  
 2018-WTE-6846-OE

Issued Date: 04/21/2020

Leslie Strong  
 Aurora Wind Project, LLC  
 16105 W 113th Street  
 Suite 105  
 Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-15
Location:	Tioga, ND
Latitude:	48-27-49.12N NAD 83
Longitude:	103-02-33.44W
Heights:	2414 feet site elevation (SE) 660 feet above ground level (AGL) 3074 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2017-OE.

**Signature Control No: 435305826-437123084**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Map(s)

cc: FCC

**Additional information for ASN 2020-WTE-2017-OE**

There is no objection to the use of an ADLS. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

NOTE: Associated ADLS antenna filed under ASN 2020-WTE-2117-OE.

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Federal Aviation Administration  
Southwest Regional Office  
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10101 Hillwood Parkway  
Fort Worth, TX 76177

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Aeronautical Study No.  
2020-WTE-2018-OE  
Prior Study No.  
2018-WTE-6847-OE

Issued Date: 04/21/2020

Leslie Strong  
Aurora Wind Project, LLC  
16105 W 113th Street  
Suite 105  
Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-16
Location:	Tioga, ND
Latitude:	48-28-11.26N NAD 83
Longitude:	103-02-27.87W
Heights:	2436 feet site elevation (SE) 660 feet above ground level (AGL) 3096 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2018-OE.

**Signature Control No: 435305827-437123075**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Map(s)

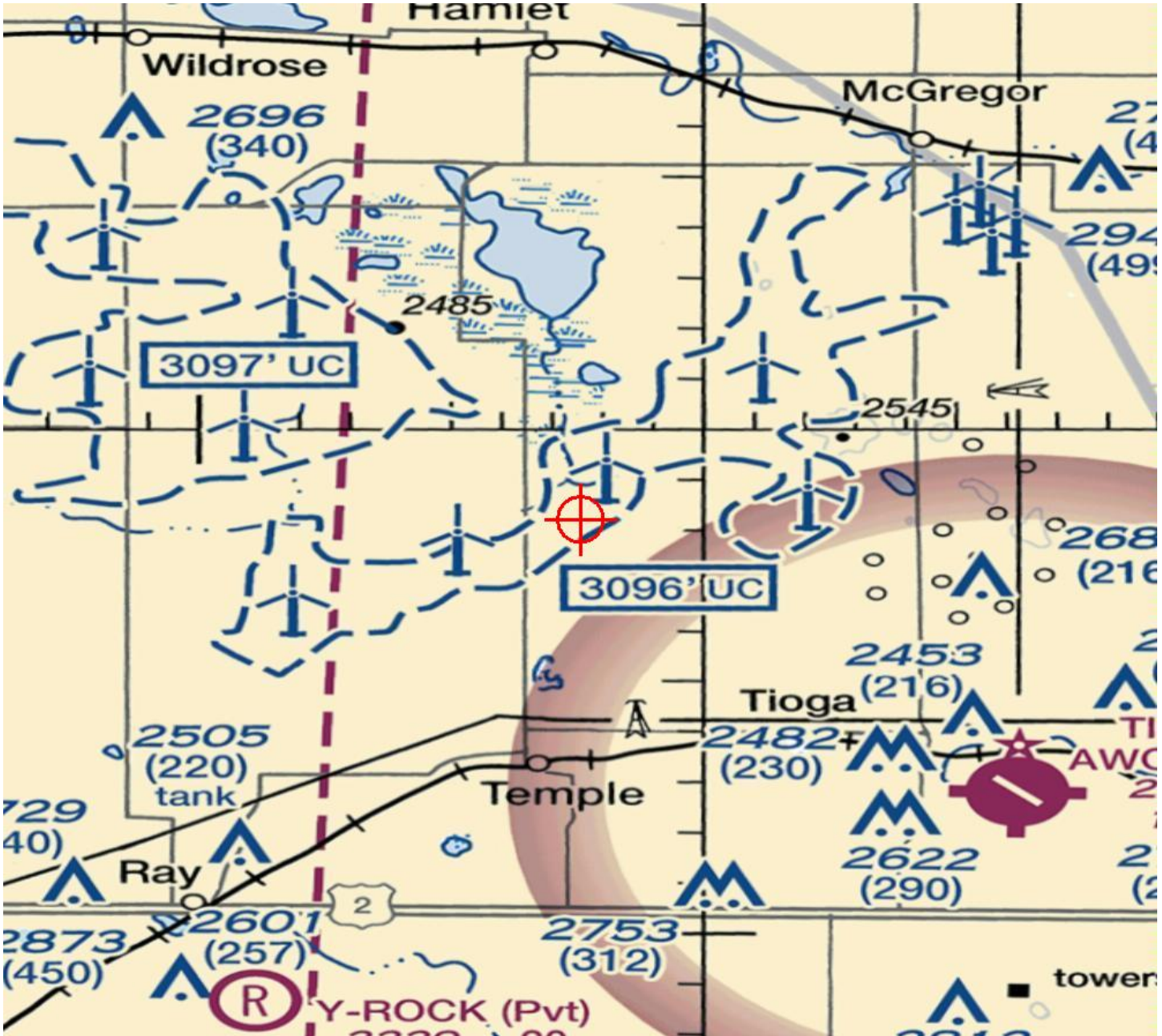
cc: FCC

**Additional information for ASN 2020-WTE-2018-OE**

There is no objection to the use of an ADLS. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

NOTE: Associated ADLS antenna filed under ASN 2020-WTE-2117-OE.

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Southwest Regional Office  
Obstruction Evaluation Group  
10101 Hillwood Parkway  
Fort Worth, TX 76177

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Aeronautical Study No.  
2020-WTE-2019-OE  
Prior Study No.  
2018-WTE-6848-OE

Issued Date: 04/21/2020

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16105 W 113th Street  
Suite 105  
Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-17
Location:	Tioga, ND
Latitude:	48-28-11.79N NAD 83
Longitude:	103-01-55.52W
Heights:	2415 feet site elevation (SE) 660 feet above ground level (AGL) 3075 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2019-OE.

**Signature Control No: 435305828-437123072**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Map(s)

cc: FCC

**Additional information for ASN 2020-WTE-2019-OE**

There is no objection to the use of an ADLS. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

NOTE: Associated ADLS antenna filed under ASN 2020-WTE-2117-OE.

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Southwest Regional Office  
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10101 Hillwood Parkway  
Fort Worth, TX 76177

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Aeronautical Study No.  
2020-WTE-2020-OE  
Prior Study No.  
2018-WTE-6849-OE

Issued Date: 04/21/2020

Leslie Strong  
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Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-18
Location:	Tioga, ND
Latitude:	48-26-34.13N NAD 83
Longitude:	103-07-50.49W
Heights:	2331 feet site elevation (SE) 660 feet above ground level (AGL) 2991 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

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

**Signature Control No: 435305829-437123082**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Map(s)

cc: FCC

**Additional information for ASN 2020-WTE-2020-OE**

There is no objection to the use of an ADLS. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

NOTE: Associated ADLS antenna filed under ASN 2020-WTE-2117-OE.

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Obstruction Evaluation Group  
10101 Hillwood Parkway  
Fort Worth, TX 76177

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Aeronautical Study No.  
2020-WTE-2021-OE  
Prior Study No.  
2018-WTE-6850-OE

Issued Date: 04/21/2020

Leslie Strong  
Aurora Wind Project, LLC  
16105 W 113th Street  
Suite 105  
Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-19
Location:	Tioga, ND
Latitude:	48-26-33.21N NAD 83
Longitude:	103-05-53.60W
Heights:	2360 feet site elevation (SE) 660 feet above ground level (AGL) 3020 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2021-OE.

**Signature Control No: 435305830-437123076**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Map(s)

cc: FCC

**Additional information for ASN 2020-WTE-2021-OE**

There is no objection to the use of an ADLS. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

NOTE: Associated ADLS antenna filed under ASN 2020-WTE-2117-OE.

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

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Aeronautical Study No.  
2020-WTE-2022-OE  
Prior Study No.  
2018-WTE-6851-OE

Issued Date: 04/21/2020

Leslie Strong  
Aurora Wind Project, LLC  
16105 W 113th Street  
Suite 105  
Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-20
Location:	Tioga, ND
Latitude:	48-27-21.84N NAD 83
Longitude:	103-08-17.62W
Heights:	2341 feet site elevation (SE) 660 feet above ground level (AGL) 3001 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2022-OE.

**Signature Control No: 435305832-437123086**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Map(s)

cc: FCC

**Additional information for ASN 2020-WTE-2022-OE**

There is no objection to the use of an ADLS. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

NOTE: Associated ADLS antenna filed under ASN 2020-WTE-2117-OE.

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

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Aeronautical Study No.  
 2020-WTE-2025-OE  
 Prior Study No.  
 2018-WTE-6854-OE

Issued Date: 04/21/2020

Leslie Strong  
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 16105 W 113th Street  
 Suite 105  
 Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure: Lighting Study for Wind Turbine T-23  
 Location: Tioga, ND  
 Latitude: 48-27-17.37N NAD 83  
 Longitude: 103-05-52.09W  
 Heights: 2391 feet site elevation (SE)  
 660 feet above ground level (AGL)  
 3051 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2025-OE.

**Signature Control No: 435305835-437123083**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Map(s)

cc: FCC

**Additional information for ASN 2020-WTE-2025-OE**

There is no objection to the use of an ADLS. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

NOTE: Associated ADLS antenna filed under ASN 2020-WTE-2117-OE.

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

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Aeronautical Study No.  
2020-WTE-2026-OE  
Prior Study No.  
2018-WTE-6855-OE

Issued Date: 04/21/2020

Leslie Strong  
Aurora Wind Project, LLC  
16105 W 113th Street  
Suite 105  
Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-24
Location:	Tioga, ND
Latitude:	48-28-11.18N NAD 83
Longitude:	103-08-27.53W
Heights:	2301 feet site elevation (SE) 660 feet above ground level (AGL) 2961 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2026-OE.

**Signature Control No: 435305836-437123088**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Map(s)

cc: FCC

**Additional information for ASN 2020-WTE-2026-OE**

There is no objection to the use of an ADLS. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

NOTE: Associated ADLS antenna filed under ASN 2020-WTE-2117-OE.

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Federal Aviation Administration  
Southwest Regional Office  
Obstruction Evaluation Group  
10101 Hillwood Parkway  
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Aeronautical Study No.  
2020-WTE-2027-OE  
Prior Study No.  
2018-WTE-6856-OE

Issued Date: 04/21/2020

Leslie Strong  
Aurora Wind Project, LLC  
16105 W 113th Street  
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Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-25
Location:	Tioga, ND
Latitude:	48-28-10.73N NAD 83
Longitude:	103-07-44.95W
Heights:	2334 feet site elevation (SE) 660 feet above ground level (AGL) 2994 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2027-OE.

**Signature Control No: 435305837-437123080**

( MAL -WT )

Lan Norris  
Specialist

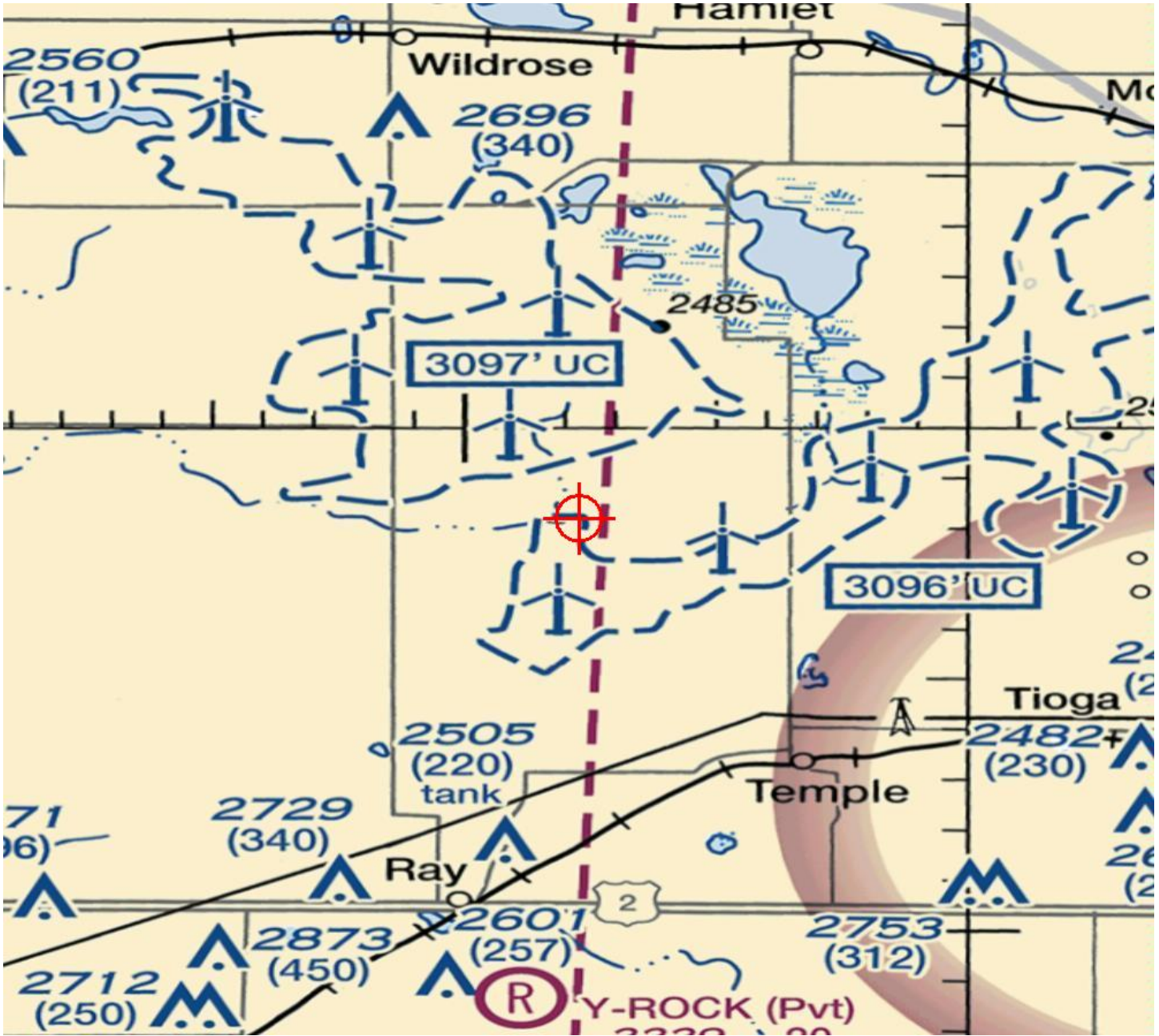
Attachment(s)  
Additional Information  
Map(s)

cc: FCC

**Additional information for ASN 2020-WTE-2027-OE**

There is no objection to the use of an ADLS. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

NOTE: Associated ADLS antenna filed under ASN 2020-WTE-2117-OE.





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Aeronautical Study No.  
2020-WTE-2029-OE  
Prior Study No.  
2018-WTE-6858-OE

Issued Date: 04/21/2020

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Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-28
Location:	Tioga, ND
Latitude:	48-29-35.94N NAD 83
Longitude:	103-03-04.57W
Heights:	2337 feet site elevation (SE) 660 feet above ground level (AGL) 2997 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2029-OE.

**Signature Control No: 435305839-437123085**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Map(s)

cc: FCC

**Additional information for ASN 2020-WTE-2029-OE**

There is no objection to the use of an ADLS. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

NOTE: Associated ADLS antenna filed under ASN 2020-WTE-2117-OE.

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Southwest Regional Office  
Obstruction Evaluation Group  
10101 Hillwood Parkway  
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Aeronautical Study No.  
2020-WTE-2030-OE  
Prior Study No.  
2018-WTE-6859-OE

Issued Date: 04/21/2020

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**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-34
Location:	Tioga, ND
Latitude:	48-29-08.02N NAD 83
Longitude:	103-09-31.30W
Heights:	2362 feet site elevation (SE) 660 feet above ground level (AGL) 3022 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2030-OE.

**Signature Control No: 435305840-437123079**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Map(s)

cc: FCC

**Additional information for ASN 2020-WTE-2030-OE**

There is no objection to the use of an ADLS. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

NOTE: Associated ADLS antenna filed under ASN 2020-WTE-2117-OE.

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Aeronautical Study No.  
2020-WTE-2031-OE  
Prior Study No.  
2018-WTE-6860-OE

Issued Date: 04/21/2020

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Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-35
Location:	Tioga, ND
Latitude:	48-29-11.93N NAD 83
Longitude:	103-08-54.12W
Heights:	2392 feet site elevation (SE) 660 feet above ground level (AGL) 3052 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2031-OE.

**Signature Control No: 435305841-437123092**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Map(s)

cc: FCC

**Additional information for ASN 2020-WTE-2031-OE**

There is no objection to the use of an ADLS. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

NOTE: Associated ADLS antenna filed under ASN 2020-WTE-2117-OE.

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Southwest Regional Office  
Obstruction Evaluation Group  
10101 Hillwood Parkway  
Fort Worth, TX 76177

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Aeronautical Study No.  
2020-WTE-2032-OE  
Prior Study No.  
2018-WTE-6861-OE

Issued Date: 04/21/2020

Leslie Strong  
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Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-37
Location:	Tioga, ND
Latitude:	48-29-39.62N NAD 83
Longitude:	103-07-16.93W
Heights:	2413 feet site elevation (SE) 660 feet above ground level (AGL) 3073 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2032-OE.

**Signature Control No: 435305842-437123093**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Map(s)

cc: FCC

**Additional information for ASN 2020-WTE-2032-OE**

There is no objection to the use of an ADLS. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

NOTE: Associated ADLS antenna filed under ASN 2020-WTE-2117-OE.





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

confidential

Aeronautical Study No.  
2020-WTE-2034-OE  
Prior Study No.  
2018-WTE-6863-OE

Issued Date: 04/21/2020

Leslie Strong  
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16105 W 113th Street  
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Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-39
Location:	Tioga, ND
Latitude:	48-29-52.24N NAD 83
Longitude:	103-06-32.53W
Heights:	2432 feet site elevation (SE) 660 feet above ground level (AGL) 3092 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2034-OE.

**Signature Control No: 435305844-437123095**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Map(s)

cc: FCC

**Additional information for ASN 2020-WTE-2034-OE**

There is no objection to the use of an ADLS. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

NOTE: Associated ADLS antenna filed under ASN 2020-WTE-2117-OE.

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

confidential

Aeronautical Study No.  
2020-WTE-2035-OE  
Prior Study No.  
2018-WTE-6864-OE

Issued Date: 04/21/2020

Leslie Strong  
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16105 W 113th Street  
Suite 105  
Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-40
Location:	Tioga, ND
Latitude:	48-30-27.31N NAD 83
Longitude:	103-05-52.23W
Heights:	2437 feet site elevation (SE) 660 feet above ground level (AGL) 3097 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2035-OE.

**Signature Control No: 435305845-437123096**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Map(s)

cc: FCC

**Additional information for ASN 2020-WTE-2035-OE**

There is no objection to the use of an ADLS. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

NOTE: Associated ADLS antenna filed under ASN 2020-WTE-2117-OE.

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

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Aeronautical Study No.  
2020-WTE-2036-OE  
Prior Study No.  
2018-WTE-6865-OE

Issued Date: 04/21/2020

Leslie Strong  
Aurora Wind Project, LLC  
16105 W 113th Street  
Suite 105  
Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-41
Location:	Tioga, ND
Latitude:	48-30-22.67N NAD 83
Longitude:	103-04-34.76W
Heights:	2387 feet site elevation (SE) 660 feet above ground level (AGL) 3047 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2036-OE.

**Signature Control No: 435305846-437123097**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Map(s)

cc: FCC

**Additional information for ASN 2020-WTE-2036-OE**

There is no objection to the use of an ADLS. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

NOTE: Associated ADLS antenna filed under ASN 2020-WTE-2117-OE.

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Southwest Regional Office  
Obstruction Evaluation Group  
10101 Hillwood Parkway  
Fort Worth, TX 76177

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Aeronautical Study No.  
2020-WTE-2037-OE  
Prior Study No.  
2018-WTE-6867-OE

Issued Date: 04/21/2020

Leslie Strong  
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16105 W 113th Street  
Suite 105  
Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-43
Location:	Tioga, ND
Latitude:	48-29-58.73N NAD 83
Longitude:	103-08-13.30W
Heights:	2385 feet site elevation (SE) 660 feet above ground level (AGL) 3045 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2037-OE.

**Signature Control No: 435305847-437123098**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Map(s)

cc: FCC

**Additional information for ASN 2020-WTE-2037-OE**

There is no objection to the use of an ADLS. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

NOTE: Associated ADLS antenna filed under ASN 2020-WTE-2117-OE.

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Aeronautical Study No.  
2020-WTE-2039-OE  
Prior Study No.  
2018-WTE-6869-OE

Issued Date: 04/21/2020

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Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-45
Location:	Tioga, ND
Latitude:	48-29-41.80N NAD 83
Longitude:	103-09-44.34W
Heights:	2377 feet site elevation (SE) 660 feet above ground level (AGL) 3037 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2039-OE.

**Signature Control No: 435305849-437123100**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Map(s)

cc: FCC

**Additional information for ASN 2020-WTE-2039-OE**

There is no objection to the use of an ADLS. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

NOTE: Associated ADLS antenna filed under ASN 2020-WTE-2117-OE.

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Aeronautical Study No.  
2020-WTE-2040-OE  
Prior Study No.  
2018-WTE-6870-OE

Issued Date: 04/21/2020

Leslie Strong  
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**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-46
Location:	Tioga, ND
Latitude:	48-29-52.78N NAD 83
Longitude:	103-09-27.81W
Heights:	2404 feet site elevation (SE) 660 feet above ground level (AGL) 3064 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2040-OE.

**Signature Control No: 435305850-437123101**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Map(s)

cc: FCC

**Additional information for ASN 2020-WTE-2040-OE**

There is no objection to the use of an ADLS. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

NOTE: Associated ADLS antenna filed under ASN 2020-WTE-2117-OE.

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Southwest Regional Office  
Obstruction Evaluation Group  
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Aeronautical Study No.  
2020-WTE-2041-OE  
Prior Study No.  
2018-WTE-6871-OE

Issued Date: 04/21/2020

Leslie Strong  
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16105 W 113th Street  
Suite 105  
Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-47
Location:	Tioga, ND
Latitude:	48-29-26.99N NAD 83
Longitude:	103-10-12.69W
Heights:	2332 feet site elevation (SE) 660 feet above ground level (AGL) 2992 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2041-OE.

**Signature Control No: 435305851-437123102**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Map(s)

cc: FCC

**Additional information for ASN 2020-WTE-2041-OE**

There is no objection to the use of an ADLS. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

NOTE: Associated ADLS antenna filed under ASN 2020-WTE-2117-OE.

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

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Aeronautical Study No.  
2020-WTE-2042-OE  
Prior Study No.  
2018-WTE-6875-OE

Issued Date: 04/21/2020

Leslie Strong  
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16105 W 113th Street  
Suite 105  
Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-51
Location:	Tioga, ND
Latitude:	48-30-31.42N NAD 83
Longitude:	103-11-44.52W
Heights:	2349 feet site elevation (SE) 660 feet above ground level (AGL) 3009 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2042-OE.

**Signature Control No: 435305852-437123103**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Map(s)

cc: FCC

**Additional information for ASN 2020-WTE-2042-OE**

There is no objection to the use of an ADLS. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

NOTE: Associated ADLS antenna filed under ASN 2020-WTE-2117-OE.

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Federal Aviation Administration  
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Aeronautical Study No.  
2020-WTE-2043-OE  
Prior Study No.  
2018-WTE-6877-OE

Issued Date: 04/21/2020

Leslie Strong  
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Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-53
Location:	Tioga, ND
Latitude:	48-30-43.12N NAD 83
Longitude:	103-11-04.48W
Heights:	2365 feet site elevation (SE) 660 feet above ground level (AGL) 3025 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2043-OE.

**Signature Control No: 435305853-437123104**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Map(s)

cc: FCC

**Additional information for ASN 2020-WTE-2043-OE**

There is no objection to the use of an ADLS. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

NOTE: Associated ADLS antenna filed under ASN 2020-WTE-2117-OE.

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10101 Hillwood Parkway  
Fort Worth, TX 76177

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Aeronautical Study No.  
2020-WTE-2044-OE  
Prior Study No.  
2018-WTE-6878-OE

Issued Date: 04/21/2020

Leslie Strong  
Aurora Wind Project, LLC  
16105 W 113th Street  
Suite 105  
Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-54
Location:	Tioga, ND
Latitude:	48-30-54.35N NAD 83
Longitude:	103-10-28.78W
Heights:	2342 feet site elevation (SE) 660 feet above ground level (AGL) 3002 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2044-OE.

**Signature Control No: 435305854-437123105**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Map(s)

cc: FCC

**Additional information for ASN 2020-WTE-2044-OE**

There is no objection to the use of an ADLS. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

NOTE: Associated ADLS antenna filed under ASN 2020-WTE-2117-OE.

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10101 Hillwood Parkway  
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Aeronautical Study No.  
2020-WTE-2045-OE  
Prior Study No.  
2018-WTE-6879-OE

Issued Date: 04/21/2020

Leslie Strong  
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16105 W 113th Street  
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Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-55
Location:	Tioga, ND
Latitude:	48-30-47.38N NAD 83
Longitude:	103-09-38.73W
Heights:	2393 feet site elevation (SE) 660 feet above ground level (AGL) 3053 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2045-OE.

**Signature Control No: 435305855-437123106**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Map(s)

cc: FCC

**Additional information for ASN 2020-WTE-2045-OE**

There is no objection to the use of an ADLS. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

NOTE: Associated ADLS antenna filed under ASN 2020-WTE-2117-OE.

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Aeronautical Study No.  
2020-WTE-2046-OE  
Prior Study No.  
2018-WTE-6880-OE

Issued Date: 04/21/2020

Leslie Strong  
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**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-56
Location:	Tioga, ND
Latitude:	48-30-19.05N NAD 83
Longitude:	103-09-14.60W
Heights:	2415 feet site elevation (SE) 660 feet above ground level (AGL) 3075 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2046-OE.

**Signature Control No: 435305856-437123107**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Map(s)

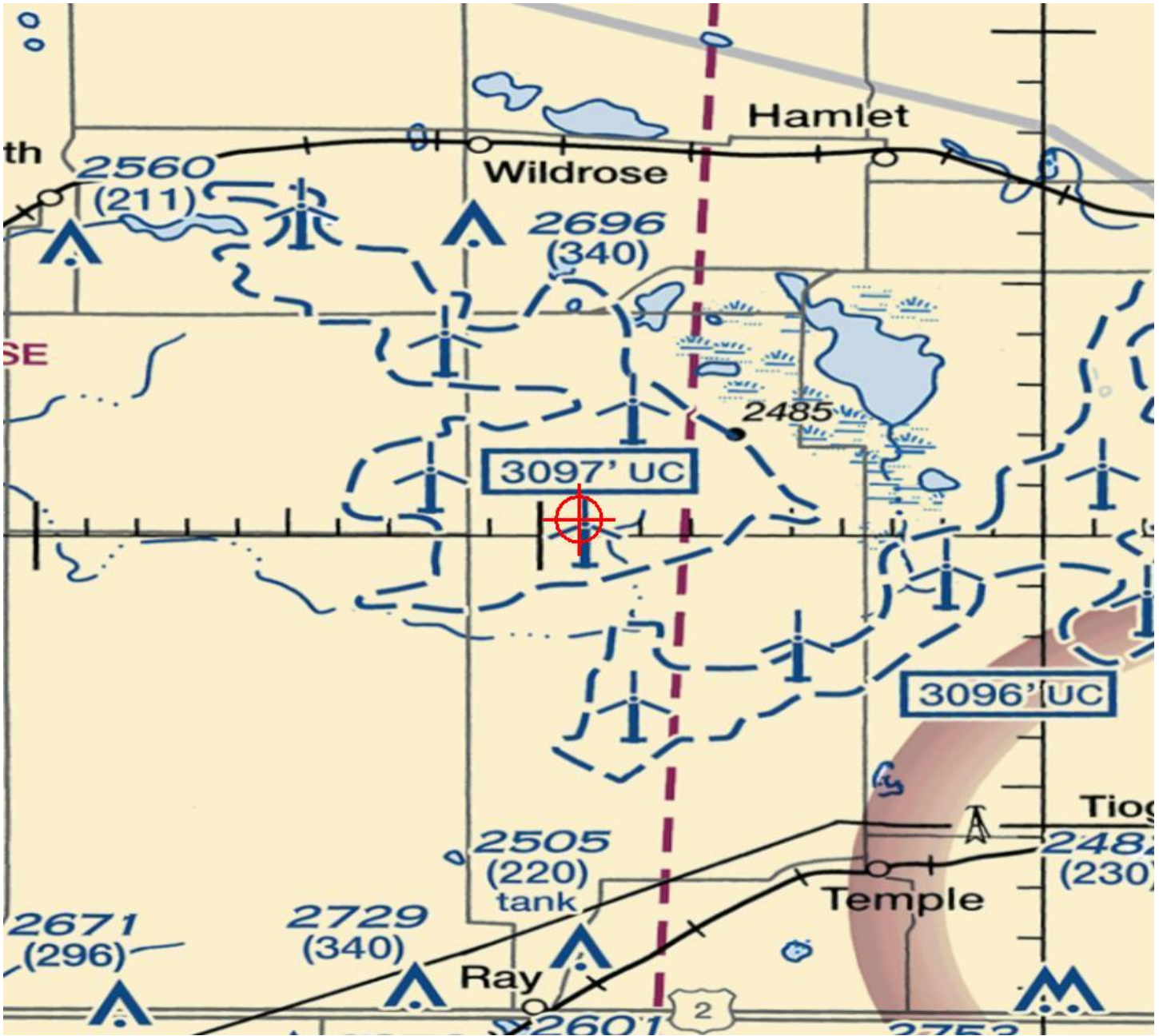
cc: FCC

**Additional information for ASN 2020-WTE-2046-OE**

There is no objection to the use of an ADLS. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

NOTE: Associated ADLS antenna filed under ASN 2020-WTE-2117-OE.

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Aeronautical Study No.  
2020-WTE-2047-OE  
Prior Study No.  
2018-WTE-6881-OE

Issued Date: 04/21/2020

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**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-57
Location:	Tioga, ND
Latitude:	48-29-26.24N NAD 83
Longitude:	103-10-49.48W
Heights:	2301 feet site elevation (SE) 660 feet above ground level (AGL) 2961 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2047-OE.

**Signature Control No: 435305857-437123108**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Map(s)

cc: FCC

**Additional information for ASN 2020-WTE-2047-OE**

There is no objection to the use of an ADLS. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

NOTE: Associated ADLS antenna filed under ASN 2020-WTE-2117-OE.

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Aeronautical Study No.  
2020-WTE-2048-OE  
Prior Study No.  
2018-WTE-6882-OE

Issued Date: 04/21/2020

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Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-58
Location:	Tioga, ND
Latitude:	48-30-27.24N NAD 83
Longitude:	103-05-08.48W
Heights:	2433 feet site elevation (SE) 660 feet above ground level (AGL) 3093 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2048-OE.

**Signature Control No: 435305858-437123111**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Map(s)

cc: FCC

**Additional information for ASN 2020-WTE-2048-OE**

There is no objection to the use of an ADLS. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

NOTE: Associated ADLS antenna filed under ASN 2020-WTE-2117-OE.

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Aeronautical Study No.  
2020-WTE-2049-OE  
Prior Study No.  
2018-WTE-6883-OE

Issued Date: 04/21/2020

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Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-59
Location:	Tioga, ND
Latitude:	48-30-43.92N NAD 83
Longitude:	103-07-07.87W
Heights:	2419 feet site elevation (SE) 660 feet above ground level (AGL) 3079 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2049-OE.

**Signature Control No: 435305859-437123110**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Map(s)

cc: FCC

**Additional information for ASN 2020-WTE-2049-OE**

There is no objection to the use of an ADLS. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

NOTE: Associated ADLS antenna filed under ASN 2020-WTE-2117-OE.

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

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Aeronautical Study No.  
2020-WTE-2052-OE  
Prior Study No.  
2018-WTE-6886-OE

Issued Date: 04/21/2020

Leslie Strong  
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16105 W 113th Street  
Suite 105  
Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-62
Location:	Tioga, ND
Latitude:	48-30-45.64N NAD 83
Longitude:	103-05-40.00W
Heights:	2432 feet site elevation (SE) 660 feet above ground level (AGL) 3092 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2052-OE.

**Signature Control No: 435305862-437123114**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Map(s)

cc: FCC

**Additional information for ASN 2020-WTE-2052-OE**

There is no objection to the use of an ADLS. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

NOTE: Associated ADLS antenna filed under ASN 2020-WTE-2117-OE.

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

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Aeronautical Study No.  
2020-WTE-2054-OE  
Prior Study No.  
2018-WTE-6888-OE

Issued Date: 04/21/2020

Leslie Strong  
Aurora Wind Project, LLC  
16105 W 113th Street  
Suite 105  
Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-66
Location:	Tioga, ND
Latitude:	48-31-40.36N NAD 83
Longitude:	103-13-07.49W
Heights:	2396 feet site elevation (SE) 660 feet above ground level (AGL) 3056 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2054-OE.

**Signature Control No: 435305864-437123116**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Map(s)

cc: FCC

**Additional information for ASN 2020-WTE-2054-OE**

There is no objection to the use of an ADLS. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

NOTE: Associated ADLS antenna filed under ASN 2020-WTE-2117-OE.

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

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Aeronautical Study No.  
2020-WTE-2055-OE  
Prior Study No.  
2018-WTE-6889-OE

Issued Date: 04/21/2020

Leslie Strong  
Aurora Wind Project, LLC  
16105 W 113th Street  
Suite 105  
Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-67
Location:	Tioga, ND
Latitude:	48-31-40.17N NAD 83
Longitude:	103-12-46.81W
Heights:	2394 feet site elevation (SE) 660 feet above ground level (AGL) 3054 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2055-OE.

**Signature Control No: 435305865-437123117**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Map(s)

cc: FCC

**Additional information for ASN 2020-WTE-2055-OE**

There is no objection to the use of an ADLS. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

NOTE: Associated ADLS antenna filed under ASN 2020-WTE-2117-OE.

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Southwest Regional Office  
Obstruction Evaluation Group  
10101 Hillwood Parkway  
Fort Worth, TX 76177

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Aeronautical Study No.  
2020-WTE-2056-OE  
Prior Study No.  
2018-WTE-6890-OE

Issued Date: 04/21/2020

Leslie Strong  
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16105 W 113th Street  
Suite 105  
Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-68
Location:	Tioga, ND
Latitude:	48-31-39.44N NAD 83
Longitude:	103-12-18.79W
Heights:	2374 feet site elevation (SE) 660 feet above ground level (AGL) 3034 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2056-OE.

**Signature Control No: 435305866-437123118**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Map(s)

cc: FCC

**Additional information for ASN 2020-WTE-2056-OE**

There is no objection to the use of an ADLS. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

NOTE: Associated ADLS antenna filed under ASN 2020-WTE-2117-OE.

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

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Aeronautical Study No.  
 2020-WTE-2058-OE  
 Prior Study No.  
 2018-WTE-6892-OE

Issued Date: 04/21/2020

Leslie Strong  
 Aurora Wind Project, LLC  
 16105 W 113th Street  
 Suite 105  
 Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure: Lighting Study for Wind Turbine T-70  
 Location: Tioga, ND  
 Latitude: 48-31-15.93N NAD 83  
 Longitude: 103-11-07.49W  
 Heights: 2422 feet site elevation (SE)  
 660 feet above ground level (AGL)  
 3082 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2058-OE.

**Signature Control No: 435305868-437123120**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Map(s)

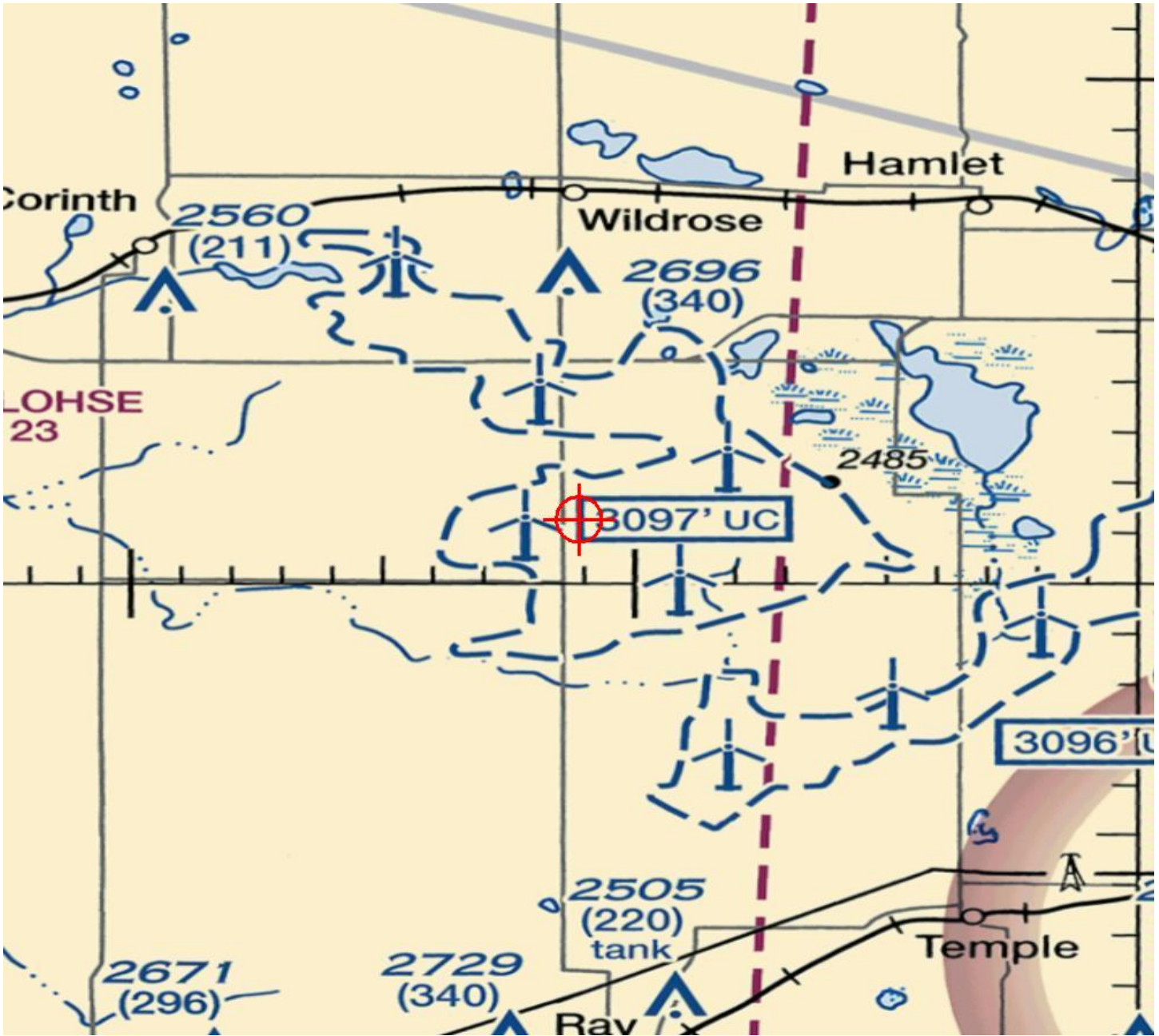
cc: FCC

**Additional information for ASN 2020-WTE-2058-OE**

There is no objection to the use of an ADLS. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

NOTE: Associated ADLS antenna filed under ASN 2020-WTE-2117-OE.

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Southwest Regional Office  
Obstruction Evaluation Group  
10101 Hillwood Parkway  
Fort Worth, TX 76177

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Aeronautical Study No.  
2020-WTE-2060-OE  
Prior Study No.  
2018-WTE-6894-OE

Issued Date: 04/21/2020

Leslie Strong  
Aurora Wind Project, LLC  
16105 W 113th Street  
Suite 105  
Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-72
Location:	Tioga, ND
Latitude:	48-31-34.86N NAD 83
Longitude:	103-09-46.87W
Heights:	2388 feet site elevation (SE) 660 feet above ground level (AGL) 3048 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2060-OE.

**Signature Control No: 435305870-437123123**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Map(s)

cc: FCC

**Additional information for ASN 2020-WTE-2060-OE**

There is no objection to the use of an ADLS. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

NOTE: Associated ADLS antenna filed under ASN 2020-WTE-2117-OE.

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

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Aeronautical Study No.  
2020-WTE-2061-OE  
Prior Study No.  
2018-WTE-6895-OE

Issued Date: 04/21/2020

Leslie Strong  
Aurora Wind Project, LLC  
16105 W 113th Street  
Suite 105  
Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-73
Location:	Tioga, ND
Latitude:	48-31-14.67N NAD 83
Longitude:	103-08-58.23W
Heights:	2411 feet site elevation (SE) 660 feet above ground level (AGL) 3071 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2061-OE.

**Signature Control No: 435305871-437123124**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Map(s)

cc: FCC

**Additional information for ASN 2020-WTE-2061-OE**

There is no objection to the use of an ADLS. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

NOTE: Associated ADLS antenna filed under ASN 2020-WTE-2117-OE.

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

confidential

Aeronautical Study No.  
2020-WTE-2062-OE  
Prior Study No.  
2018-WTE-6896-OE

Issued Date: 04/21/2020

Leslie Strong  
Aurora Wind Project, LLC  
16105 W 113th Street  
Suite 105  
Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-74
Location:	Tioga, ND
Latitude:	48-30-55.04N NAD 83
Longitude:	103-09-19.69W
Heights:	2403 feet site elevation (SE) 660 feet above ground level (AGL) 3063 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2062-OE.

**Signature Control No: 435305872-437123125**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Map(s)

cc: FCC

**Additional information for ASN 2020-WTE-2062-OE**

There is no objection to the use of an ADLS. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

NOTE: Associated ADLS antenna filed under ASN 2020-WTE-2117-OE.

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

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Aeronautical Study No.  
2020-WTE-2063-OE  
Prior Study No.  
2018-WTE-6897-OE

Issued Date: 04/21/2020

Leslie Strong  
Aurora Wind Project, LLC  
16105 W 113th Street  
Suite 105  
Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-75
Location:	Tioga, ND
Latitude:	48-31-27.94N NAD 83
Longitude:	103-06-47.73W
Heights:	2404 feet site elevation (SE) 660 feet above ground level (AGL) 3064 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2063-OE.

**Signature Control No: 435305873-437123126**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Map(s)

cc: FCC

**Additional information for ASN 2020-WTE-2063-OE**

There is no objection to the use of an ADLS. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

NOTE: Associated ADLS antenna filed under ASN 2020-WTE-2117-OE.

confidential



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

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Aeronautical Study No.  
2020-WTE-2065-OE  
Prior Study No.  
2018-WTE-6899-OE

Issued Date: 04/17/2020

Leslie Strong  
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Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-77
Location:	Tioga, ND
Latitude:	48-31-40.13N NAD 83
Longitude:	103-05-55.32W
Heights:	2421 feet site elevation (SE) 660 feet above ground level (AGL) 3081 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2065-OE.

**Signature Control No: 435305875-436855425**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Case Description

cc: FCC

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

There is no objection to the use of an ADLS for the associated wind farm. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

## Case Description for ASN 2020-WTE-2065-OE

Filing is for ADLS consideration for wind farm located in Tioga, ND. ADLS Radar structure is replacing previously filed turbine 2018-WTE-6956-OE. Not all structures on project array are requesting ADLS. Tioga, ND.



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Aeronautical Study No.  
 2020-WTE-2066-OE  
 Prior Study No.  
 2018-WTE-6900-OE

Issued Date: 04/17/2020

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 Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-78
Location:	Tioga, ND
Latitude:	48-32-06.30N NAD 83
Longitude:	103-06-37.14W
Heights:	2419 feet site elevation (SE) 660 feet above ground level (AGL) 3079 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2066-OE.

**Signature Control No: 435305876-436855413**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Case Description

cc: FCC

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

There is no objection to the use of an ADLS for the associated wind farm. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

## Case Description for ASN 2020-WTE-2066-OE

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Filing is for ADLS consideration for wind farm located in Tioga, ND. ADLS Radar structure is replacing previously filed turbine 2018-WTE-6956-OE. Not all structures on project array are requesting ADLS. Tioga, ND.



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Obstruction Evaluation Group  
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Aeronautical Study No.  
2020-WTE-2068-OE  
Prior Study No.  
2018-WTE-6902-OE

Issued Date: 04/17/2020

Leslie Strong  
Aurora Wind Project, LLC  
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Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-80
Location:	Tioga, ND
Latitude:	48-32-29.21N NAD 83
Longitude:	103-07-51.58W
Heights:	2345 feet site elevation (SE) 660 feet above ground level (AGL) 3005 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2068-OE.

**Signature Control No: 435305878-436855426**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Case Description

cc: FCC

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

There is no objection to the use of an ADLS for the associated wind farm. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

## Case Description for ASN 2020-WTE-2068-OE

Filing is for ADLS consideration for wind farm located in Tioga, ND. ADLS Radar structure is replacing previously filed turbine 2018-WTE-6956-OE. Not all structures on project array are requesting ADLS. Tioga, ND.



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Obstruction Evaluation Group  
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Aeronautical Study No.  
2020-WTE-2069-OE  
Prior Study No.  
2018-WTE-6903-OE

Issued Date: 04/17/2020

Leslie Strong  
Aurora Wind Project, LLC  
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Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-81
Location:	Tioga, ND
Latitude:	48-32-13.83N NAD 83
Longitude:	103-11-41.78W
Heights:	2399 feet site elevation (SE) 660 feet above ground level (AGL) 3059 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2069-OE.

**Signature Control No: 435305879-436855427**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Case Description

cc: FCC

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

There is no objection to the use of an ADLS for the associated wind farm. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

## Case Description for ASN 2020-WTE-2069-OE

Filing is for ADLS consideration for wind farm located in Tioga, ND. ADLS Radar structure is replacing previously filed turbine 2018-WTE-6956-OE. Not all structures on project array are requesting ADLS. Tioga, ND.



Mail Processing Center  
Federal Aviation Administration  
Southwest Regional Office  
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Aeronautical Study No.  
2020-WTE-2070-OE  
Prior Study No.  
2018-WTE-6904-OE

Issued Date: 04/17/2020

Leslie Strong  
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Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-83
Location:	Tioga, ND
Latitude:	48-32-04.76N NAD 83
Longitude:	103-10-49.69W
Heights:	2400 feet site elevation (SE) 660 feet above ground level (AGL) 3060 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2070-OE.

**Signature Control No: 435305880-436855420**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Case Description

cc: FCC

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

There is no objection to the use of an ADLS for the associated wind farm. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

## Case Description for ASN 2020-WTE-2070-OE

Filing is for ADLS consideration for wind farm located in Tioga, ND. ADLS Radar structure is replacing previously filed turbine 2018-WTE-6956-OE. Not all structures on project array are requesting ADLS. Tioga, ND.



Mail Processing Center  
Federal Aviation Administration  
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Aeronautical Study No.  
2020-WTE-2071-OE  
Prior Study No.  
2018-WTE-6905-OE

Issued Date: 04/17/2020

Leslie Strong  
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Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-84
Location:	Tioga, ND
Latitude:	48-32-11.45N NAD 83
Longitude:	103-10-17.18W
Heights:	2378 feet site elevation (SE) 660 feet above ground level (AGL) 3038 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2071-OE.

**Signature Control No: 435305881-436855418**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Case Description

cc: FCC

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

There is no objection to the use of an ADLS for the associated wind farm. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

## Case Description for ASN 2020-WTE-2071-OE

Filing is for ADLS consideration for wind farm located in Tioga, ND. ADLS Radar structure is replacing previously filed turbine 2018-WTE-6956-OE. Not all structures on project array are requesting ADLS. Tioga, ND.



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

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Aeronautical Study No.  
2020-WTE-2072-OE  
Prior Study No.  
2018-WTE-6906-OE

Issued Date: 04/17/2020

Leslie Strong  
Aurora Wind Project, LLC  
16105 W 113th Street  
Suite 105  
Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-85
Location:	Tioga, ND
Latitude:	48-32-13.94N NAD 83
Longitude:	103-09-47.48W
Heights:	2381 feet site elevation (SE) 660 feet above ground level (AGL) 3041 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2072-OE.

**Signature Control No: 435305882-436855412**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Case Description

cc: FCC

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

There is no objection to the use of an ADLS for the associated wind farm. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

## Case Description for ASN 2020-WTE-2072-OE

Filing is for ADLS consideration for wind farm located in Tioga, ND. ADLS Radar structure is replacing previously filed turbine 2018-WTE-6956-OE. Not all structures on project array are requesting ADLS. Tioga, ND.



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Aeronautical Study No.  
 2020-WTE-2074-OE  
 Prior Study No.  
 2018-WTE-6908-OE

Issued Date: 04/17/2020

Leslie Strong  
 Aurora Wind Project, LLC  
 16105 W 113th Street  
 Suite 105  
 Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure: Lighting Study for Wind Turbine T-87  
 Location: Tioga, ND  
 Latitude: 48-32-39.46N NAD 83  
 Longitude: 103-08-59.97W  
 Heights: 2344 feet site elevation (SE)  
 660 feet above ground level (AGL)  
 3004 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2074-OE.

**Signature Control No: 435305884-436855433**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Case Description

cc: FCC

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

There is no objection to the use of an ADLS for the associated wind farm. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

## Case Description for ASN 2020-WTE-2074-OE

Filing is for ADLS consideration for wind farm located in Tioga, ND. ADLS Radar structure is replacing previously filed turbine 2018-WTE-6956-OE. Not all structures on project array are requesting ADLS. Tioga, ND.



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Obstruction Evaluation Group  
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Aeronautical Study No.  
2020-WTE-2076-OE  
Prior Study No.  
2018-WTE-6910-OE

Issued Date: 04/17/2020

Leslie Strong  
Aurora Wind Project, LLC  
16105 W 113th Street  
Suite 105  
Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-89
Location:	Tioga, ND
Latitude:	48-32-57.59N NAD 83
Longitude:	103-07-51.06W
Heights:	2344 feet site elevation (SE) 660 feet above ground level (AGL) 3004 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2076-OE.

**Signature Control No: 435305886-436855428**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Case Description

cc: FCC

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

There is no objection to the use of an ADLS for the associated wind farm. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

## Case Description for ASN 2020-WTE-2076-OE

Filing is for ADLS consideration for wind farm located in Tioga, ND. ADLS Radar structure is replacing previously filed turbine 2018-WTE-6956-OE. Not all structures on project array are requesting ADLS. Tioga, ND.



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Aeronautical Study No.  
2020-WTE-2077-OE  
Prior Study No.  
2018-WTE-6911-OE

Issued Date: 04/17/2020

Leslie Strong  
Aurora Wind Project, LLC  
16105 W 113th Street  
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Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-90
Location:	Tioga, ND
Latitude:	48-32-59.14N NAD 83
Longitude:	103-10-01.28W
Heights:	2383 feet site elevation (SE) 660 feet above ground level (AGL) 3043 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2077-OE.

**Signature Control No: 435305887-436855415**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Case Description

cc: FCC

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

There is no objection to the use of an ADLS for the associated wind farm. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

## Case Description for ASN 2020-WTE-2077-OE

Filing is for ADLS consideration for wind farm located in Tioga, ND. ADLS Radar structure is replacing previously filed turbine 2018-WTE-6956-OE. Not all structures on project array are requesting ADLS. Tioga, ND.



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Aeronautical Study No.  
2020-WTE-2080-OE  
Prior Study No.  
2018-WTE-6914-OE

Issued Date: 04/17/2020

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Aurora Wind Project, LLC  
16105 W 113th Street  
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Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-93
Location:	Tioga, ND
Latitude:	48-33-04.97N NAD 83
Longitude:	103-12-13.15W
Heights:	2422 feet site elevation (SE) 660 feet above ground level (AGL) 3082 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2080-OE.

**Signature Control No: 435305890-436855424**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Case Description

cc: FCC

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

There is no objection to the use of an ADLS for the associated wind farm. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

## Case Description for ASN 2020-WTE-2080-OE

Filing is for ADLS consideration for wind farm located in Tioga, ND. ADLS Radar structure is replacing previously filed turbine 2018-WTE-6956-OE. Not all structures on project array are requesting ADLS. Tioga, ND.



Mail Processing Center  
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Aeronautical Study No.  
2020-WTE-2082-OE  
Prior Study No.  
2018-WTE-6916-OE

Issued Date: 04/17/2020

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Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-95
Location:	Tioga, ND
Latitude:	48-33-03.59N NAD 83
Longitude:	103-11-03.01W
Heights:	2423 feet site elevation (SE) 660 feet above ground level (AGL) 3083 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2082-OE.

**Signature Control No: 435305892-436855423**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Case Description

cc: FCC

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

There is no objection to the use of an ADLS for the associated wind farm. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

## Case Description for ASN 2020-WTE-2082-OE

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Filing is for ADLS consideration for wind farm located in Tioga, ND. ADLS Radar structure is replacing previously filed turbine 2018-WTE-6956-OE. Not all structures on project array are requesting ADLS. Tioga, ND.



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Aeronautical Study No.  
2020-WTE-2083-OE  
Prior Study No.  
2018-WTE-6917-OE

Issued Date: 04/17/2020

Leslie Strong  
Aurora Wind Project, LLC  
16105 W 113th Street  
Suite 105  
Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-96
Location:	Tioga, ND
Latitude:	48-33-18.42N NAD 83
Longitude:	103-10-40.95W
Heights:	2403 feet site elevation (SE) 660 feet above ground level (AGL) 3063 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2083-OE.

**Signature Control No: 435305893-436855419**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Case Description

cc: FCC

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

There is no objection to the use of an ADLS for the associated wind farm. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

## Case Description for ASN 2020-WTE-2083-OE

Filing is for ADLS consideration for wind farm located in Tioga, ND. ADLS Radar structure is replacing previously filed turbine 2018-WTE-6956-OE. Not all structures on project array are requesting ADLS. Tioga, ND.



Mail Processing Center  
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Southwest Regional Office  
Obstruction Evaluation Group  
10101 Hillwood Parkway  
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Aeronautical Study No.  
2020-WTE-2084-OE  
Prior Study No.  
2018-WTE-6918-OE

Issued Date: 04/17/2020

Leslie Strong  
Aurora Wind Project, LLC  
16105 W 113th Street  
Suite 105  
Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-97
Location:	Tioga, ND
Latitude:	48-33-32.15N NAD 83
Longitude:	103-09-58.74W
Heights:	2392 feet site elevation (SE) 660 feet above ground level (AGL) 3052 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2084-OE.

**Signature Control No: 435305894-436855438**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Case Description

cc: FCC

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

There is no objection to the use of an ADLS for the associated wind farm. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

## Case Description for ASN 2020-WTE-2084-OE

Filing is for ADLS consideration for wind farm located in Tioga, ND. ADLS Radar structure is replacing previously filed turbine 2018-WTE-6956-OE. Not all structures on project array are requesting ADLS. Tioga, ND.



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Aeronautical Study No.  
2020-WTE-2085-OE  
Prior Study No.  
2018-WTE-6919-OE

Issued Date: 04/17/2020

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**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-98
Location:	Tioga, ND
Latitude:	48-33-27.39N NAD 83
Longitude:	103-13-00.21W
Heights:	2382 feet site elevation (SE) 660 feet above ground level (AGL) 3042 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2085-OE.

**Signature Control No: 435305895-436855439**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Case Description

cc: FCC

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

There is no objection to the use of an ADLS for the associated wind farm. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

## Case Description for ASN 2020-WTE-2085-OE

Filing is for ADLS consideration for wind farm located in Tioga, ND. ADLS Radar structure is replacing previously filed turbine 2018-WTE-6956-OE. Not all structures on project array are requesting ADLS. Tioga, ND.



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Aeronautical Study No.  
2020-WTE-2090-OE  
Prior Study No.  
2018-WTE-6924-OE

Issued Date: 04/17/2020

Leslie Strong  
Aurora Wind Project, LLC  
16105 W 113th Street  
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Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-107
Location:	Tioga, ND
Latitude:	48-34-00.26N NAD 83
Longitude:	103-10-24.03W
Heights:	2359 feet site elevation (SE) 660 feet above ground level (AGL) 3019 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2090-OE.

**Signature Control No: 435305900-436855445**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Case Description

cc: FCC

**Additional information for ASN 2020-WTE-2090-OE**

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

There is no objection to the use of an ADLS for the associated wind farm. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

## Case Description for ASN 2020-WTE-2090-OE

Filing is for ADLS consideration for wind farm located in Tioga, ND. ADLS Radar structure is replacing previously filed turbine 2018-WTE-6956-OE. Not all structures on project array are requesting ADLS. Tioga, ND.



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Aeronautical Study No.  
2020-WTE-2093-OE  
Prior Study No.  
2018-WTE-6927-OE

Issued Date: 04/17/2020

Leslie Strong  
Aurora Wind Project, LLC  
16105 W 113th Street  
Suite 105  
Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-110
Location:	Tioga, ND
Latitude:	48-33-55.23N NAD 83
Longitude:	103-09-12.89W
Heights:	2349 feet site elevation (SE) 660 feet above ground level (AGL) 3009 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2093-OE.

**Signature Control No: 435305903-436855450**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Case Description

cc: FCC

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

There is no objection to the use of an ADLS for the associated wind farm. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

## Case Description for ASN 2020-WTE-2093-OE

Filing is for ADLS consideration for wind farm located in Tioga, ND. ADLS Radar structure is replacing previously filed turbine 2018-WTE-6956-OE. Not all structures on project array are requesting ADLS. Tioga, ND.



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Aeronautical Study No.  
 2020-WTE-2094-OE  
 Prior Study No.  
 2018-WTE-6930-OE

Issued Date: 04/17/2020

Leslie Strong  
 Aurora Wind Project, LLC  
 16105 W 113th Street  
 Suite 105  
 Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-120
Location:	Tioga, ND
Latitude:	48-34-43.42N NAD 83
Longitude:	103-11-38.26W
Heights:	2373 feet site elevation (SE) 660 feet above ground level (AGL) 3033 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2094-OE.

**Signature Control No: 435305904-436855451**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Case Description

cc: FCC

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

There is no objection to the use of an ADLS for the associated wind farm. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

## Case Description for ASN 2020-WTE-2094-OE

Filing is for ADLS consideration for wind farm located in Tioga, ND. ADLS Radar structure is replacing previously filed turbine 2018-WTE-6956-OE. Not all structures on project array are requesting ADLS. Tioga, ND.



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Aeronautical Study No.  
2020-WTE-2096-OE  
Prior Study No.  
2018-WTE-6932-OE

Issued Date: 04/17/2020

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Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-122
Location:	Tioga, ND
Latitude:	48-34-58.40N NAD 83
Longitude:	103-09-36.04W
Heights:	2331 feet site elevation (SE) 660 feet above ground level (AGL) 2991 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2096-OE.

**Signature Control No: 435305906-436855453**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Case Description

cc: FCC

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

There is no objection to the use of an ADLS for the associated wind farm. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

## Case Description for ASN 2020-WTE-2096-OE

Filing is for ADLS consideration for wind farm located in Tioga, ND. ADLS Radar structure is replacing previously filed turbine 2018-WTE-6956-OE. Not all structures on project array are requesting ADLS. Tioga, ND.



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 Fort Worth, TX 76177

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Aeronautical Study No.  
 2020-WTE-2098-OE  
 Prior Study No.  
 2018-WTE-6934-OE

Issued Date: 04/17/2020

Leslie Strong  
 Aurora Wind Project, LLC  
 16105 W 113th Street  
 Suite 105  
 Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure: Lighting Study for Wind Turbine T-124  
 Location: Tioga, ND  
 Latitude: 48-34-56.32N NAD 83  
 Longitude: 103-09-07.94W  
 Heights: 2332 feet site elevation (SE)  
 660 feet above ground level (AGL)  
 2992 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2098-OE.

**Signature Control No: 435305908-436855455**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Case Description

cc: FCC

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

There is no objection to the use of an ADLS for the associated wind farm. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

## Case Description for ASN 2020-WTE-2098-OE

Filing is for ADLS consideration for wind farm located in Tioga, ND. ADLS Radar structure is replacing previously filed turbine 2018-WTE-6956-OE. Not all structures on project array are requesting ADLS. Tioga, ND.



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Aeronautical Study No.  
2020-WTE-2099-OE  
Prior Study No.  
2018-WTE-6949-OE

Issued Date: 04/17/2020

Leslie Strong  
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Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-152
Location:	Tioga, ND
Latitude:	48-34-08.73N NAD 83
Longitude:	103-08-27.07W
Heights:	2308 feet site elevation (SE) 660 feet above ground level (AGL) 2968 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2099-OE.

**Signature Control No: 435305909-436855457**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Case Description

cc: FCC

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

There is no objection to the use of an ADLS for the associated wind farm. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

## Case Description for ASN 2020-WTE-2099-OE

Filing is for ADLS consideration for wind farm located in Tioga, ND. ADLS Radar structure is replacing previously filed turbine 2018-WTE-6956-OE. Not all structures on project array are requesting ADLS. Tioga, ND.



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Aeronautical Study No.  
2020-WTE-2100-OE  
Prior Study No.  
2018-WTE-6950-OE

Issued Date: 04/17/2020

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**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-153
Location:	Tioga, ND
Latitude:	48-29-55.89N NAD 83
Longitude:	103-02-21.84W
Heights:	2344 feet site elevation (SE) 660 feet above ground level (AGL) 3004 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2100-OE.

**Signature Control No: 435305910-436855460**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Case Description

cc: FCC

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

There is no objection to the use of an ADLS for the associated wind farm. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

## Case Description for ASN 2020-WTE-2100-OE

Filing is for ADLS consideration for wind farm located in Tioga, ND. ADLS Radar structure is replacing previously filed turbine 2018-WTE-6956-OE. Not all structures on project array are requesting ADLS. Tioga, ND.



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Aeronautical Study No.  
2020-WTE-2101-OE  
Prior Study No.  
2018-WTE-6951-OE

Issued Date: 04/17/2020

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Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-154
Location:	Tioga, ND
Latitude:	48-30-02.05N NAD 83
Longitude:	103-01-50.93W
Heights:	2393 feet site elevation (SE) 660 feet above ground level (AGL) 3053 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2101-OE.

**Signature Control No: 435305911-436855461**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Case Description

cc: FCC

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

There is no objection to the use of an ADLS for the associated wind farm. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

## Case Description for ASN 2020-WTE-2101-OE

Filing is for ADLS consideration for wind farm located in Tioga, ND. ADLS Radar structure is replacing previously filed turbine 2018-WTE-6956-OE. Not all structures on project array are requesting ADLS. Tioga, ND.



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Aeronautical Study No.  
2020-WTE-2102-OE  
Prior Study No.  
2018-WTE-6952-OE

Issued Date: 04/17/2020

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16105 W 113th Street  
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Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-155
Location:	Tioga, ND
Latitude:	48-30-02.50N NAD 83
Longitude:	103-01-26.36W
Heights:	2395 feet site elevation (SE) 660 feet above ground level (AGL) 3055 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2102-OE.

**Signature Control No: 435305912-436855463**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Case Description

cc: FCC

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

There is no objection to the use of an ADLS for the associated wind farm. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

## Case Description for ASN 2020-WTE-2102-OE

Filing is for ADLS consideration for wind farm located in Tioga, ND. ADLS Radar structure is replacing previously filed turbine 2018-WTE-6956-OE. Not all structures on project array are requesting ADLS. Tioga, ND.



Mail Processing Center  
Federal Aviation Administration  
Southwest Regional Office  
Obstruction Evaluation Group  
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Aeronautical Study No.  
2020-WTE-2106-OE  
Prior Study No.  
2018-WTE-6957-OE

Issued Date: 04/17/2020

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16105 W 113th Street  
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Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-160
Location:	Tioga, ND
Latitude:	48-26-03.75N NAD 83
Longitude:	103-06-31.36W
Heights:	2325 feet site elevation (SE) 660 feet above ground level (AGL) 2985 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2106-OE.

**Signature Control No: 435305916-436855480**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Case Description

cc: FCC

**Additional information for ASN 2020-WTE-2106-OE**

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

There is no objection to the use of an ADLS for the associated wind farm. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

## Case Description for ASN 2020-WTE-2106-OE

Filing is for ADLS consideration for wind farm located in Tioga, ND. ADLS Radar structure is replacing previously filed turbine 2018-WTE-6956-OE. Not all structures on project array are requesting ADLS. Tioga, ND.



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Aeronautical Study No.  
 2020-WTE-2107-OE  
 Prior Study No.  
 2018-WTE-6958-OE

Issued Date: 04/17/2020

Leslie Strong  
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 16105 W 113th Street  
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 Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure: Lighting Study for Wind Turbine T-161  
 Location: Tioga, ND  
 Latitude: 48-26-02.10N NAD 83  
 Longitude: 103-07-08.19W  
 Heights: 2324 feet site elevation (SE)  
 660 feet above ground level (AGL)  
 2984 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2107-OE.

**Signature Control No: 435305917-436855483**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Case Description

cc: FCC

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

There is no objection to the use of an ADLS for the associated wind farm. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

## Case Description for ASN 2020-WTE-2107-OE

Filing is for ADLS consideration for wind farm located in Tioga, ND. ADLS Radar structure is replacing previously filed turbine 2018-WTE-6956-OE. Not all structures on project array are requesting ADLS. Tioga, ND.



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Aeronautical Study No.  
2020-WTE-2108-OE  
Prior Study No.  
2018-WTE-6960-OE

Issued Date: 04/17/2020

Leslie Strong  
Aurora Wind Project, LLC  
16105 W 113th Street  
Suite 105  
Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-163
Location:	Tioga, ND
Latitude:	48-25-44.02N NAD 83
Longitude:	103-09-32.11W
Heights:	2332 feet site elevation (SE) 660 feet above ground level (AGL) 2992 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2108-OE.

**Signature Control No: 435305918-436855485**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Case Description

cc: FCC

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

There is no objection to the use of an ADLS for the associated wind farm. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

## Case Description for ASN 2020-WTE-2108-OE

Filing is for ADLS consideration for wind farm located in Tioga, ND. ADLS Radar structure is replacing previously filed turbine 2018-WTE-6956-OE. Not all structures on project array are requesting ADLS. Tioga, ND.



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Aeronautical Study No.  
2020-WTE-2109-OE  
Prior Study No.  
2018-WTE-6961-OE

Issued Date: 04/17/2020

Leslie Strong  
Aurora Wind Project, LLC  
16105 W 113th Street  
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Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-164
Location:	Tioga, ND
Latitude:	48-25-57.68N NAD 83
Longitude:	103-09-09.79W
Heights:	2329 feet site elevation (SE) 660 feet above ground level (AGL) 2989 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2109-OE.

**Signature Control No: 435305919-436855494**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Case Description

cc: FCC

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

There is no objection to the use of an ADLS for the associated wind farm. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

## Case Description for ASN 2020-WTE-2109-OE

Filing is for ADLS consideration for wind farm located in Tioga, ND. ADLS Radar structure is replacing previously filed turbine 2018-WTE-6956-OE. Not all structures on project array are requesting ADLS. Tioga, ND.



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Aeronautical Study No.  
2020-WTE-2110-OE  
Prior Study No.  
2018-WTE-6962-OE

Issued Date: 04/17/2020

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Suite 105  
Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-165
Location:	Tioga, ND
Latitude:	48-27-06.11N NAD 83
Longitude:	103-08-52.02W
Heights:	2331 feet site elevation (SE) 660 feet above ground level (AGL) 2991 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2110-OE.

**Signature Control No: 435305920-436855511**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Case Description

cc: FCC

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

There is no objection to the use of an ADLS for the associated wind farm. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

## Case Description for ASN 2020-WTE-2110-OE

Filing is for ADLS consideration for wind farm located in Tioga, ND. ADLS Radar structure is replacing previously filed turbine 2018-WTE-6956-OE. Not all structures on project array are requesting ADLS. Tioga, ND.



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Aeronautical Study No.  
2020-WTE-2113-OE  
Prior Study No.  
2019-WTE-6867-OE

Issued Date: 04/17/2020

Leslie Strong  
Aurora Wind Project, LLC  
16105 W 113th Street  
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Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Met Tower PMM-S-9
Location:	Tioga, ND
Latitude:	48-26-47.08N NAD 83
Longitude:	103-04-24.59W
Heights:	2382 feet site elevation (SE) 360 feet above ground level (AGL) 2742 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is marked/lighted in accordance with FAA Advisory Circular 70/7460-1, L Change 2 , Obstruction Marking and Lighting, paint/red lights - Chapters 3(Marked),4,5(Red),&12.

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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2113-OE.

**Signature Control No: 435305923-436855089**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Case Description

cc: FCC

There is no objection to the use of an ADLS for the associated wind farm. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

NOTE: In addition to obstruction lighting, the structure should be marked in accordance with AC 70/7460-1L, CHG 2, Chapter 2.7:

#### Painting.

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

#### High-Visibility Sleeves.

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

#### Spherical Markers.

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

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

## Case Description for ASN 2020-WTE-2113-OE

Filing is for ADLS consideration for wind farm located in Tioga, ND. ADLS Radar structure is replacing previously filed turbine 2018-WTE-6956-OE. Not all structures on project array are requesting ADLS. Tioga, ND.



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Aeronautical Study No.  
2020-WTE-2114-OE  
Prior Study No.  
2019-WTE-6868-OE

Issued Date: 04/17/2020

Leslie Strong  
Aurora Wind Project, LLC  
16105 W 113th Street  
Suite 105  
Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Met Tower PMM-N-120
Location:	Tioga, ND
Latitude:	48-34-55.46N NAD 83
Longitude:	103-11-40.98W
Heights:	2354 feet site elevation (SE) 360 feet above ground level (AGL) 2714 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is marked/lighted in accordance with FAA Advisory Circular 70/7460-1, L Change 2 , Obstruction Marking and Lighting, paint/red lights - Chapters 3(Marked),4,5(Red),&12.

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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2114-OE.

**Signature Control No: 435305924-436855091**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Case Description

cc: FCC

There is no objection to the use of an ADLS for the associated wind farm. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

NOTE: In addition to obstruction lighting, the structure should be marked in accordance with AC 70/7460-1L, CHG 2, Chapter 2.7:

#### Painting.

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

#### High-Visibility Sleeves.

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

#### Spherical Markers.

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

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

## Case Description for ASN 2020-WTE-2114-OE

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Filing is for ADLS consideration for wind farm located in Tioga, ND. ADLS Radar structure is replacing previously filed turbine 2018-WTE-6956-OE. Not all structures on project array are requesting ADLS. Tioga, ND.



Mail Processing Center  
Federal Aviation Administration  
Southwest Regional Office  
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10101 Hillwood Parkway  
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Aeronautical Study No.  
2020-WTE-2115-OE  
Prior Study No.  
2019-WTE-6869-OE

Issued Date: 04/17/2020

Leslie Strong  
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16105 W 113th Street  
Suite 105  
Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Met Tower PPT-N-98
Location:	Tioga, ND
Latitude:	48-33-37.91N NAD 83
Longitude:	103-13-09.12W
Heights:	2363 feet site elevation (SE) 360 feet above ground level (AGL) 2723 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is marked/lighted in accordance with FAA Advisory Circular 70/7460-1, L Change 2 , Obstruction Marking and Lighting, paint/red lights - Chapters 3(Marked),4,5(Red),&12.

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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2115-OE.

**Signature Control No: 435305925-436855093**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Case Description

cc: FCC

There is no objection to the use of an ADLS for the associated wind farm. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

NOTE: In addition to obstruction lighting, the structure should be marked in accordance with AC 70/7460-1L, CHG 2, Chapter 2.7:

#### Painting.

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

#### High-Visibility Sleeves.

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

#### Spherical Markers.

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

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

## Case Description for ASN 2020-WTE-2115-OE

Filing is for ADLS consideration for wind farm located in Tioga, ND. ADLS Radar structure is replacing previously filed turbine 2018-WTE-6956-OE. Not all structures on project array are requesting ADLS. Tioga, ND.



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

Aeronautical Study No.  
2020-WTE-2088-OE  
Prior Study No.  
2018-WTE-6922-OE

Issued Date: 04/17/2020

Leslie Strong  
Aurora Wind Project, LLC  
16105 W 113th Street  
Suite 105  
Lenexa, KS 66219

**\*\* MARKING & LIGHTING RECOMMENDATION \*\***

The Federal Aviation Administration has completed an evaluation of your request concerning:

Structure:	Lighting Study for Wind Turbine T-105
Location:	Tioga, ND
Latitude:	48-34-03.35N NAD 83
Longitude:	103-12-09.98W
Heights:	2402 feet site elevation (SE) 660 feet above ground level (AGL) 3062 feet above mean sea level (AMSL)

Based on this evaluation, we have no objection to the change provided the structure is 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.

Action will be taken to ensure aeronautical charts and records are updated to reflect the marking/lighting changes which exist at this time.

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

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 evaluation concerns the effect of the marking/lighting changes on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (404) 305-6645, or Lan.norris@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2020-WTE-2088-OE.

**Signature Control No: 435305898-436855443**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information  
Case Description

cc: FCC

## **Additional information for ASN 2020-WTE-2088-OE**

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

There is no objection to the use of an ADLS for the associated wind farm. As a condition of this determination, the sponsor will ensure the ADLS is continuously monitored, meets the requirements of the applicable FAA Technical Note and maintains the aircraft detection capabilities specified in the current version of AC 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the project.

## Case Description for ASN 2020-WTE-2088-OE

Filing is for ADLS consideration for wind farm located in Tioga, ND. ADLS Radar structure is replacing previously filed turbine 2018-WTE-6956-OE. Not all structures on project array are requesting ADLS. Tioga, ND.

# Upper Missouri District Health Unit

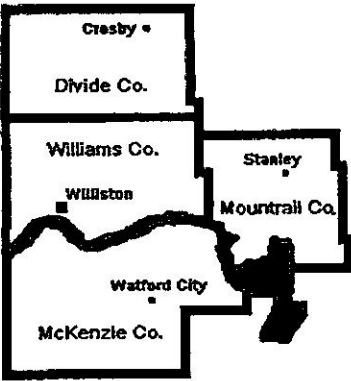
"Your Public Health Professionals"

Date: \_\_\_\_\_

Check #: \_\_\_\_\_

**UMDHU Williston Office**  
110 W. Bdwy, Ste 101  
Williston, ND 58801-6056  
Phone 701-774-6400  
Fax 701-577-8536  
Toll Free 1-877-572-3763

- \_\_\_\_\_ \$150.00 Individual Permit Fee
- \_\_\_\_\_ \$300.00 Multi-dwelling up to 20 bedrooms
- \_\_\_\_\_ \$550.00 Multi-dwelling more than 20bedrooms
- \_\_\_\_\_ \$125.00 Holding Tank
- \$100.00 Rebuilding Fee



## SEWAGE TREATMENT SYSTEM PLANS PERMIT

OWNER Aurora Wind Project, LLC phone (978) 382 - 1751

INSTALL ADDRESS 6525 103 West Avenue NW, Tioga, ND 58852

MAILING ADDRESS (C/O Enel Green Power) 100 Brickstone Square - Suite 300, Andover, MA 01915

DIRECTIONS TO PROPERTY HWY 2 East to HWY 40 North (48.360109, -102.935855)

EMAIL Jeremy.price@enel.com

COUNTY Williams TWP 156 RNG 95 SEC 5

SUBD Tioga Industrial Park LOT 1 BLOCK 2

LOT SIZE 3.68 Acres # OF BEDROOMS N/A or # OF EMPLOYEES 30 WELL DEPTH \_\_\_\_\_

If you do not include lot size, township, range and section and number of bedrooms there will be a delay in processing your permit while we have to contact you. **The building owner, contractor, plumbing contractor, and/or installer are jointly responsible for compliance with U.M.D.H.U.'s Regulations for Individual Sewage Treatment Systems.** In addition, it is your responsibility to follow all city, township and county regulations.

Owner: Jeremy T. Price Date: 4.23.2020

DEPTH TO RESTRICTING LAYER \_\_\_\_\_ SOIL TYPE \_\_\_\_\_

SEPTIC TANK (WORKING CAPACITY) 1,500 GAL.

**TREATMENT AREA:**

TRENCH IN SQUARE FEET

6" GRAVEL 1320 12"GRAVEL 1060 18"GRAVEL 890 24"GRAVEL 760

GRAVELLESS PIPE IN LINEAR FEET:

8" 660 10" 440

CHAMBER SYSTEM IN LINEAR FEET:

12" TALL 360 15" TALL 320

MOUND IN SQUARE FEET \_\_\_\_\_

THIS PERMIT GOOD FOR 12 MONTHS FROM DATE OF ISSUE.

APPROVED BY: Dana Burk DATE: 12-16-2020  
NOTIFY THIS OFFICE AT LEAST 2 BUSINESS DAYS PRIOR TO INSTALLATION FOR INSPECTION.