



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

Aeronautical Study No.  
2018-WTE-10444-OE  
Prior Study No.  
2018-WTE-6675-OE

Issued Date: 03/29/2019

Bob Evans  
Capital Power Corporation  
155 Federal Street, Suite 1200  
Boston, MA 02110

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

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

Structure:	Lighting Study for Met Tower NF Met
Location:	Ruso, ND
Latitude:	47-53-18.50N NAD 83
Longitude:	100-57-44.80W
Heights:	2147 feet site elevation (SE) 290 feet above ground level (AGL) 2437 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 provided that the equipment meets established technical standards.

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 (816) 329-2523, or [steve.phillips@faa.gov](mailto:steve.phillips@faa.gov). On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTE-10444-OE.

**Signature Control No: 389157383-400960306**

( MAL -WT )

Steve Phillips  
Specialist

Attachment(s)  
Additional Information

cc: FCC

## **Additional information for ASN 2018-WTE-10444-OE**

As a condition to this Determination, the structure should be lighted with red obstruction lights and marked as noted below:

### **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.



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10101 Hillwood Parkway  
Fort Worth, TX 76177

Aeronautical Study No.  
2018-WTE-10409-OE  
Prior Study No.  
2016-WTE-9488-OE

Issued Date: 03/29/2019

Bob Evans  
Capital Power Corporation  
155 Federal Street, Suite 1200  
Boston, MA 02110

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

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

Structure:	Lighting Study for Wind Turbine NF3
Location:	Ruso, ND
Latitude:	47-54-26.23N NAD 83
Longitude:	100-57-00.12W
Heights:	2044 feet site elevation (SE) 492 feet above ground level (AGL) 2536 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 provided that the equipment meets established technical standards.

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 (816) 329-2523, or [steve.phillips@faa.gov](mailto:steve.phillips@faa.gov). On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTE-10409-OE.

**Signature Control No: 389046131-400960208**

( MAL -WT )

Steve Phillips  
Specialist

cc: FCC



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

Aeronautical Study No.  
2018-WTE-10410-OE  
Prior Study No.  
2016-WTE-9489-OE

Issued Date: 03/29/2019

Bob Evans  
Capital Power Corporation  
155 Federal Street, Suite 1200  
Boston, MA 02110

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

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

Structure:	Lighting Study for Wind Turbine NF6
Location:	Ruso, ND
Latitude:	47-54-10.27N NAD 83
Longitude:	100-56-41.35W
Heights:	2049 feet site elevation (SE) 492 feet above ground level (AGL) 2541 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 provided that the equipment meets established technical standards.

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.

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If we can be of further assistance, please contact our office at (816) 329-2523, or [steve.phillips@faa.gov](mailto:steve.phillips@faa.gov). On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTE-10410-OE.

**Signature Control No: 389048758-400960202**

( MAL -WT )

Steve Phillips  
Specialist

cc: FCC



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

Aeronautical Study No.  
2018-WTE-10411-OE  
Prior Study No.  
2016-WTE-9490-OE

Issued Date: 03/29/2019

Bob Evans  
Capital Power Corporation  
155 Federal Street, Suite 1200  
Boston, MA 02110

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

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

Structure:	Lighting Study for Wind Turbine NF7
Location:	Ruso, ND
Latitude:	47-54-02.70N NAD 83
Longitude:	100-56-57.28W
Heights:	2110 feet site elevation (SE) 492 feet above ground level (AGL) 2602 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 provided that the equipment meets established technical standards.

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.

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If we can be of further assistance, please contact our office at (816) 329-2523, or [steve.phillips@faa.gov](mailto:steve.phillips@faa.gov). On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTE-10411-OE.

**Signature Control No: 389049787-400960199**

( MAL -WT )

Steve Phillips  
Specialist

cc: FCC



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

Aeronautical Study No.  
2019-WTE-7145-OE  
Prior Study No.  
2018-WTE-10412-OE

Issued Date: 09/23/2019

Bob Evans  
Capital Power Corporation  
155 Federal Street, Suite 1200  
Boston, MA 02110

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

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

Structure:	Lighting Study for Wind Turbine NF8
Location:	Ruso, ND
Latitude:	47-53-51.26N NAD 83
Longitude:	100-57-25.91W
Heights:	2143 feet site elevation (SE) 492 feet above ground level (AGL) 2635 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 provided that the equipment meets established technical standards.

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.

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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 2019-WTE-7145-OE.

**Signature Control No: 413238011-417919499**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Map(s)

cc: FCC





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

Aeronautical Study No.  
2018-WTE-10413-OE  
Prior Study No.  
2018-WTE-10406-OE

Issued Date: 03/29/2019

Bob Evans  
Capital Power Corporation  
155 Federal Street, Suite 1200  
Boston, MA 02110

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

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

Structure:	Lighting Study for Wind Turbine NF9
Location:	Ruso, ND
Latitude:	47-53-43.77N NAD 83
Longitude:	100-57-47.38W
Heights:	2182 feet site elevation (SE) 492 feet above ground level (AGL) 2674 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).

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In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should

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

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If we can be of further assistance, please contact our office at (816) 329-2523, or [steve.phillips@faa.gov](mailto:steve.phillips@faa.gov). On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTE-10413-OE.

**Signature Control No: 389053151-400960198**

( MAL -WT )

Steve Phillips  
Specialist

cc: FCC



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

Aeronautical Study No.  
2018-WTE-10414-OE  
Prior Study No.  
2018-WTE-10407-OE

Issued Date: 03/29/2019

Bob Evans  
Capital Power Corporation  
155 Federal Street, Suite 1200  
Boston, MA 02110

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

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

Structure:	Lighting Study for Wind Turbine NF11
Location:	Ruso, ND
Latitude:	47-53-27.95N NAD 83
Longitude:	100-57-35.93W
Heights:	2141 feet site elevation (SE) 492 feet above ground level (AGL) 2633 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).

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In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should

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

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If we can be of further assistance, please contact our office at (816) 329-2523, or [steve.phillips@faa.gov](mailto:steve.phillips@faa.gov). On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTE-10414-OE.

**Signature Control No: 389054007-400960200**

( MAL -WT )

Steve Phillips  
Specialist

cc: FCC



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

Aeronautical Study No.  
2018-WTE-10415-OE  
Prior Study No.  
2016-WTE-9495-OE

Issued Date: 03/29/2019

Bob Evans  
Capital Power Corporation  
155 Federal Street, Suite 1200  
Boston, MA 02110

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

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

Structure:	Lighting Study for Wind Turbine NF12
Location:	Ruso, ND
Latitude:	47-53-09.58N NAD 83
Longitude:	100-57-55.44W
Heights:	2165 feet site elevation (SE) 492 feet above ground level (AGL) 2657 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).

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In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should

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

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If we can be of further assistance, please contact our office at (816) 329-2523, or [steve.phillips@faa.gov](mailto:steve.phillips@faa.gov). On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTE-10415-OE.

**Signature Control No: 389058535-400960204**

( MAL -WT )

Steve Phillips  
Specialist

cc: FCC



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

Aeronautical Study No.  
2018-WTE-10419-OE  
Prior Study No.  
2016-WTE-9496-OE

Issued Date: 03/29/2019

Bob Evans  
Capital Power Corporation  
155 Federal Street, Suite 1200  
Boston, MA 02110

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

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

Structure:	Lighting Study for Wind Turbine NF13
Location:	Ruso, ND
Latitude:	47-53-07.37N NAD 83
Longitude:	100-57-12.71W
Heights:	2123 feet site elevation (SE) 492 feet above ground level (AGL) 2615 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 provided that the equipment meets established technical standards.

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 (816) 329-2523, or [steve.phillips@faa.gov](mailto:steve.phillips@faa.gov). On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTE-10419-OE.

**Signature Control No: 389063099-400960201**

( MAL -WT )

Steve Phillips  
Specialist

cc: FCC



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

Aeronautical Study No.  
2018-WTE-10421-OE  
Prior Study No.  
2016-WTE-9497-OE

Issued Date: 03/29/2019

Bob Evans  
Capital Power Corporation  
155 Federal Street, Suite 1200  
Boston, MA 02110

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

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

Structure:	Lighting Study for Wind Turbine NF14
Location:	Ruso, ND
Latitude:	47-52-52.59N NAD 83
Longitude:	100-57-28.04W
Heights:	2160 feet site elevation (SE) 492 feet above ground level (AGL) 2652 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 provided that the equipment meets established technical standards.

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 (816) 329-2523, or [steve.phillips@faa.gov](mailto:steve.phillips@faa.gov). On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTE-10421-OE.

**Signature Control No: 389119507-400960205**

( MAL -WT )

Steve Phillips  
Specialist

cc: FCC



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

Aeronautical Study No.  
2018-WTE-10422-OE  
Prior Study No.  
2016-WTE-9498-OE

Issued Date: 03/29/2019

Bob Evans  
Capital Power Corporation  
155 Federal Street, Suite 1200  
Boston, MA 02110

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

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

Structure:	Lighting Study for Wind Turbine NF16
Location:	Ruso, ND
Latitude:	47-52-31.62N NAD 83
Longitude:	100-57-40.11W
Heights:	2156 feet site elevation (SE) 492 feet above ground level (AGL) 2648 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 provided that the equipment meets established technical standards.

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 (816) 329-2523, or [steve.phillips@faa.gov](mailto:steve.phillips@faa.gov). On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTE-10422-OE.

**Signature Control No: 389119848-400960203**

( MAL -WT )

Steve Phillips  
Specialist

cc: FCC



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

Aeronautical Study No.  
2018-WTE-10423-OE  
Prior Study No.  
2016-WTE-9501-OE

Issued Date: 03/29/2019

Bob Evans  
Capital Power Corporation  
155 Federal Street, Suite 1200  
Boston, MA 02110

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

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

Structure:	Lighting Study for Wind Turbine NF19
Location:	Ruso, ND
Latitude:	47-53-15.31N NAD 83
Longitude:	100-55-26.96W
Heights:	2081 feet site elevation (SE) 492 feet above ground level (AGL) 2573 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 provided that the equipment meets established technical standards.

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 (816) 329-2523, or [steve.phillips@faa.gov](mailto:steve.phillips@faa.gov). On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTE-10423-OE.

**Signature Control No: 389122551-400960206**

( MAL -WT )

Steve Phillips  
Specialist

cc: FCC



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

Aeronautical Study No.  
2018-WTE-10424-OE  
Prior Study No.  
2016-WTE-9504-OE

Issued Date: 03/29/2019

Bob Evans  
Capital Power Corporation  
155 Federal Street, Suite 1200  
Boston, MA 02110

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

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

Structure:	Lighting Study for Wind Turbine NF23
Location:	Ruso, ND
Latitude:	47-52-42.83N NAD 83
Longitude:	100-56-04.47W
Heights:	2131 feet site elevation (SE) 492 feet above ground level (AGL) 2623 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 provided that the equipment meets established technical standards.

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 (816) 329-2523, or [steve.phillips@faa.gov](mailto:steve.phillips@faa.gov). On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTE-10424-OE.

**Signature Control No: 389124297-400960214**

( MAL -WT )

Steve Phillips  
Specialist

cc: FCC



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

Aeronautical Study No.  
2018-WTE-10425-OE  
Prior Study No.  
2016-WTE-9505-OE

Issued Date: 03/29/2019

Bob Evans  
Capital Power Corporation  
155 Federal Street, Suite 1200  
Boston, MA 02110

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

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

Structure:	Lighting Study for Wind Turbine NF24
Location:	Ruso, ND
Latitude:	47-52-22.18N NAD 83
Longitude:	100-55-31.20W
Heights:	2122 feet site elevation (SE) 492 feet above ground level (AGL) 2614 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 provided that the equipment meets established technical standards.

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 (816) 329-2523, or [steve.phillips@faa.gov](mailto:steve.phillips@faa.gov). On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTE-10425-OE.

**Signature Control No: 389133845-400960210**

( MAL -WT )

Steve Phillips  
Specialist

cc: FCC



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

Aeronautical Study No.  
2018-WTE-10426-OE  
Prior Study No.  
2016-WTE-9507-OE

Issued Date: 03/29/2019

Bob Evans  
Capital Power Corporation  
155 Federal Street, Suite 1200  
Boston, MA 02110

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

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

Structure:	Lighting Study for Wind Turbine NF26
Location:	Ruso, ND
Latitude:	47-51-57.39N NAD 83
Longitude:	100-55-35.51W
Heights:	2147 feet site elevation (SE) 492 feet above ground level (AGL) 2639 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 provided that the equipment meets established technical standards.

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 (816) 329-2523, or [steve.phillips@faa.gov](mailto:steve.phillips@faa.gov). On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTE-10426-OE.

**Signature Control No: 389135992-400960212**

( MAL -WT )

Steve Phillips  
Specialist

cc: FCC



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

Aeronautical Study No.  
2019-WTE-7146-OE  
Prior Study No.  
2018-WTE-10427-OE

Issued Date: 09/25/2019

Bob Evans  
Capital Power Corporation  
155 Federal Street, Suite 1200  
Boston, MA 02110

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

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

Structure:	Lighting Study for Wind Turbine NF30
Location:	Ruso, ND
Latitude:	47-51-03.65N NAD 83
Longitude:	100-56-25.18W
Heights:	2140 feet site elevation (SE) 492 feet above ground level (AGL) 2632 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 2019-WTE-7146-OE.

**Signature Control No: 413240662-418206233**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information

cc: FCC

**Additional information for ASN 2019-WTE-7146-OE**

FAA Frequency Management - Upon receipt of notification from the Federal Aviation Administration (FAA) or Federal Communications Commission (FCC) that harmful interference is being caused by the licensee's (permittee's) transmitter, the licensee (permittee) shall either immediately reduce the power to the point of no interference, cease operation, or take immediate corrective action as is necessary to eliminate the harmful interference.

This aeronautical study supersedes prior marking and lighting determinations issued for this structure.



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

Aeronautical Study No.  
2018-WTE-10428-OE  
Prior Study No.  
2016-WTE-9511-OE

Issued Date: 03/29/2019

Bob Evans  
Capital Power Corporation  
155 Federal Street, Suite 1200  
Boston, MA 02110

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

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

Structure:	Lighting Study for Wind Turbine NF31
Location:	Ruso, ND
Latitude:	47-51-25.47N NAD 83
Longitude:	100-56-20.27W
Heights:	2165 feet site elevation (SE) 492 feet above ground level (AGL) 2657 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 provided that the equipment meets established technical standards.

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 (816) 329-2523, or [steve.phillips@faa.gov](mailto:steve.phillips@faa.gov). On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTE-10428-OE.

**Signature Control No: 389139877-400960216**

( MAL -WT )

Steve Phillips  
Specialist

cc: FCC



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

Aeronautical Study No.  
2018-WTE-10429-OE  
Prior Study No.  
2018-WTE-10408-OE

Issued Date: 03/29/2019

Bob Evans  
Capital Power Corporation  
155 Federal Street, Suite 1200  
Boston, MA 02110

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

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

Structure:	Lighting Study for Wind Turbine NF32
Location:	Ruso, ND
Latitude:	47-51-13.34N NAD 83
Longitude:	100-55-53.72W
Heights:	2164 feet site elevation (SE) 492 feet above ground level (AGL) 2656 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 provided that the equipment meets established technical standards.

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 (816) 329-2523, or [steve.phillips@faa.gov](mailto:steve.phillips@faa.gov). On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTE-10429-OE.

**Signature Control No: 389140269-400960211**

( MAL -WT )

Steve Phillips  
Specialist

cc: FCC



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

Aeronautical Study No.  
2018-WTE-10430-OE  
Prior Study No.  
2016-WTE-9513-OE

Issued Date: 03/29/2019

Bob Evans  
Capital Power Corporation  
155 Federal Street, Suite 1200  
Boston, MA 02110

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

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

Structure:	Lighting Study for Wind Turbine NF33
Location:	Ruso, ND
Latitude:	47-51-23.76N NAD 83
Longitude:	100-55-30.00W
Heights:	2149 feet site elevation (SE) 492 feet above ground level (AGL) 2641 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 provided that the equipment meets established technical standards.

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 (816) 329-2523, or [steve.phillips@faa.gov](mailto:steve.phillips@faa.gov). On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTE-10430-OE.

**Signature Control No: 389143181-400960209**

( MAL -WT )

Steve Phillips  
Specialist

cc: FCC



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

Aeronautical Study No.  
2018-WTE-10431-OE  
Prior Study No.  
2016-WTE-9514-OE

Issued Date: 03/29/2019

Bob Evans  
Capital Power Corporation  
155 Federal Street, Suite 1200  
Boston, MA 02110

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

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

Structure:	Lighting Study for Wind Turbine NF34
Location:	Ruso, ND
Latitude:	47-51-00.29N NAD 83
Longitude:	100-55-15.42W
Heights:	2142 feet site elevation (SE) 492 feet above ground level (AGL) 2634 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 provided that the equipment meets established technical standards.

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 (816) 329-2523, or [steve.phillips@faa.gov](mailto:steve.phillips@faa.gov). On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTE-10431-OE.

**Signature Control No: 389149250-400960207**

( MAL -WT )

Steve Phillips  
Specialist

cc: FCC



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

Aeronautical Study No.  
2018-WTE-10433-OE  
Prior Study No.  
2018-WTE-9463-OE

Issued Date: 03/29/2019

Bob Evans  
Capital Power Corporation  
155 Federal Street, Suite 1200  
Boston, MA 02110

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

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

Structure:	Lighting Study for Wind Turbine NF39
Location:	Ruso, ND
Latitude:	47-51-50.96N NAD 83
Longitude:	100-53-27.78W
Heights:	2106 feet site elevation (SE) 492 feet above ground level (AGL) 2598 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 provided that the equipment meets established technical standards.

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 (816) 329-2523, or [steve.phillips@faa.gov](mailto:steve.phillips@faa.gov). On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTE-10433-OE.

**Signature Control No: 389151889-400960213**

( MAL -WT )

Steve Phillips  
Specialist

cc: FCC



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

Aeronautical Study No.  
2019-WTE-7148-OE  
Prior Study No.  
2018-WTE-10435-OE

Issued Date: 09/25/2019

Bob Evans  
Capital Power Corporation  
155 Federal Street, Suite 1200  
Boston, MA 02110

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

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

Structure:	Lighting Study for Wind Turbine NF41
Location:	Ruso, ND
Latitude:	47-52-02.93N NAD 83
Longitude:	100-52-51.29W
Heights:	2058 feet site elevation (SE) 492 feet above ground level (AGL) 2550 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 2019-WTE-7148-OE.

**Signature Control No: 413248834-418206234**

( MAL -WT )

Lan Norris  
Specialist

Attachment(s)  
Additional Information

cc: FCC

**Additional information for ASN 2019-WTE-7148-OE**

FAA Frequency Management - Upon receipt of notification from the Federal Aviation Administration (FAA) or Federal Communications Commission (FCC) that harmful interference is being caused by the licensee's (permittee's) transmitter, the licensee (permittee) shall either immediately reduce the power to the point of no interference, cease operation, or take immediate corrective action as is necessary to eliminate the harmful interference.

This aeronautical study supersedes prior marking and lighting determinations issued for this structure.



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

Aeronautical Study No.  
2018-WTE-10436-OE  
Prior Study No.  
2016-WTE-9520-OE

Issued Date: 03/29/2019

Bob Evans  
Capital Power Corporation  
155 Federal Street, Suite 1200  
Boston, MA 02110

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

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

Structure:	Lighting Study for Wind Turbine NF42
Location:	Ruso, ND
Latitude:	47-51-34.43N NAD 83
Longitude:	100-52-58.87W
Heights:	2088 feet site elevation (SE) 492 feet above ground level (AGL) 2580 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 provided that the equipment meets established technical standards.

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 (816) 329-2523, or [steve.phillips@faa.gov](mailto:steve.phillips@faa.gov). On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTE-10436-OE.

**Signature Control No: 389156778-400960221**

( MAL -WT )

Steve Phillips  
Specialist

cc: FCC



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

Aeronautical Study No.  
2018-WTE-10437-OE  
Prior Study No.  
2016-WTE-9521-OE

Issued Date: 03/29/2019

Bob Evans  
Capital Power Corporation  
155 Federal Street, Suite 1200  
Boston, MA 02110

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

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

Structure:	Lighting Study for Wind Turbine NF43
Location:	Ruso, ND
Latitude:	47-51-20.39N NAD 83
Longitude:	100-53-18.87W
Heights:	2094 feet site elevation (SE) 492 feet above ground level (AGL) 2586 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 provided that the equipment meets established technical standards.

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 (816) 329-2523, or [steve.phillips@faa.gov](mailto:steve.phillips@faa.gov). On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTE-10437-OE.

**Signature Control No: 389156922-400960220**

( MAL -WT )

Steve Phillips  
Specialist

cc: FCC



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

Aeronautical Study No.  
2018-WTE-10438-OE  
Prior Study No.  
2016-WTE-9526-OE

Issued Date: 03/29/2019

Bob Evans  
Capital Power Corporation  
155 Federal Street, Suite 1200  
Boston, MA 02110

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

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

Structure:	Lighting Study for Wind Turbine NF54
Location:	Ruso, ND
Latitude:	47-52-18.65N NAD 83
Longitude:	100-55-57.89W
Heights:	2143 feet site elevation (SE) 492 feet above ground level (AGL) 2635 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 provided that the equipment meets established technical standards.

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 (816) 329-2523, or [steve.phillips@faa.gov](mailto:steve.phillips@faa.gov). On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTE-10438-OE.

**Signature Control No: 389157200-400960222**

( MAL -WT )

Steve Phillips  
Specialist

cc: FCC



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

Aeronautical Study No.  
2018-WTE-10439-OE  
Prior Study No.  
2017-WTE-9698-OE

Issued Date: 03/29/2019

Bob Evans  
Capital Power Corporation  
155 Federal Street, Suite 1200  
Boston, MA 02110

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

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

Structure:	Lighting Study for Wind Turbine NF58
Location:	Ruso, ND
Latitude:	47-51-02.39N NAD 83
Longitude:	100-54-46.74W
Heights:	2101 feet site elevation (SE) 492 feet above ground level (AGL) 2593 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 provided that the equipment meets established technical standards.

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 (816) 329-2523, or [steve.phillips@faa.gov](mailto:steve.phillips@faa.gov). On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTE-10439-OE.

**Signature Control No: 389157296-400960223**

( MAL -WT )

Steve Phillips  
Specialist

cc: FCC



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

Aeronautical Study No.  
2018-WTE-10440-OE  
Prior Study No.  
2016-WTE-9529-OE

Issued Date: 03/29/2019

Bob Evans  
Capital Power Corporation  
155 Federal Street, Suite 1200  
Boston, MA 02110

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

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

Structure:	Lighting Study for Wind Turbine NF60
Location:	Ruso, ND
Latitude:	47-52-06.74N NAD 83
Longitude:	100-53-50.91W
Heights:	2077 feet site elevation (SE) 492 feet above ground level (AGL) 2569 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 provided that the equipment meets established technical standards.

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 (816) 329-2523, or [steve.phillips@faa.gov](mailto:steve.phillips@faa.gov). On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTE-10440-OE.

**Signature Control No: 389157361-400960224**

( MAL -WT )

Steve Phillips  
Specialist

cc: FCC



Mail Processing Center  
Federal Aviation Administration  
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10101 Hillwood Parkway  
Fort Worth, TX 76177

Aeronautical Study No.  
2018-WTE-10441-OE  
Prior Study No.  
2016-WTE-9531-OE

Issued Date: 03/29/2019

Bob Evans  
Capital Power Corporation  
155 Federal Street, Suite 1200  
Boston, MA 02110

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

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

Structure:	Lighting Study for Wind Turbine NF62
Location:	Ruso, ND
Latitude:	47-52-23.32N NAD 83
Longitude:	100-53-01.91W
Heights:	2020 feet site elevation (SE) 492 feet above ground level (AGL) 2512 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 provided that the equipment meets established technical standards.

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 (816) 329-2523, or [steve.phillips@faa.gov](mailto:steve.phillips@faa.gov). On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTE-10441-OE.

**Signature Control No: 389157366-400960225**

( MAL -WT )

Steve Phillips  
Specialist

cc: FCC



Mail Processing Center  
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Fort Worth, TX 76177

Aeronautical Study No.  
2018-WTE-10442-OE  
Prior Study No.  
2016-WTE-9532-OE

Issued Date: 03/29/2019

Bob Evans  
Capital Power Corporation  
155 Federal Street, Suite 1200  
Boston, MA 02110

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

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

Structure:	Lighting Study for Wind Turbine NF63
Location:	Ruso, ND
Latitude:	47-51-59.32N NAD 83
Longitude:	100-52-26.52W
Heights:	2029 feet site elevation (SE) 492 feet above ground level (AGL) 2521 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 provided that the equipment meets established technical standards.

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 (816) 329-2523, or [steve.phillips@faa.gov](mailto:steve.phillips@faa.gov). On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTE-10442-OE.

**Signature Control No: 389157367-400960226**

( MAL -WT )

Steve Phillips  
Specialist

cc: FCC



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Fort Worth, TX 76177

Aeronautical Study No.  
2018-WTE-10443-OE  
Prior Study No.  
2016-WTE-9533-OE

Issued Date: 03/29/2019

Bob Evans  
Capital Power Corporation  
155 Federal Street, Suite 1200  
Boston, MA 02110

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

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

Structure:	Lighting Study for Wind Turbine NF64
Location:	Ruso, ND
Latitude:	47-52-15.91N NAD 83
Longitude:	100-52-08.25W
Heights:	1959 feet site elevation (SE) 492 feet above ground level (AGL) 2451 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 provided that the equipment meets established technical standards.

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 (816) 329-2523, or [steve.phillips@faa.gov](mailto:steve.phillips@faa.gov). On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-WTE-10443-OE.

**Signature Control No: 389157371-400960227**

( MAL -WT )

Steve Phillips  
Specialist

cc: FCC