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

Aeronautical Study No.
2021-WTE-2657-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T2
Location:	Bowman, ND
Latitude:	46-13-03.33N NAD 83
Longitude:	103-36-35.33W
Heights:	3190 feet site elevation (SE)
	499 feet above ground level (AGL)
	3689 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2657-OE.

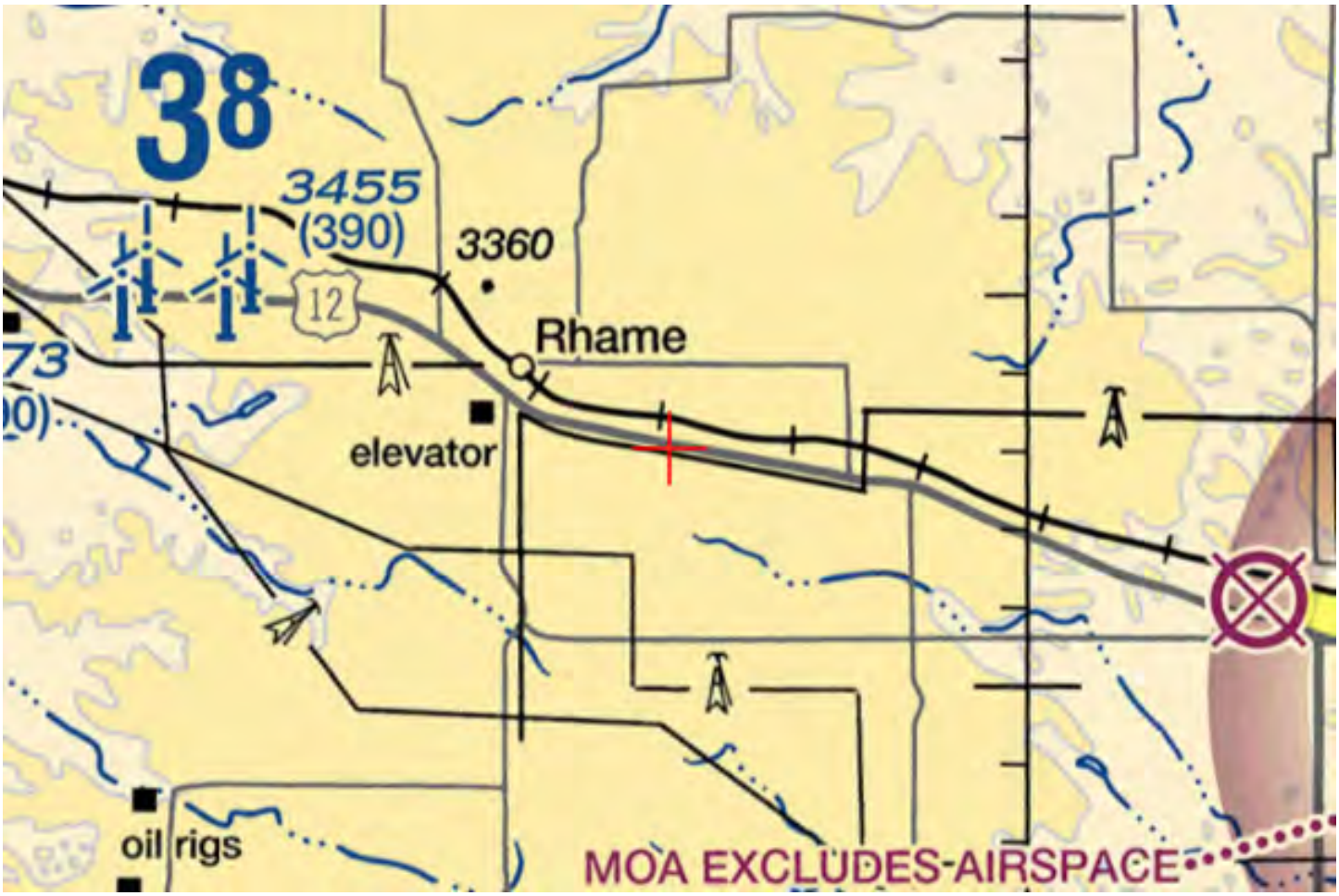
Signature Control No: 488959546-611166546 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2657-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2657-OE



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

Aeronautical Study No.
2021-WTE-2658-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T3
Location:	Bowman, ND
Latitude:	46-12-56.13N NAD 83
Longitude:	103-30-44.10W
Heights:	3059 feet site elevation (SE) 499 feet above ground level (AGL) 3558 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2658-OE.

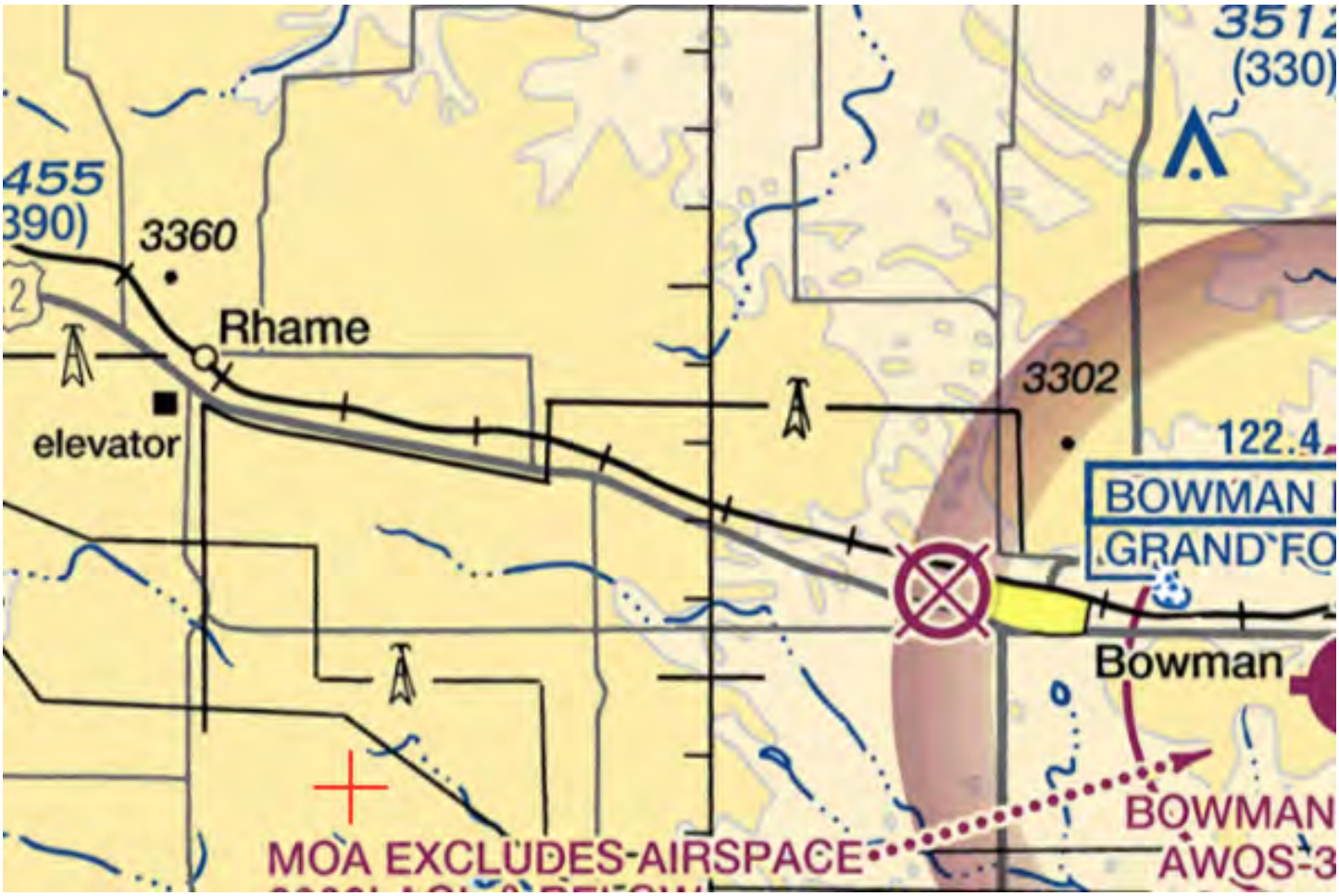
Signature Control No: 488959547-611166550 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2658-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2658-OE



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

Aeronautical Study No.
2021-WTE-2659-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T4
Location:	Bowman, ND
Latitude:	46-12-53.90N NAD 83
Longitude:	103-30-05.70W
Heights:	3061 feet site elevation (SE) 499 feet above ground level (AGL) 3560 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2659-OE.

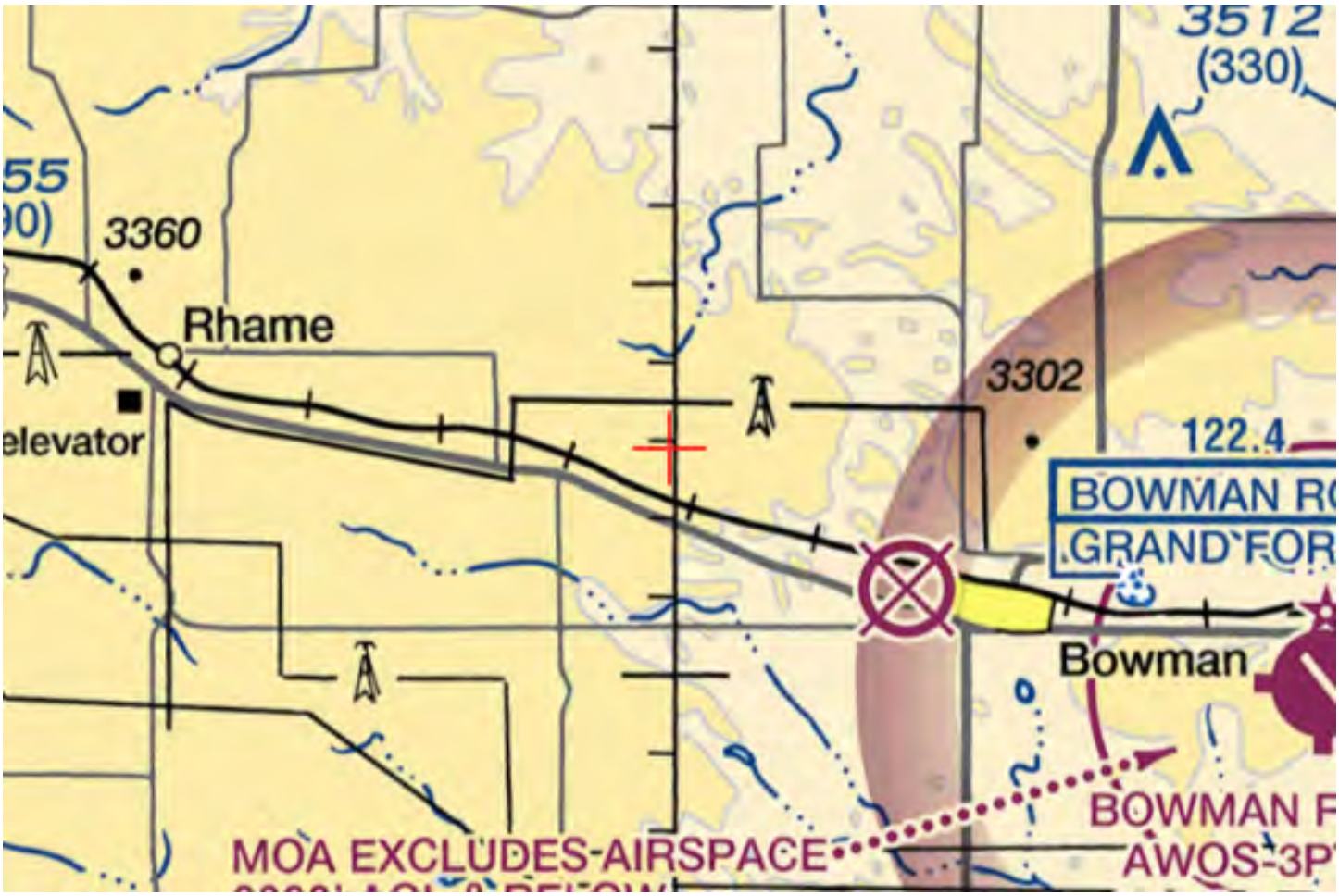
Signature Control No: 488959549-611166545 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2659-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2659-OE



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

Aeronautical Study No.
2021-WTE-2660-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T5
Location:	Bowman, ND
Latitude:	46-13-03.57N NAD 83
Longitude:	103-36-12.52W
Heights:	3173 feet site elevation (SE) 499 feet above ground level (AGL) 3672 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, M , Obstruction Marking and Lighting, white paint only-Chapters 13(Turbines)&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2660-OE.

Signature Control No: 488959550-611166350 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2660-OE

Based upon the information provided and most recent wind farm layout plan, we have determined that your request for reduced lighting of this wind turbine meets the guidance prescribed in FAA Advisory Circular 70/7460-1, Chapter 13.5. As a condition, the adjacent structures must continue to be obstruction marked and lighted as specified in their FAA determinations. If at any point in the future, the adjacent structures are unlighted, reduced in height, relocated, dismantled or abandoned, resulting in an unlighted gap greater than ½ statute mile (2640 ft. / 804.67 m.) between lighted turbines, lighting of this structure will be immediately required. The proponent for this study is responsible for monitoring the situation and will promptly initiate a marking and lighting study by E-filing FAA form 7460-1, "Notice of Proposed Construction or Alteration" at the FAA public website https://oeaaa.faa.gov.

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

Sectional Map for ASN 2021-WTE-2660-OE

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

Aeronautical Study No.
2021-WTE-2661-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T6a
Location:	Bowman, ND
Latitude:	46-12-55.79N NAD 83
Longitude:	103-35-29.19W
Heights:	3129 feet site elevation (SE)
	499 feet above ground level (AGL)
	3628 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, M , Obstruction Marking and Lighting, white paint only-Chapters 13(Turbines)&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2661-OE.

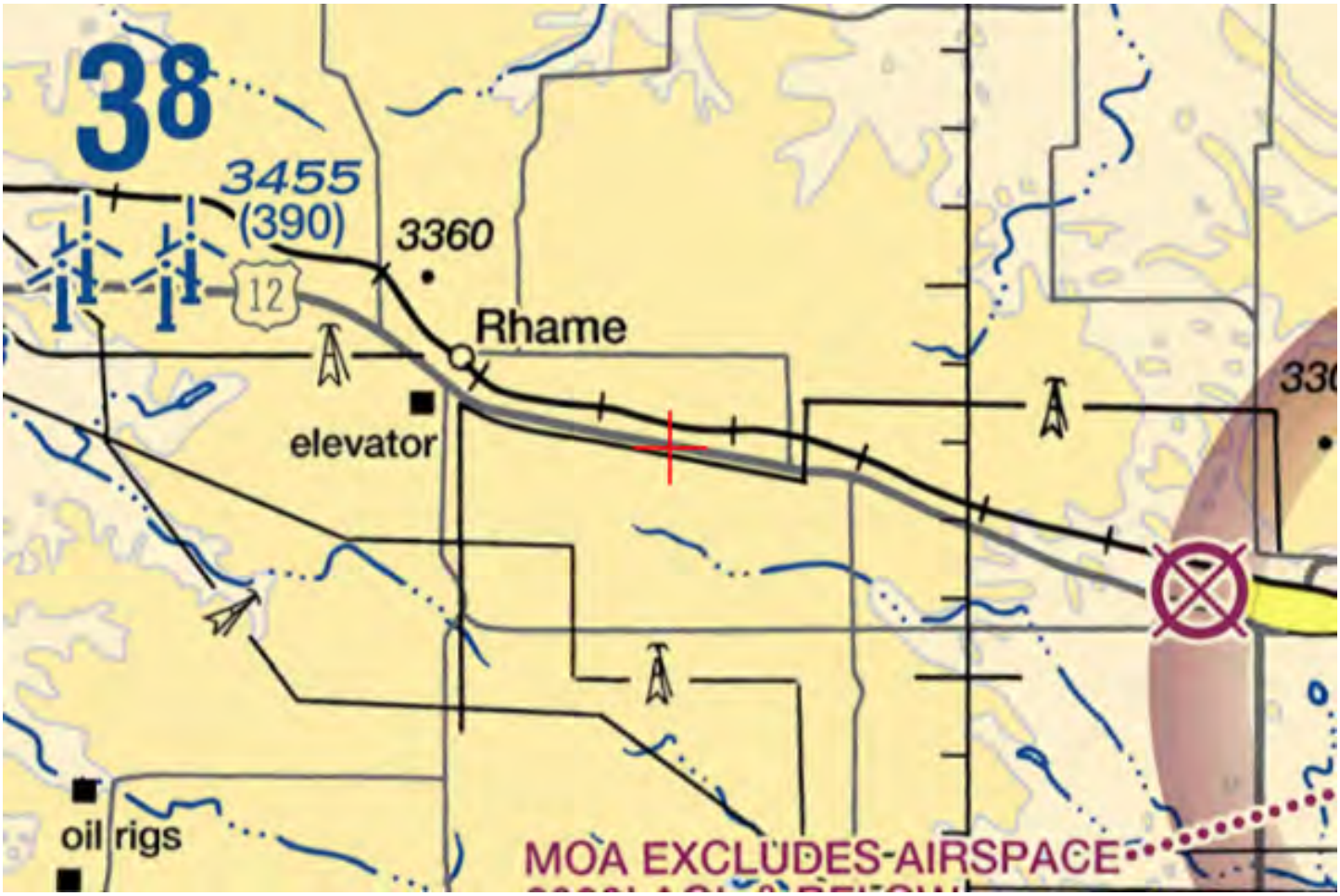
Signature Control No: 488959552-611166355 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Based upon the information provided and most recent wind farm layout plan, we have determined that your request for reduced lighting of this wind turbine meets the guidance prescribed in FAA Advisory Circular 70/7460-1, Chapter 13.5. As a condition, the adjacent structures must continue to be obstruction marked and lighted as specified in their FAA determinations. If at any point in the future, the adjacent structures are unlighted, reduced in height, relocated, dismantled or abandoned, resulting in an unlighted gap greater than ½ statute mile (2640 ft. / 804.67 m.) between lighted turbines, lighting of this structure will be immediately required. The proponent for this study is responsible for monitoring the situation and will promptly initiate a marking and lighting study by E-filing FAA form 7460-1, "Notice of Proposed Construction or Alteration" at the FAA public website https://oeaaa.faa.gov.

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

Sectional Map for ASN 2021-WTE-2661-OE



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

Aeronautical Study No.
2021-WTE-2662-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T7a
Location:	Bowman, ND
Latitude:	46-12-52.48N NAD 83
Longitude:	103-34-50.75W
Heights:	3118 feet site elevation (SE) 499 feet above ground level (AGL) 3617 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2662-OE.

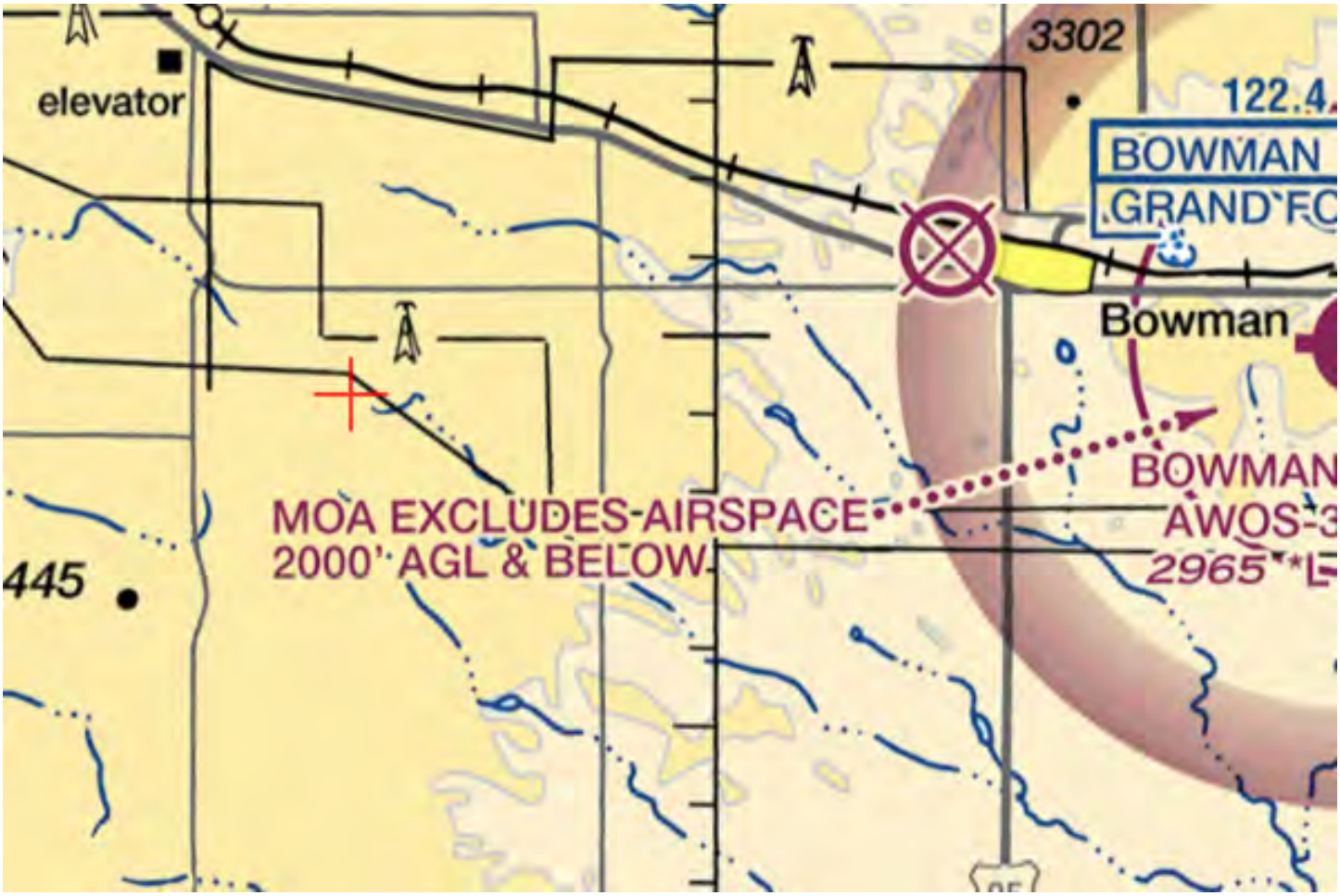
Signature Control No: 488959555-611166554 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2662-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2662-OE



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

Aeronautical Study No.
2021-WTE-2663-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T8
Location:	Bowman, ND
Latitude:	46-12-49.03N NAD 83
Longitude:	103-31-03.30W
Heights:	3053 feet site elevation (SE) 499 feet above ground level (AGL) 3552 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2663-OE.

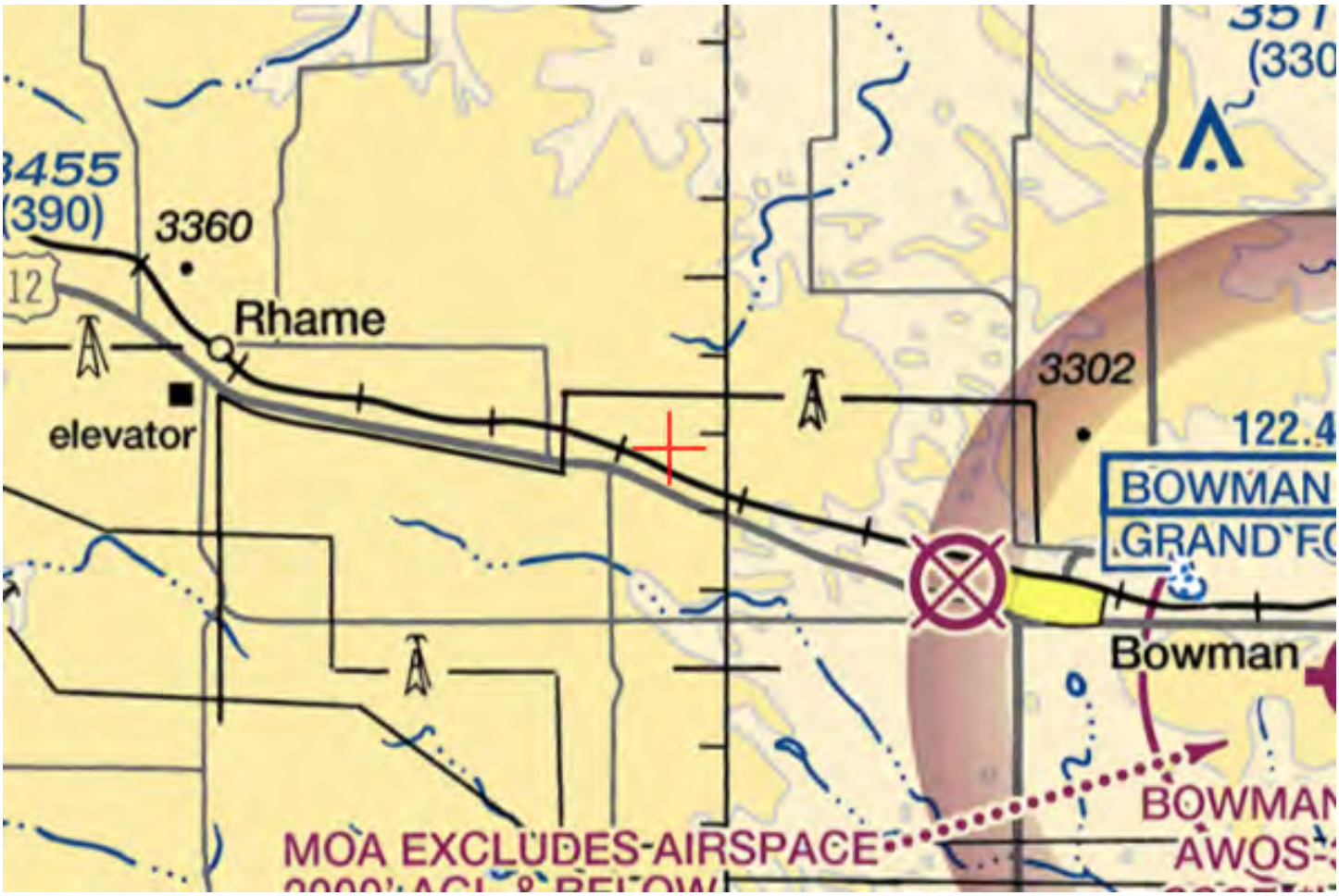
Signature Control No: 488959558-611166561 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2663-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2663-OE



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

Aeronautical Study No.
2021-WTE-2664-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T9a
Location:	Bowman, ND
Latitude:	46-12-49.54N NAD 83
Longitude:	103-34-12.50W
Heights:	3121 feet site elevation (SE)
	499 feet above ground level (AGL)
	3620 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2664-OE.

Signature Control No: 488959559-611166563 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2664-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2664-OE

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

Aeronautical Study No.
2021-WTE-2665-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T10
Location:	Bowman, ND
Latitude:	46-12-40.06N NAD 83
Longitude:	103-30-21.11W
Heights:	3076 feet site elevation (SE)
	499 feet above ground level (AGL)
	3575 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2665-OE.

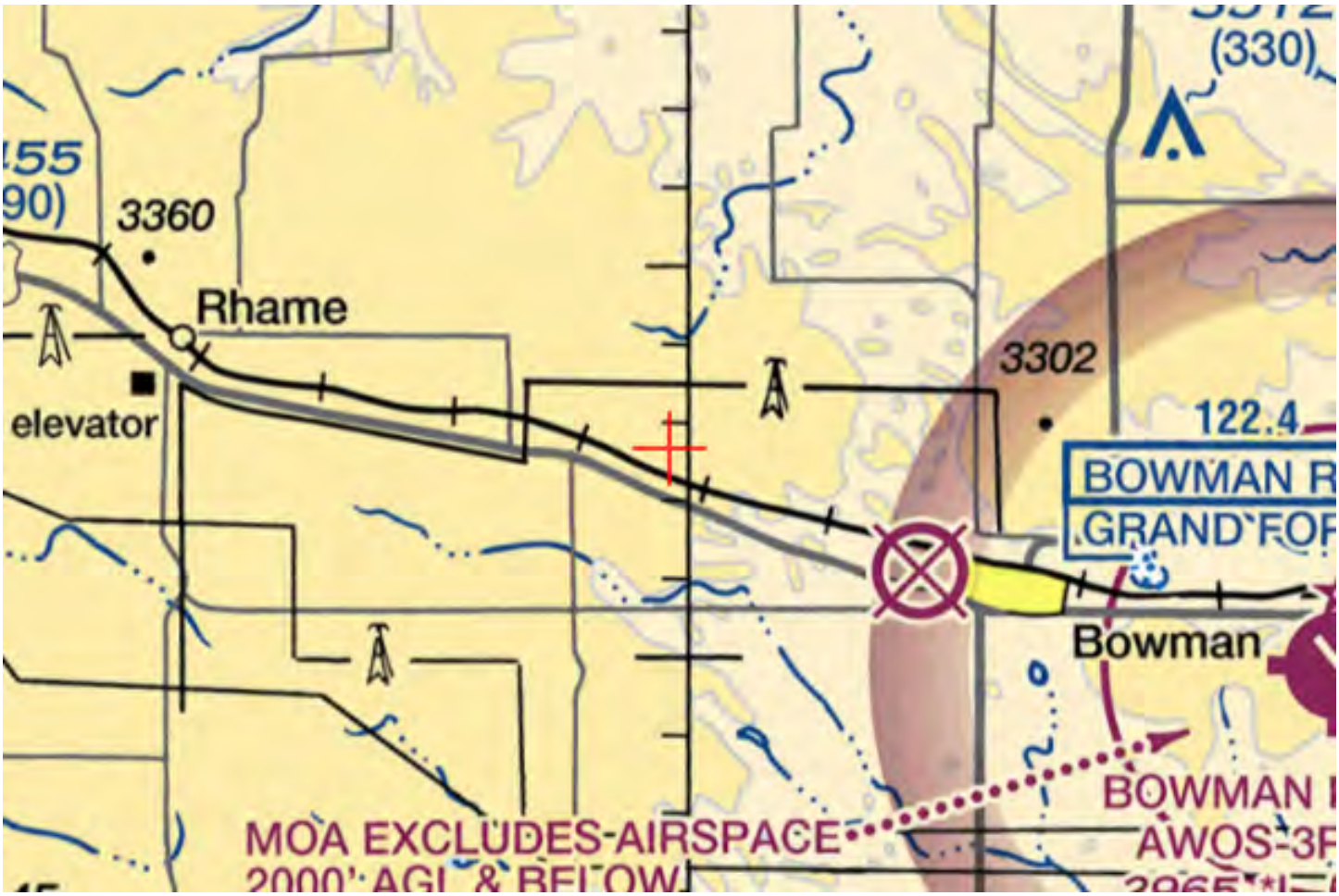
Signature Control No: 488959560-611166562 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2665-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2665-OE



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

Aeronautical Study No.
2021-WTE-2666-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T11
Location:	Bowman, ND
Latitude:	46-12-42.63N NAD 83
Longitude:	103-35-48.96W
Heights:	3159 feet site elevation (SE) 499 feet above ground level (AGL) 3658 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, M , Obstruction Marking and Lighting, white paint only-Chapters 13(Turbines)&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2666-OE.

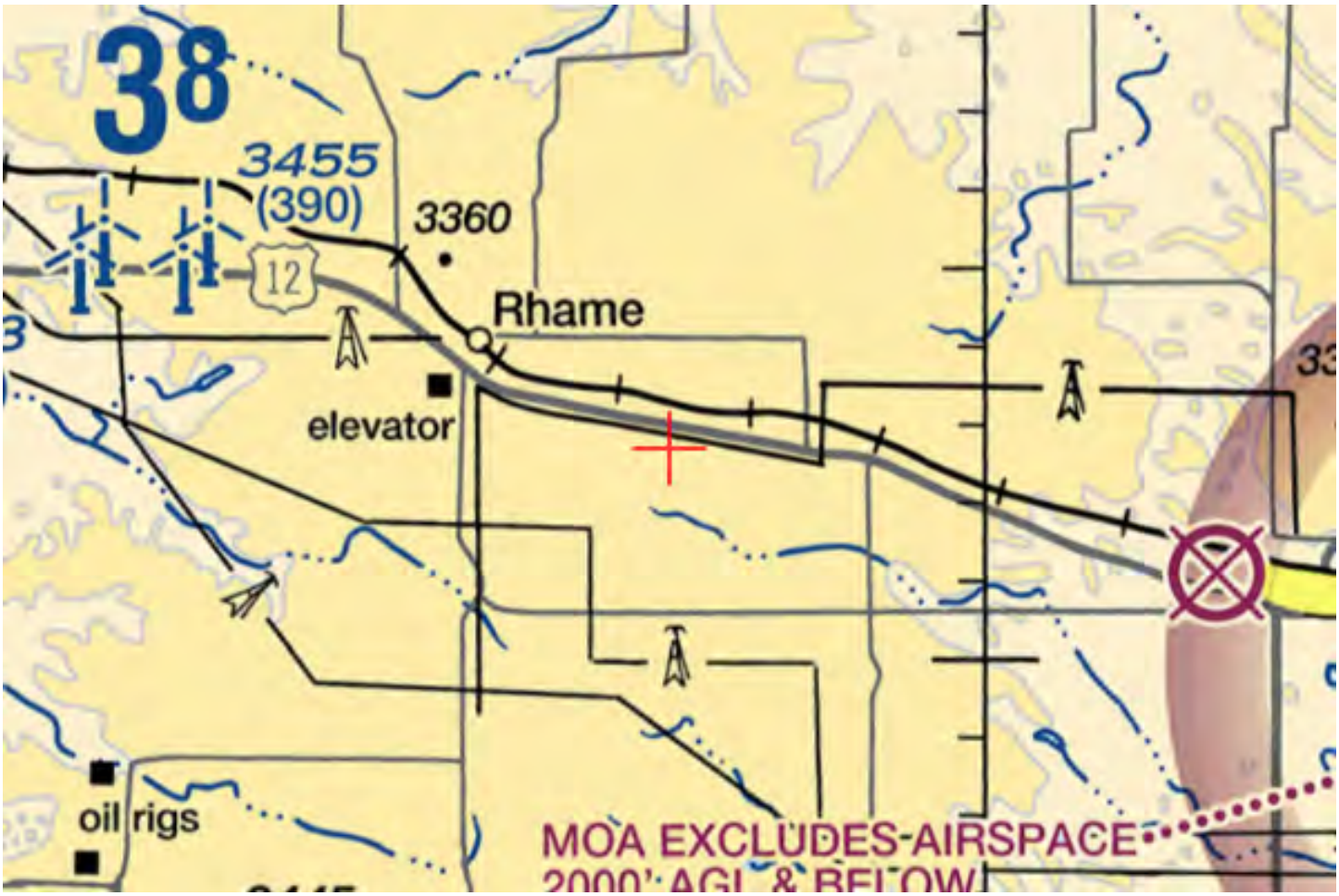
Signature Control No: 488959563-611166344 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Based upon the information provided and most recent wind farm layout plan, we have determined that your request for reduced lighting of this wind turbine meets the guidance prescribed in FAA Advisory Circular 70/7460-1, Chapter 13.5. As a condition, the adjacent structures must continue to be obstruction marked and lighted as specified in their FAA determinations. If at any point in the future, the adjacent structures are unlighted, reduced in height, relocated, dismantled or abandoned, resulting in an unlighted gap greater than ½ statute mile (2640 ft. / 804.67 m.) between lighted turbines, lighting of this structure will be immediately required. The proponent for this study is responsible for monitoring the situation and will promptly initiate a marking and lighting study by E-filing FAA form 7460-1, "Notice of Proposed Construction or Alteration" at the FAA public website https://oeaaa.faa.gov.

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

Sectional Map for ASN 2021-WTE-2666-OE



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

Aeronautical Study No.
2021-WTE-2667-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T12
Location:	Bowman, ND
Latitude:	46-12-37.21N NAD 83
Longitude:	103-35-26.56W
Heights:	3163 feet site elevation (SE)
	499 feet above ground level (AGL)
	3662 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2667-OE.

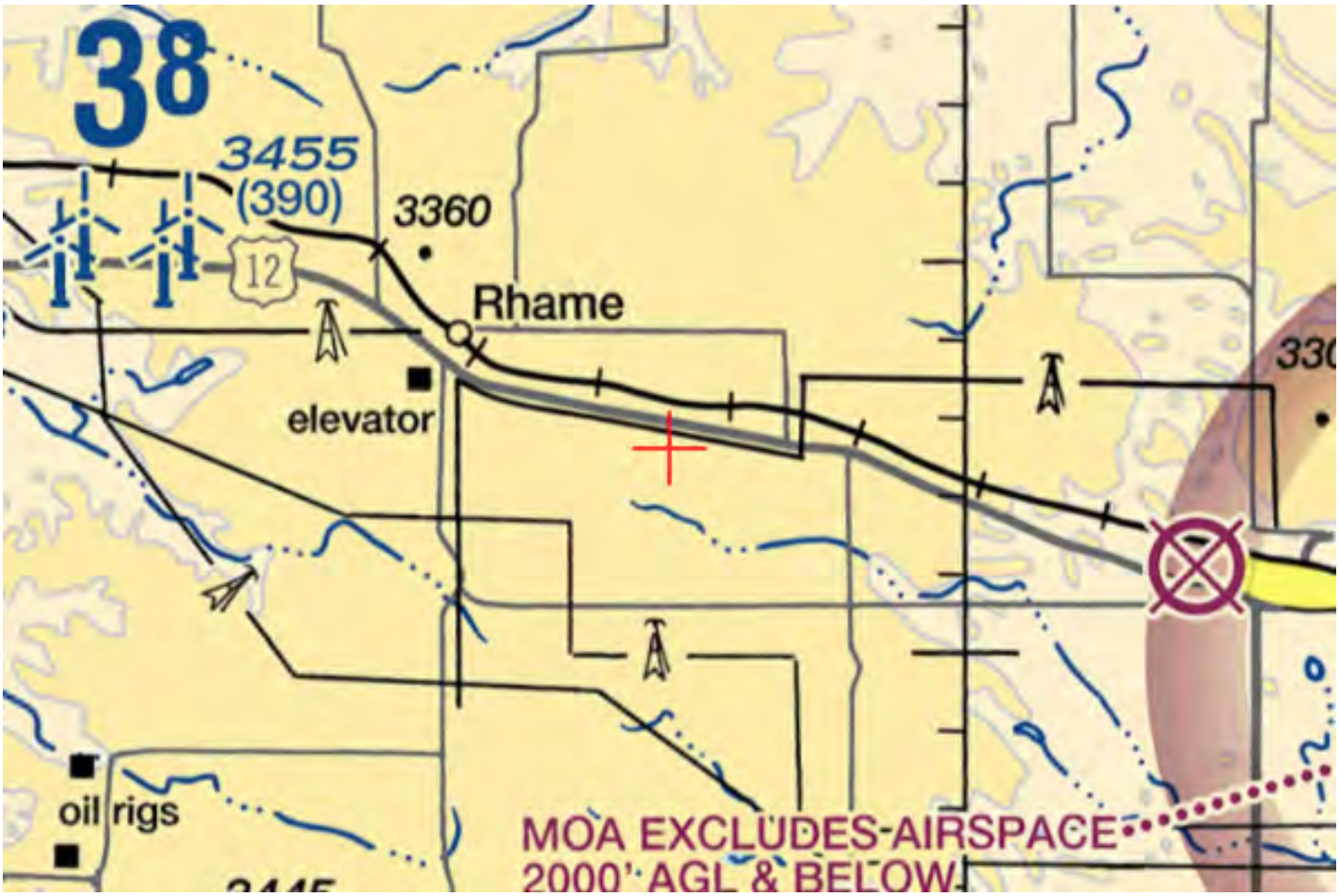
Signature Control No: 488959564-611166557 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2667-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2667-OE



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

Aeronautical Study No.
2021-WTE-2668-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T13
Location:	Bowman, ND
Latitude:	46-12-36.75N NAD 83
Longitude:	103-36-05.28W
Heights:	3180 feet site elevation (SE)
	499 feet above ground level (AGL)
	3679 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2668-OE.

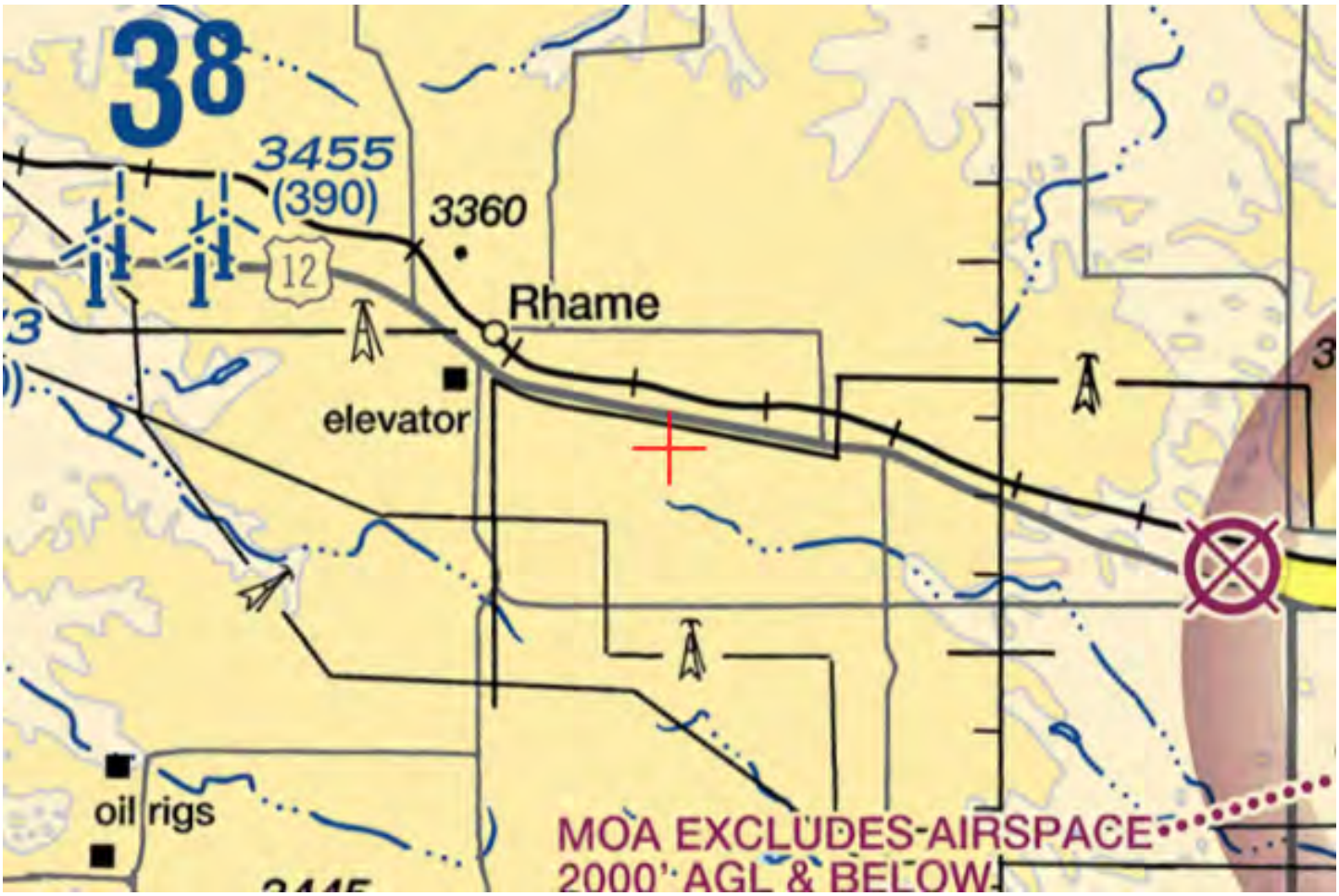
Signature Control No: 488959565-611166555 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2668-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2668-OE



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

Aeronautical Study No.
2021-WTE-2669-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T14a
Location:	Bowman, ND
Latitude:	46-12-26.04N NAD 83
Longitude:	103-34-49.64W
Heights:	3115 feet site elevation (SE)
	499 feet above ground level (AGL)
	3614 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2669-OE.

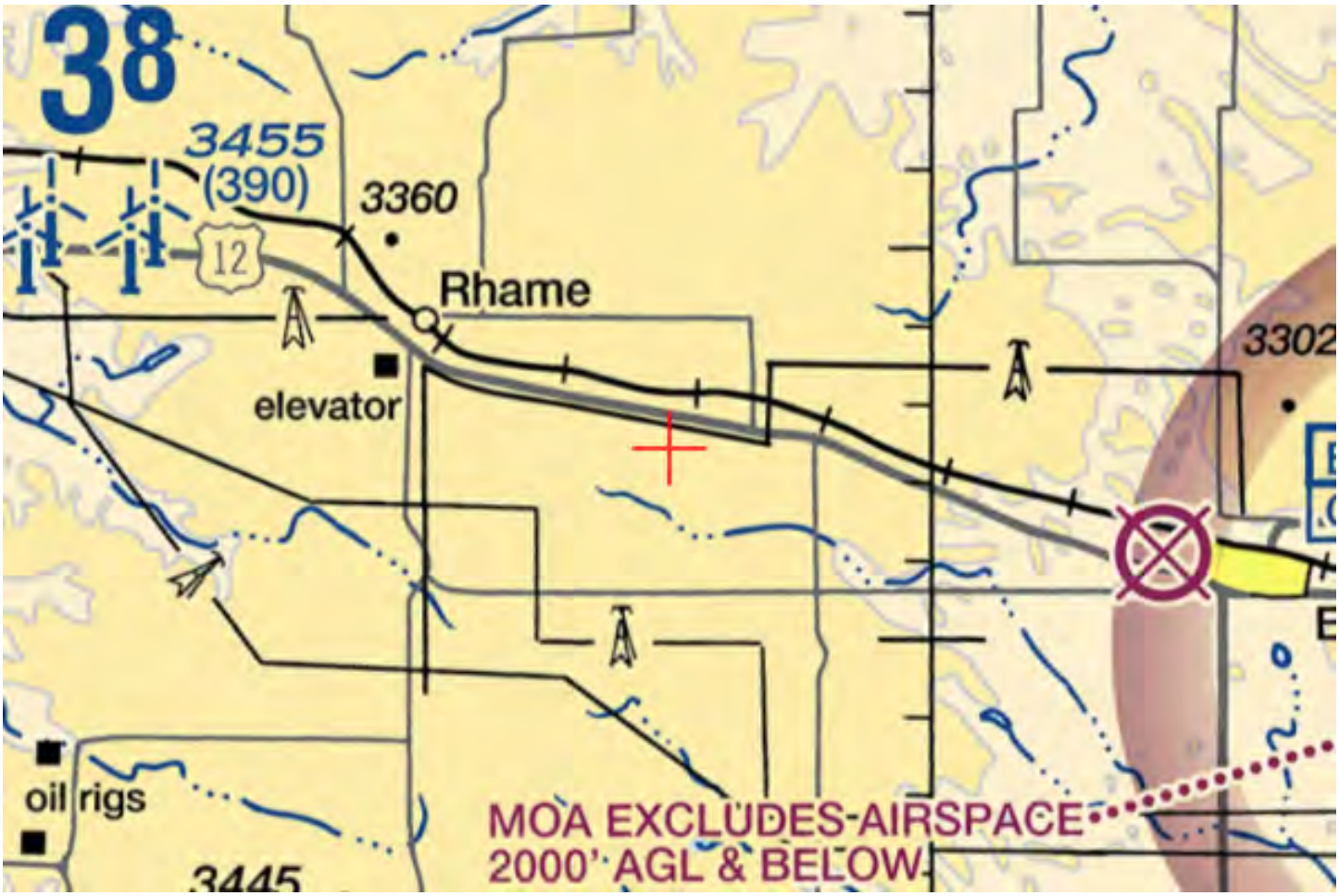
Signature Control No: 488959566-611166548 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2669-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2669-OE



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

Aeronautical Study No.
2021-WTE-2670-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T15
Location:	Bowman, ND
Latitude:	46-12-05.65N NAD 83
Longitude:	103-31-16.13W
Heights:	3016 feet site elevation (SE) 499 feet above ground level (AGL) 3515 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2670-OE.

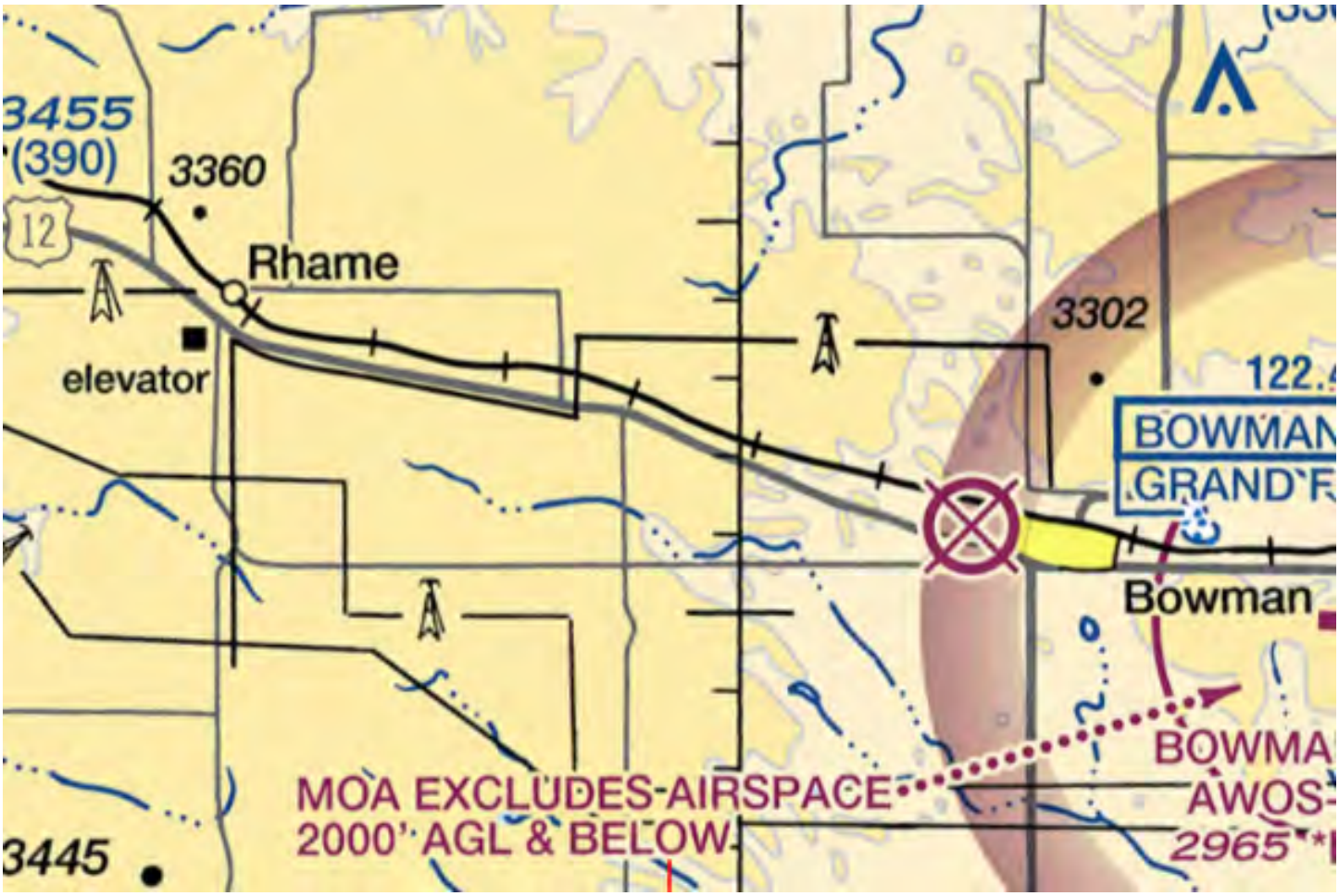
Signature Control No: 488959570-611166552 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2670-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2670-OE



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

Aeronautical Study No.
2021-WTE-2674-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T19
Location:	Bowman, ND
Latitude:	46-10-59.44N NAD 83
Longitude:	103-32-50.22W
Heights:	3077 feet site elevation (SE) 499 feet above ground level (AGL) 3576 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2674-OE.

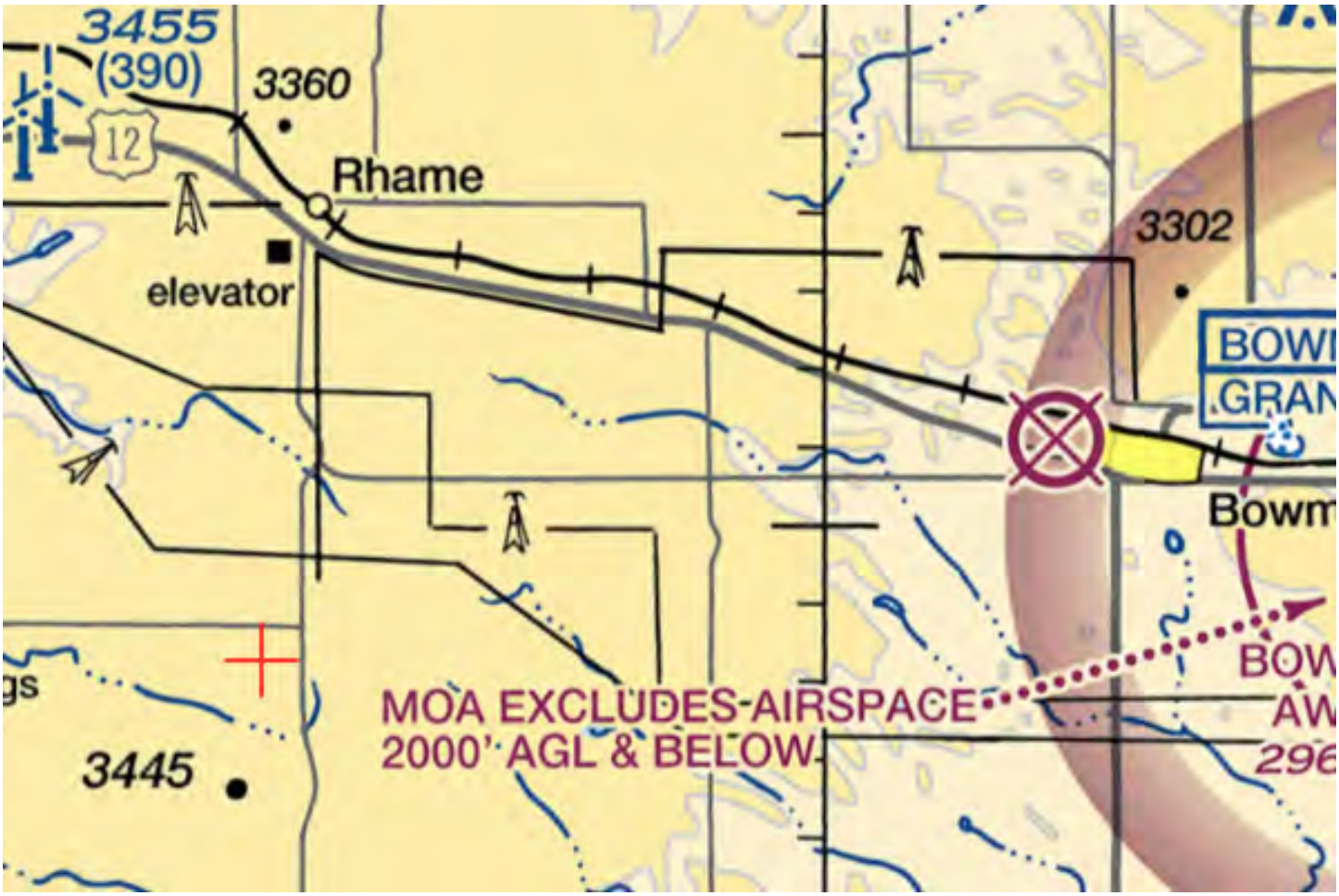
Signature Control No: 488959581-611166556 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2674-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2674-OE



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

Aeronautical Study No.
2021-WTE-2675-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T20a
Location:	Bowman, ND
Latitude:	46-09-38.17N NAD 83
Longitude:	103-39-03.73W
Heights:	3225 feet site elevation (SE)
	499 feet above ground level (AGL)
	3724 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2675-OE.

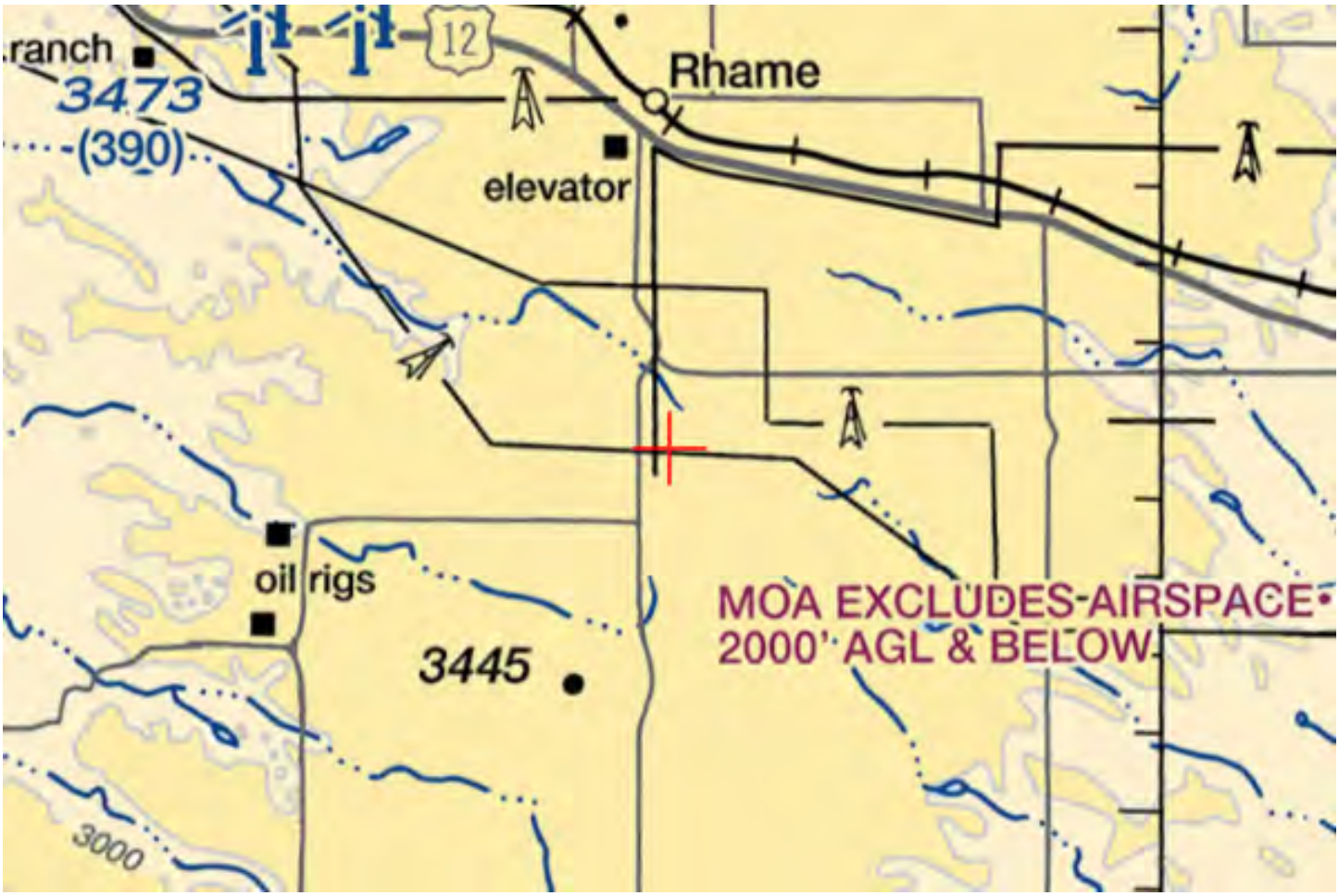
Signature Control No: 488959582-611166559 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2675-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2675-OE



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

Aeronautical Study No.
2021-WTE-2676-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T21
Location:	Bowman, ND
Latitude:	46-09-32.65N NAD 83
Longitude:	103-39-17.37W
Heights:	3221 feet site elevation (SE) 499 feet above ground level (AGL) 3720 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, M , Obstruction Marking and Lighting, white paint only-Chapters 13(Turbines)&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2676-OE.

Signature Control No: 488959586-611166354 (MAL -WT)
Buck Reynolds
Specialist

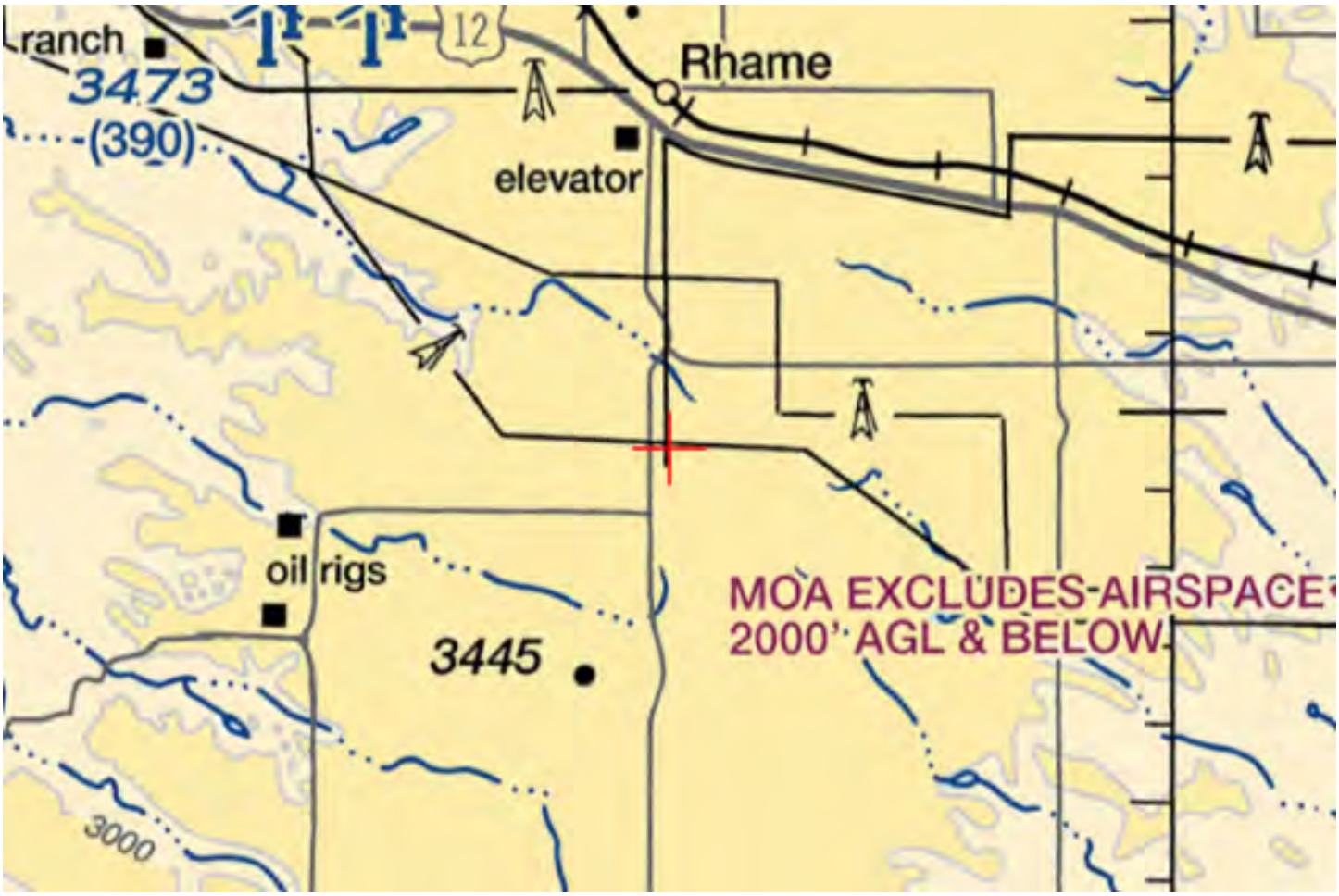
Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2676-OE

Based upon the information provided and most recent wind farm layout plan, we have determined that your request for reduced lighting of this wind turbine meets the guidance prescribed in FAA Advisory Circular 70/7460-1, Chapter 13.5. As a condition, the adjacent structures must continue to be obstruction marked and lighted as specified in their FAA determinations. If at any point in the future, the adjacent structures are unlighted, reduced in height, relocated, dismantled or abandoned, resulting in an unlighted gap greater than ½ statute mile (2640 ft. / 804.67 m.) between lighted turbines, lighting of this structure will be immediately required. The proponent for this study is responsible for monitoring the situation and will promptly initiate a marking and lighting study by E-filing FAA form 7460-1, "Notice of Proposed Construction or Alteration" at the FAA public website https://oeaaa.faa.gov.

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

Sectional Map for ASN 2021-WTE-2676-OE



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

Aeronautical Study No.
2021-WTE-2677-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T22
Location:	Bowman, ND
Latitude:	46-09-28.05N NAD 83
Longitude:	103-35-02.08W
Heights:	3217 feet site elevation (SE)
	499 feet above ground level (AGL)
	3716 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2677-OE.

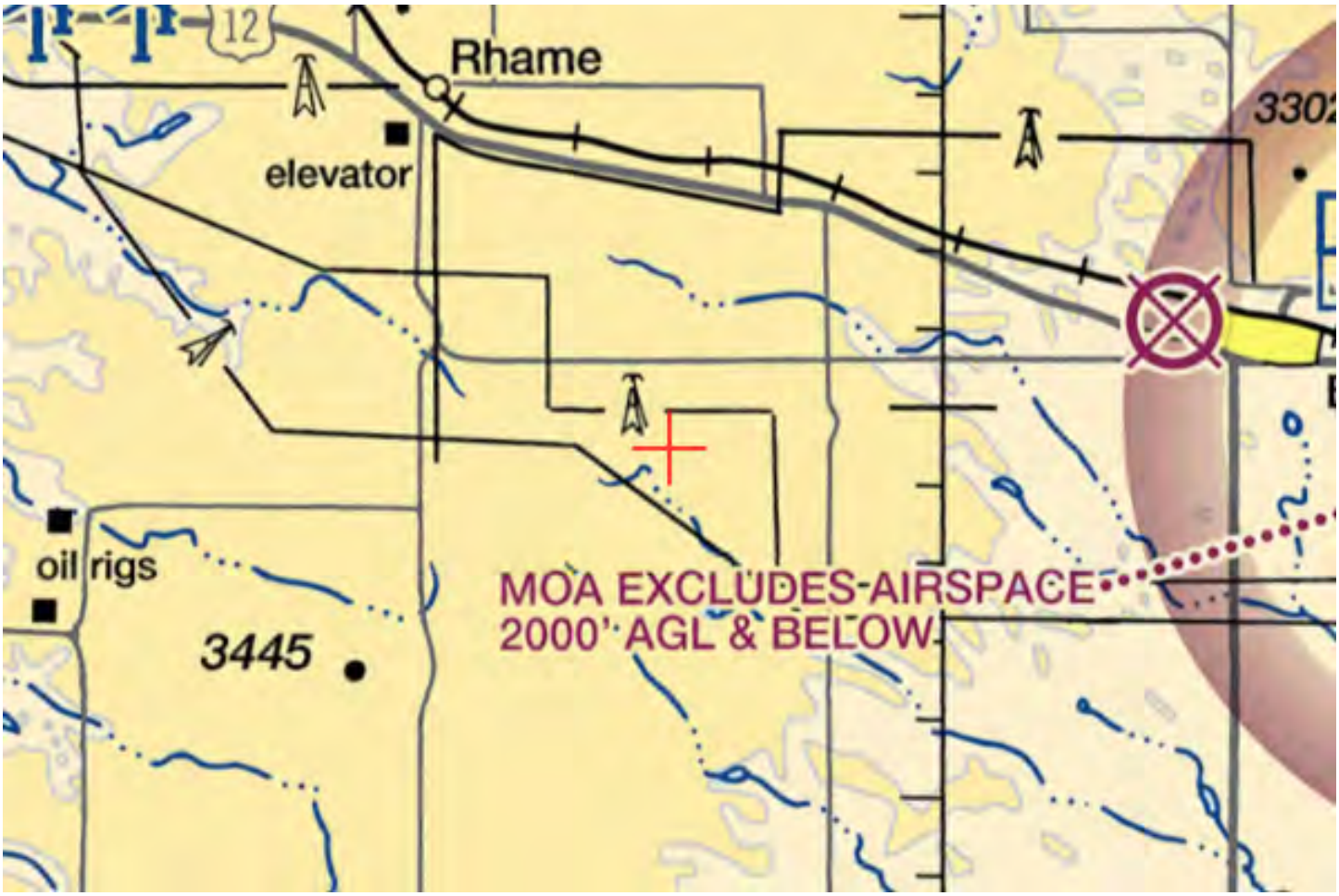
Signature Control No: 488959592-611166544 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2677-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2677-OE



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

Aeronautical Study No.
2021-WTE-2678-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T23
Location:	Bowman, ND
Latitude:	46-09-15.17N NAD 83
Longitude:	103-31-20.47W
Heights:	3065 feet site elevation (SE)
	499 feet above ground level (AGL)
	3564 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2678-OE.

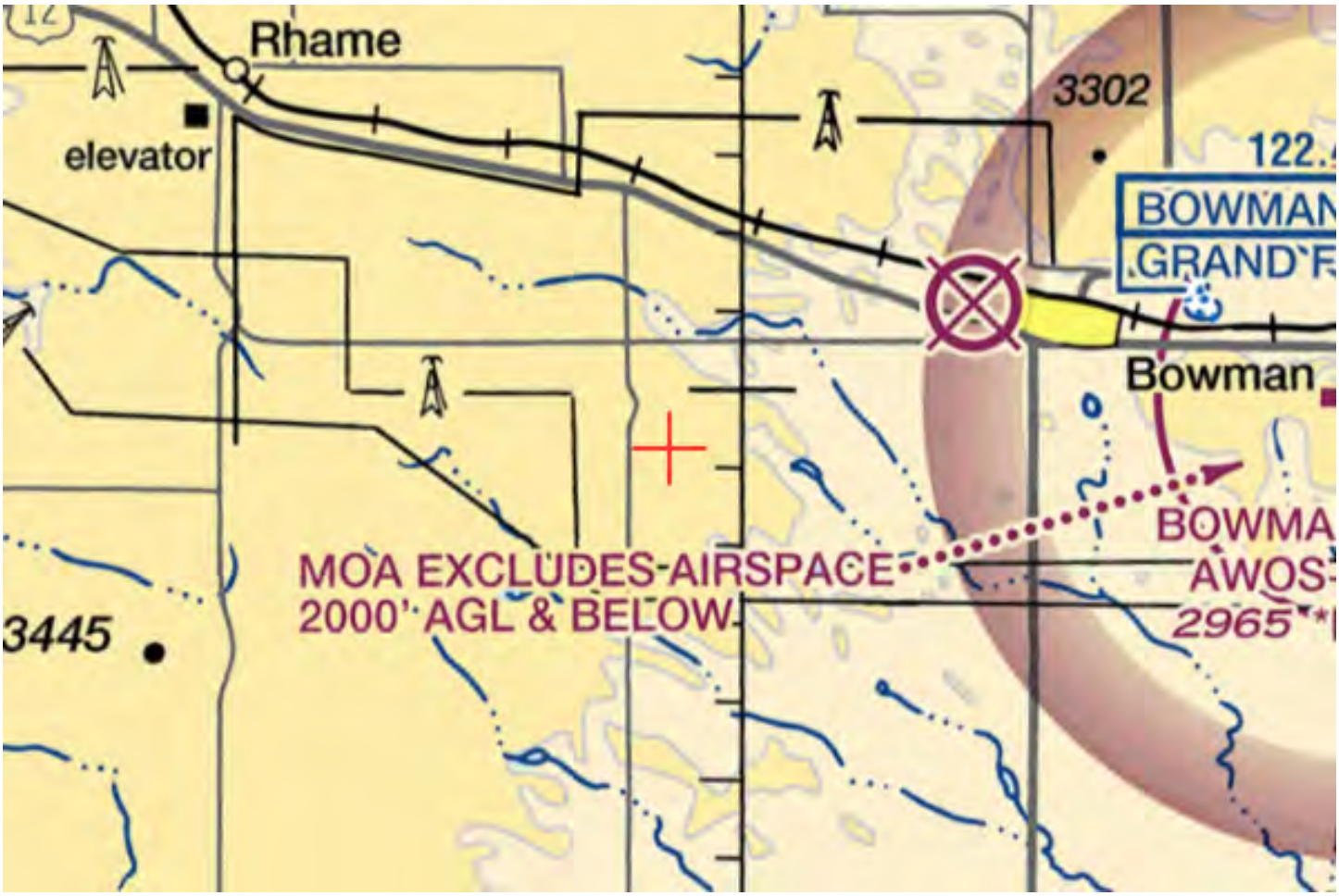
Signature Control No: 488959595-611166560 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2678-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2678-OE



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

Aeronautical Study No.
2021-WTE-2679-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T24
Location:	Bowman, ND
Latitude:	46-09-14.74N NAD 83
Longitude:	103-31-39.61W
Heights:	3091 feet site elevation (SE)
	499 feet above ground level (AGL)
	3590 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, M , Obstruction Marking and Lighting, white paint only-Chapters 13(Turbines)&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2679-OE.

Signature Control No: 488959596-611166337 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2679-OE

Based upon the information provided and most recent wind farm layout plan, we have determined that your request for reduced lighting of this wind turbine meets the guidance prescribed in FAA Advisory Circular 70/7460-1, Chapter 13.5. As a condition, the adjacent structures must continue to be obstruction marked and lighted as specified in their FAA determinations. If at any point in the future, the adjacent structures are unlighted, reduced in height, relocated, dismantled or abandoned, resulting in an unlighted gap greater than ½ statute mile (2640 ft. / 804.67 m.) between lighted turbines, lighting of this structure will be immediately required. The proponent for this study is responsible for monitoring the situation and will promptly initiate a marking and lighting study by E-filing FAA form 7460-1, "Notice of Proposed Construction or Alteration" at the FAA public website https://oeaaa.faa.gov.

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

Sectional Map for ASN 2021-WTE-2679-OE

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

Aeronautical Study No.
2021-WTE-2680-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T25
Location:	Bowman, ND
Latitude:	46-09-14.21N NAD 83
Longitude:	103-36-43.08W
Heights:	3378 feet site elevation (SE) 499 feet above ground level (AGL) 3877 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2680-OE.

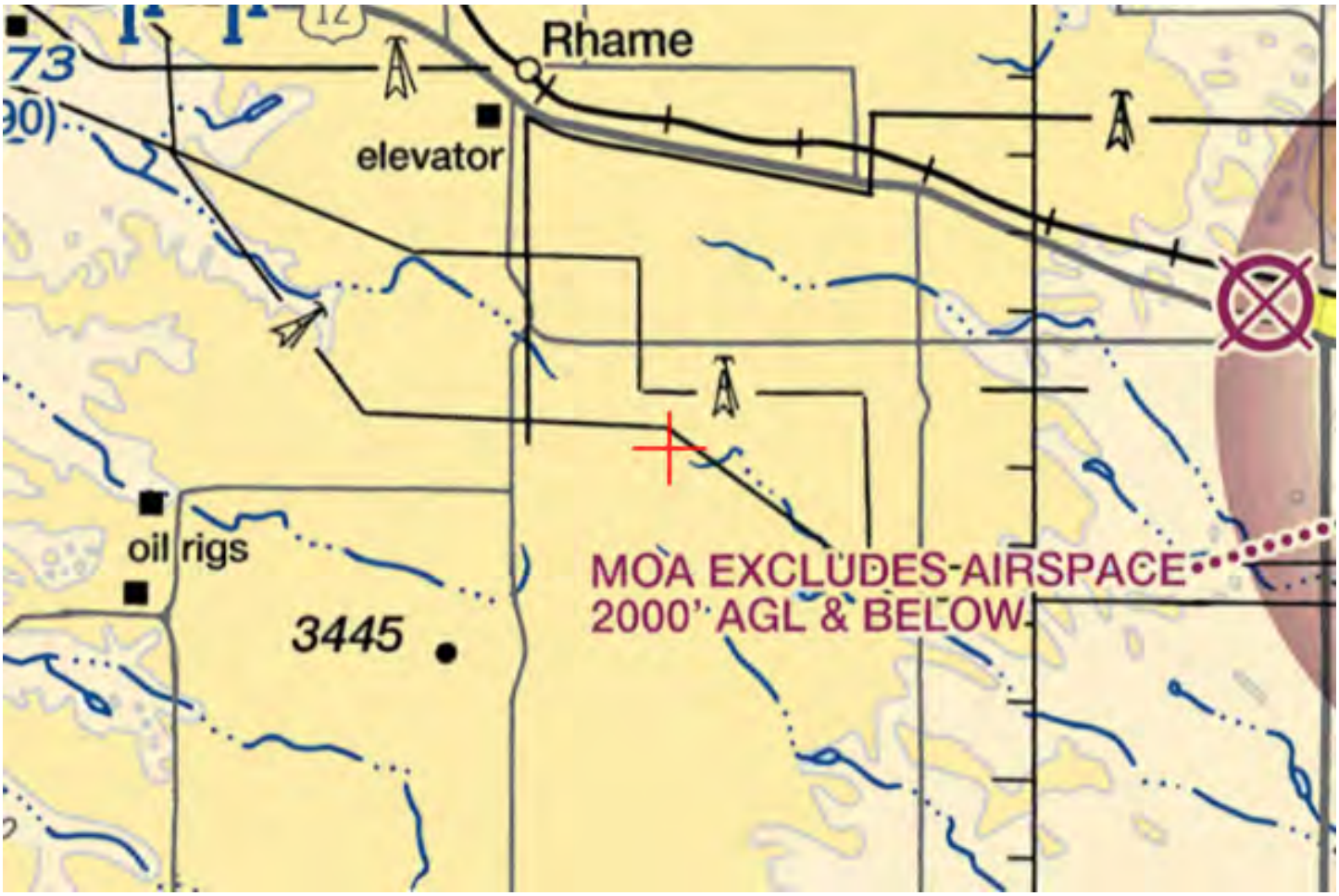
Signature Control No: 488959597-611166558 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2680-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2680-OE



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

Aeronautical Study No.
2021-WTE-2681-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T26
Location:	Bowman, ND
Latitude:	46-09-15.47N NAD 83
Longitude:	103-41-38.17W
Heights:	3138 feet site elevation (SE)
	499 feet above ground level (AGL)
	3637 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2681-OE.

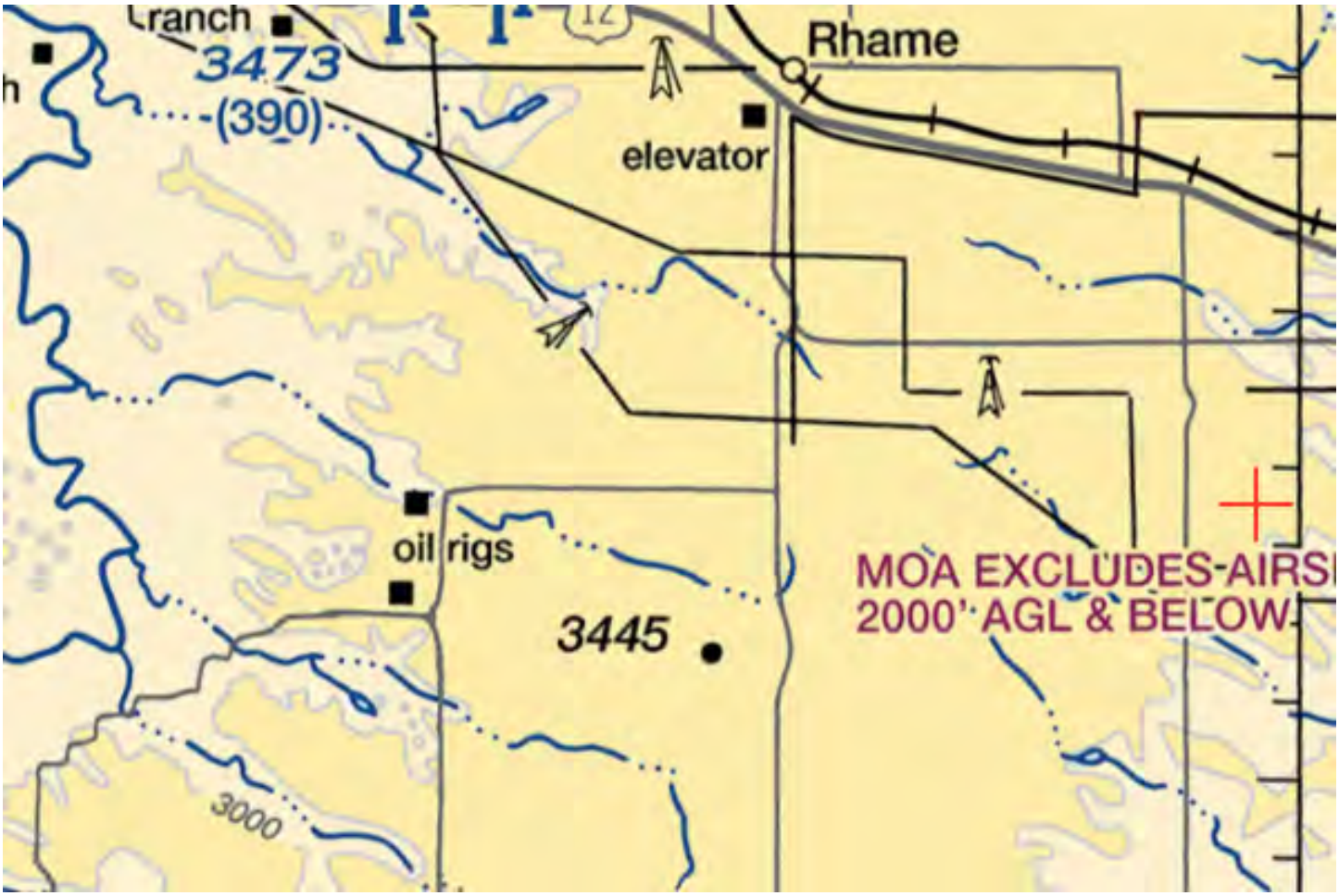
Signature Control No: 488959600-611166553 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2681-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2681-OE



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

Aeronautical Study No.
2021-WTE-2682-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T27
Location:	Bowman, ND
Latitude:	46-09-04.78N NAD 83
Longitude:	103-35-10.85W
Heights:	3150 feet site elevation (SE)
	499 feet above ground level (AGL)
	3649 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2682-OE.

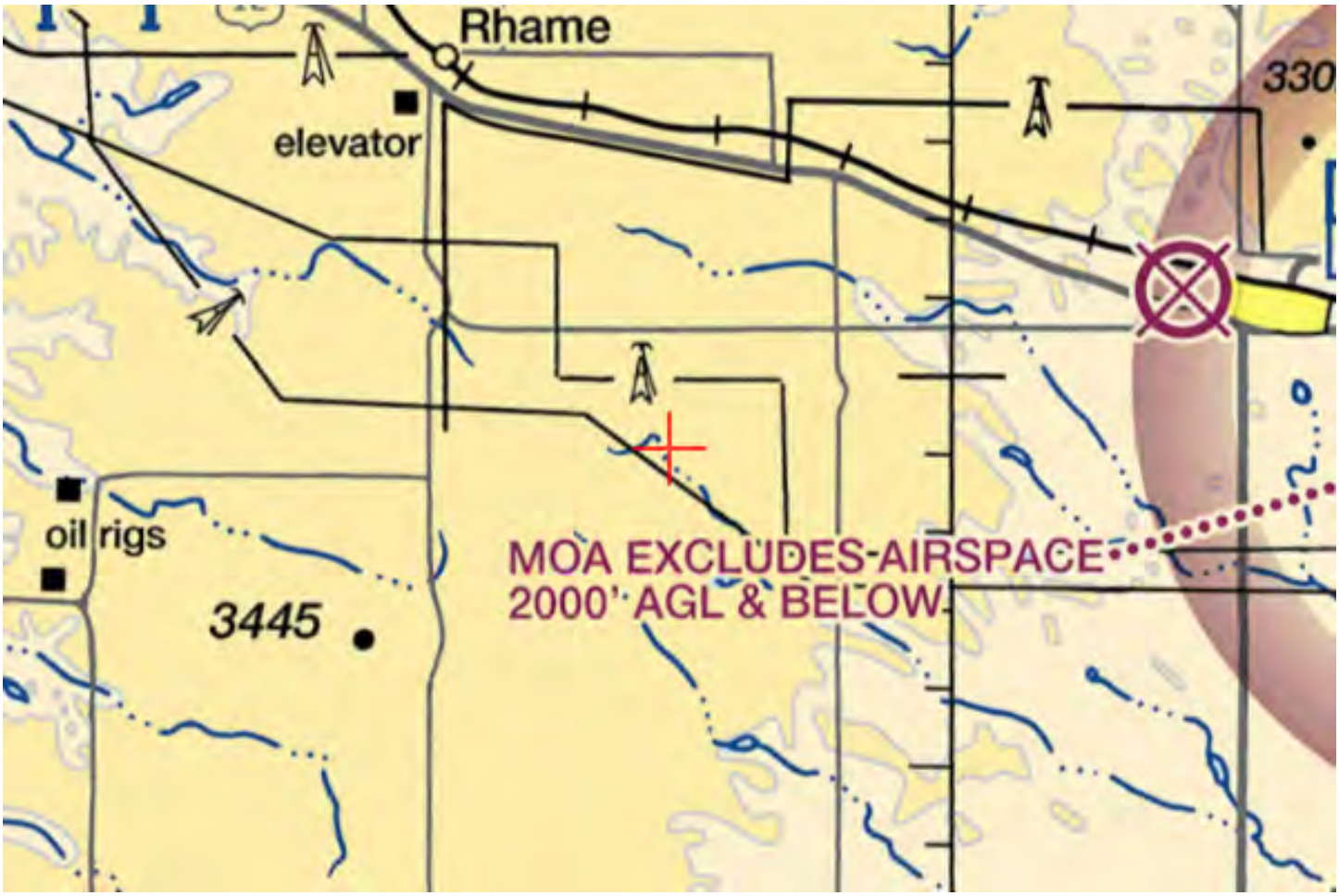
Signature Control No: 488959601-611166569 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2682-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2682-OE



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

Aeronautical Study No.
2021-WTE-2683-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T28
Location:	Bowman, ND
Latitude:	46-09-00.82N NAD 83
Longitude:	103-31-44.69W
Heights:	3126 feet site elevation (SE)
	499 feet above ground level (AGL)
	3625 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2683-OE.

Signature Control No: 488959604-611166572 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2683-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2683-OE

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

Aeronautical Study No.
2021-WTE-2685-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T30
Location:	Bowman, ND
Latitude:	46-08-37.51N NAD 83
Longitude:	103-33-50.15W
Heights:	3146 feet site elevation (SE) 499 feet above ground level (AGL) 3645 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2685-OE.

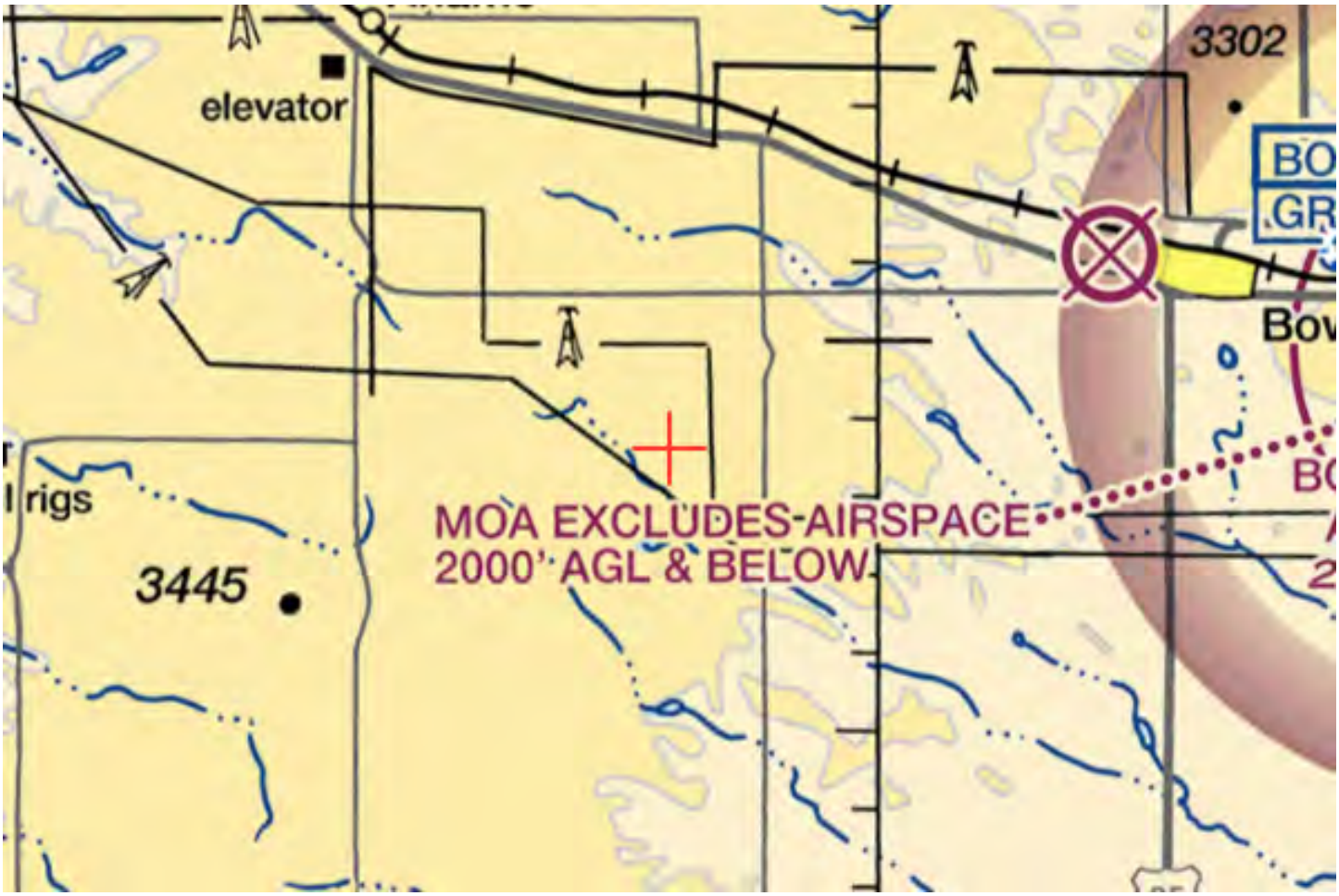
Signature Control No: 488959608-611166573 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2685-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2685-OE



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

Aeronautical Study No.
2021-WTE-2686-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T31
Location:	Bowman, ND
Latitude:	46-08-36.76N NAD 83
Longitude:	103-36-36.41W
Heights:	3244 feet site elevation (SE) 499 feet above ground level (AGL) 3743 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, M , Obstruction Marking and Lighting, white paint only-Chapters 13(Turbines)&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2686-OE.

Signature Control No: 488959609-611166348 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2686-OE

Based upon the information provided and most recent wind farm layout plan, we have determined that your request for reduced lighting of this wind turbine meets the guidance prescribed in FAA Advisory Circular 70/7460-1, Chapter 13.5. As a condition, the adjacent structures must continue to be obstruction marked and lighted as specified in their FAA determinations. If at any point in the future, the adjacent structures are unlighted, reduced in height, relocated, dismantled or abandoned, resulting in an unlighted gap greater than ½ statute mile (2640 ft. / 804.67 m.) between lighted turbines, lighting of this structure will be immediately required. The proponent for this study is responsible for monitoring the situation and will promptly initiate a marking and lighting study by E-filing FAA form 7460-1, "Notice of Proposed Construction or Alteration" at the FAA public website https://oeaaa.faa.gov.

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

Sectional Map for ASN 2021-WTE-2686-OE

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

Aeronautical Study No.
2021-WTE-2687-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T32
Location:	Bowman, ND
Latitude:	46-08-35.89N NAD 83
Longitude:	103-34-19.39W
Heights:	3149 feet site elevation (SE) 499 feet above ground level (AGL) 3648 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2687-OE.

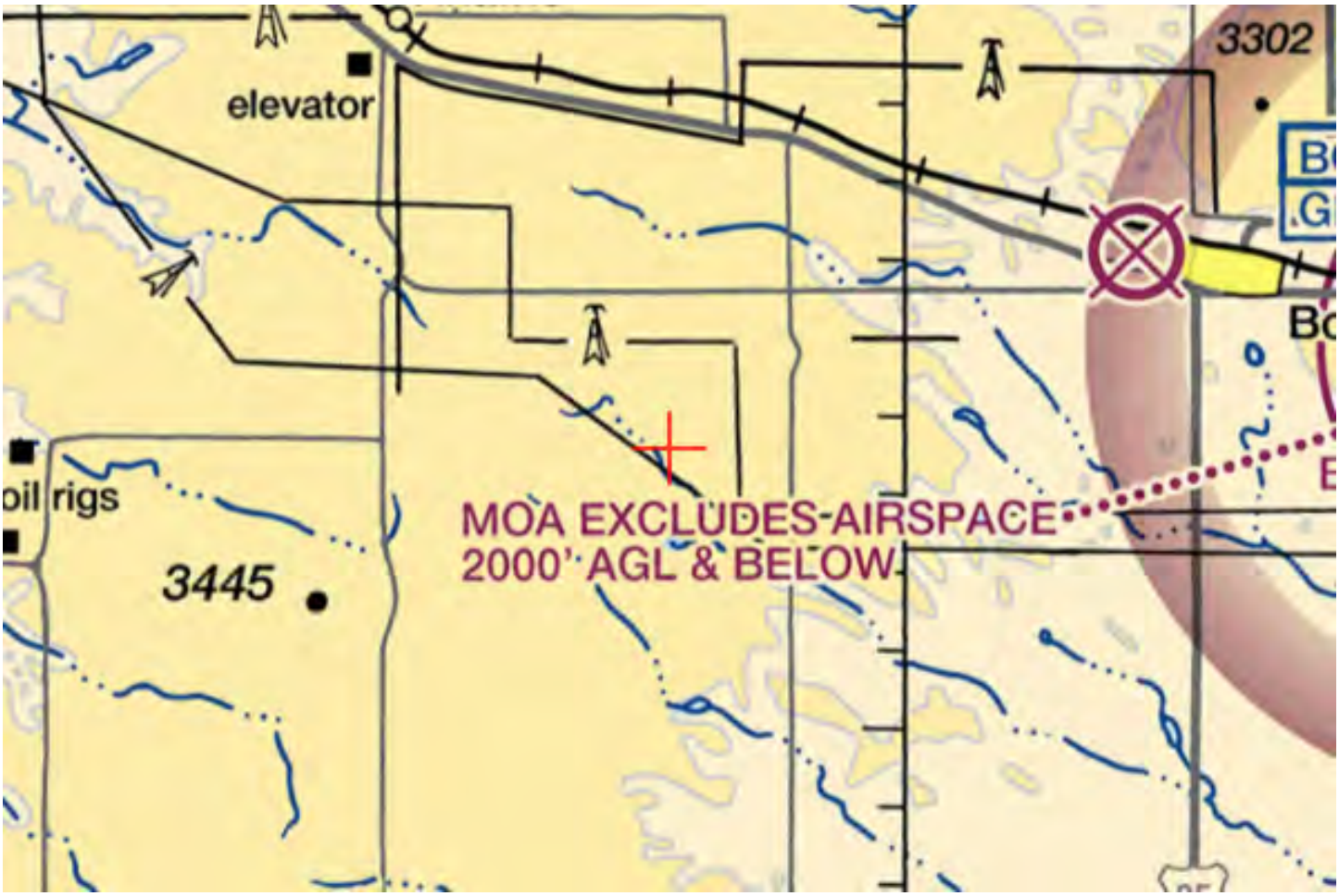
Signature Control No: 488959612-611166574 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2687-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2687-OE



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

Aeronautical Study No.
2021-WTE-2688-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T33a
Location:	Bowman, ND
Latitude:	46-08-23.37N NAD 83
Longitude:	103-34-48.82W
Heights:	3134 feet site elevation (SE)
	499 feet above ground level (AGL)
	3633 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, M , Obstruction Marking and Lighting, white paint only-Chapters 13(Turbines)&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2688-OE.

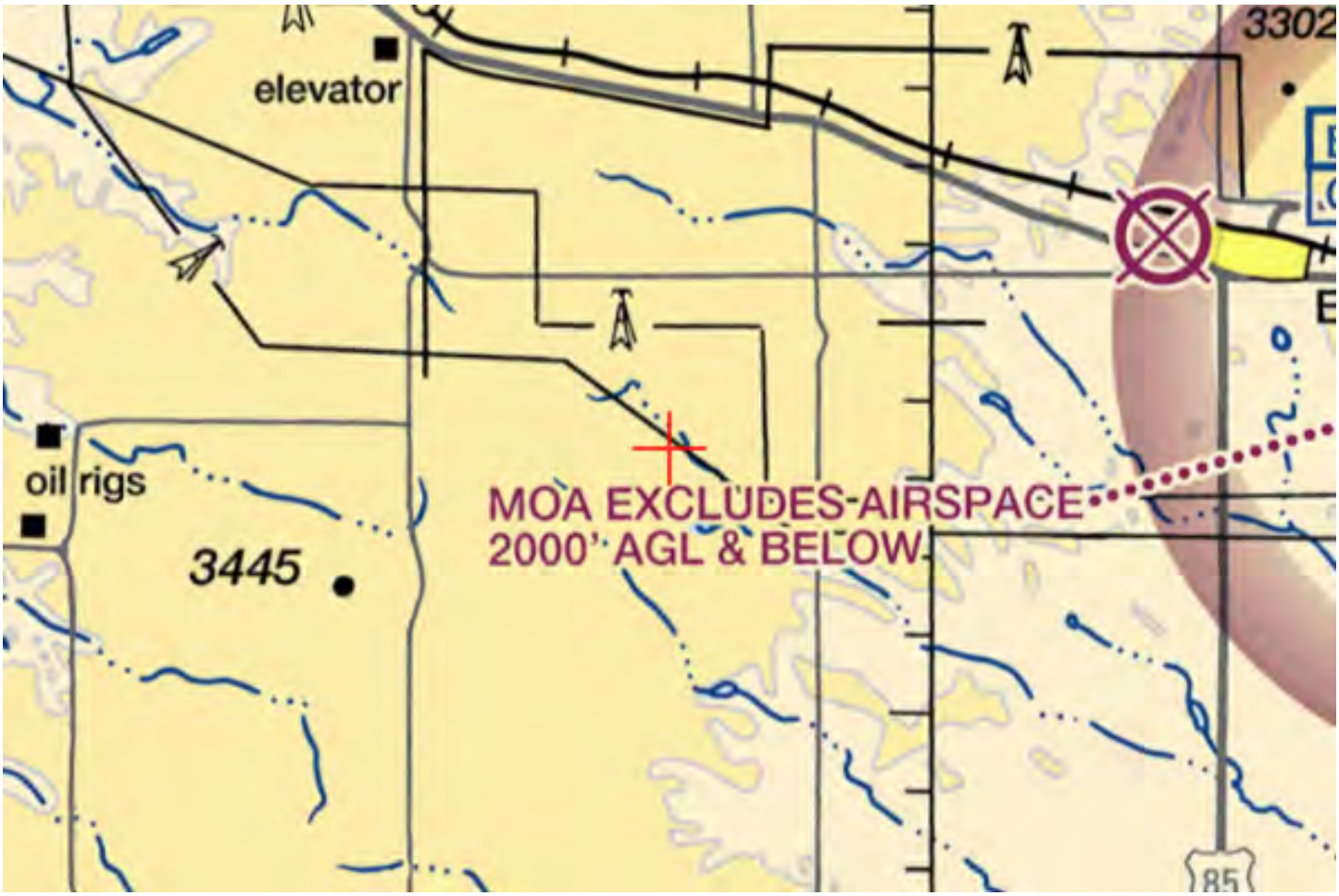
Signature Control No: 488959613-611166347 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Based upon the information provided and most recent wind farm layout plan, we have determined that your request for reduced lighting of this wind turbine meets the guidance prescribed in FAA Advisory Circular 70/7460-1, Chapter 13.5. As a condition, the adjacent structures must continue to be obstruction marked and lighted as specified in their FAA determinations. If at any point in the future, the adjacent structures are unlighted, reduced in height, relocated, dismantled or abandoned, resulting in an unlighted gap greater than ½ statute mile (2640 ft. / 804.67 m.) between lighted turbines, lighting of this structure will be immediately required. The proponent for this study is responsible for monitoring the situation and will promptly initiate a marking and lighting study by E-filing FAA form 7460-1, "Notice of Proposed Construction or Alteration" at the FAA public website https://oeaaa.faa.gov.

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

Sectional Map for ASN 2021-WTE-2688-OE



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

Aeronautical Study No.
2021-WTE-2689-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T34
Location:	Bowman, ND
Latitude:	46-08-23.41N NAD 83
Longitude:	103-36-39.55W
Heights:	3194 feet site elevation (SE)
	499 feet above ground level (AGL)
	3693 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2689-OE.

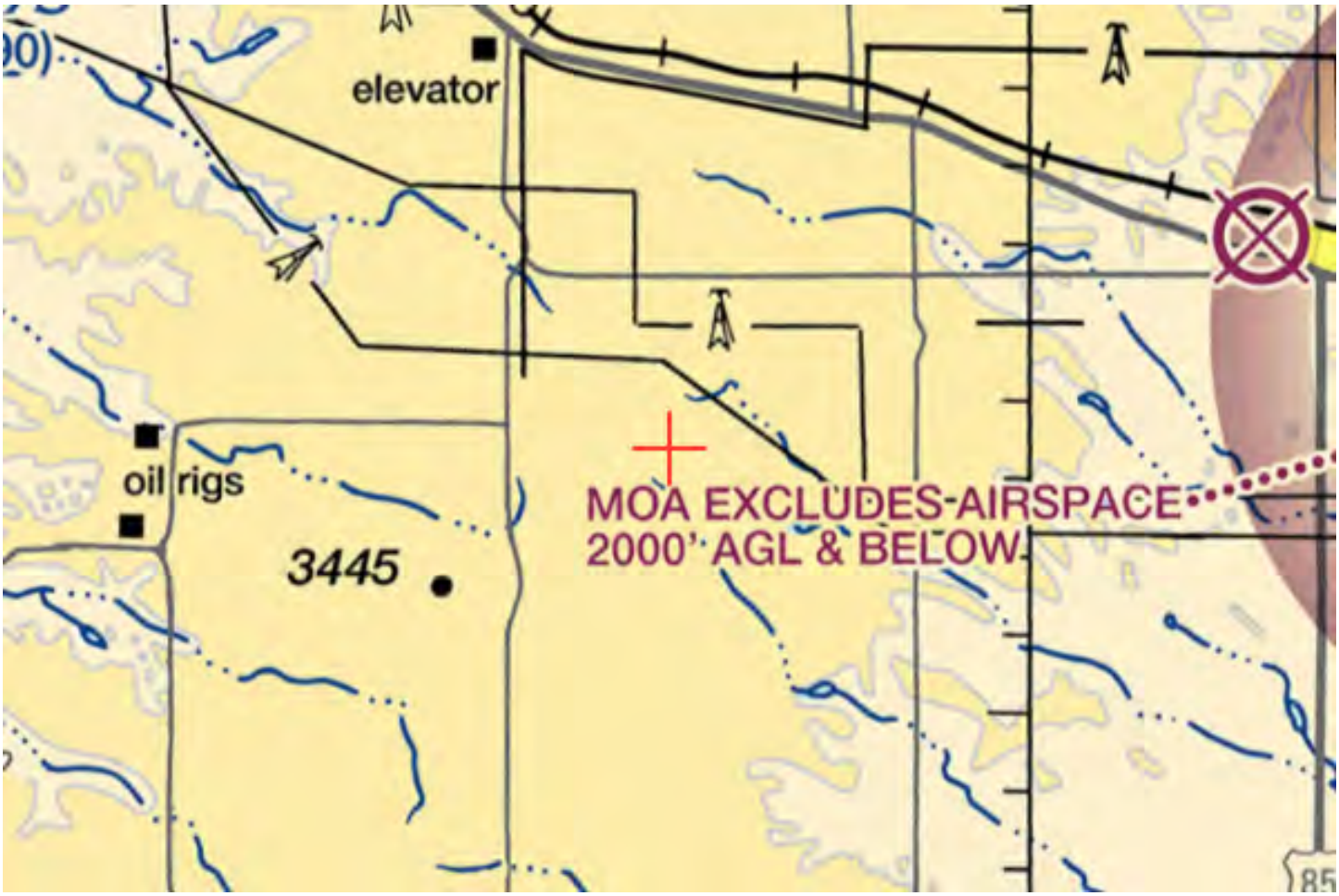
Signature Control No: 488959618-611166575 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2689-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2689-OE



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

Aeronautical Study No.
2021-WTE-2690-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T35
Location:	Bowman, ND
Latitude:	46-08-21.15N NAD 83
Longitude:	103-33-53.64W
Heights:	3092 feet site elevation (SE)
	499 feet above ground level (AGL)
	3591 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2690-OE.

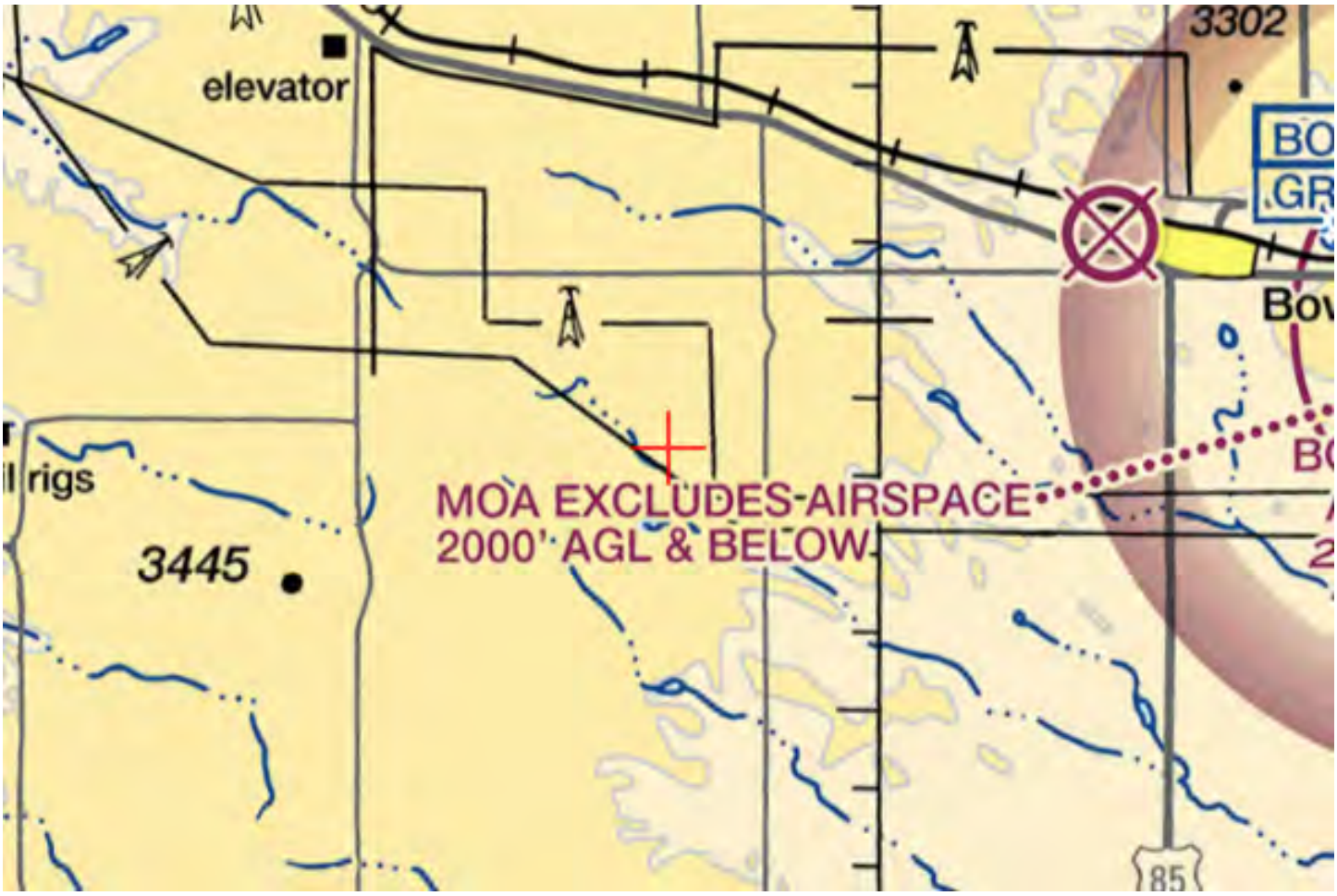
Signature Control No: 488959636-611166577 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2690-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2690-OE



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

Aeronautical Study No.
2021-WTE-2691-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T36
Location:	Bowman, ND
Latitude:	46-08-16.23N NAD 83
Longitude:	103-34-59.69W
Heights:	3089 feet site elevation (SE)
	499 feet above ground level (AGL)
	3588 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2691-OE.

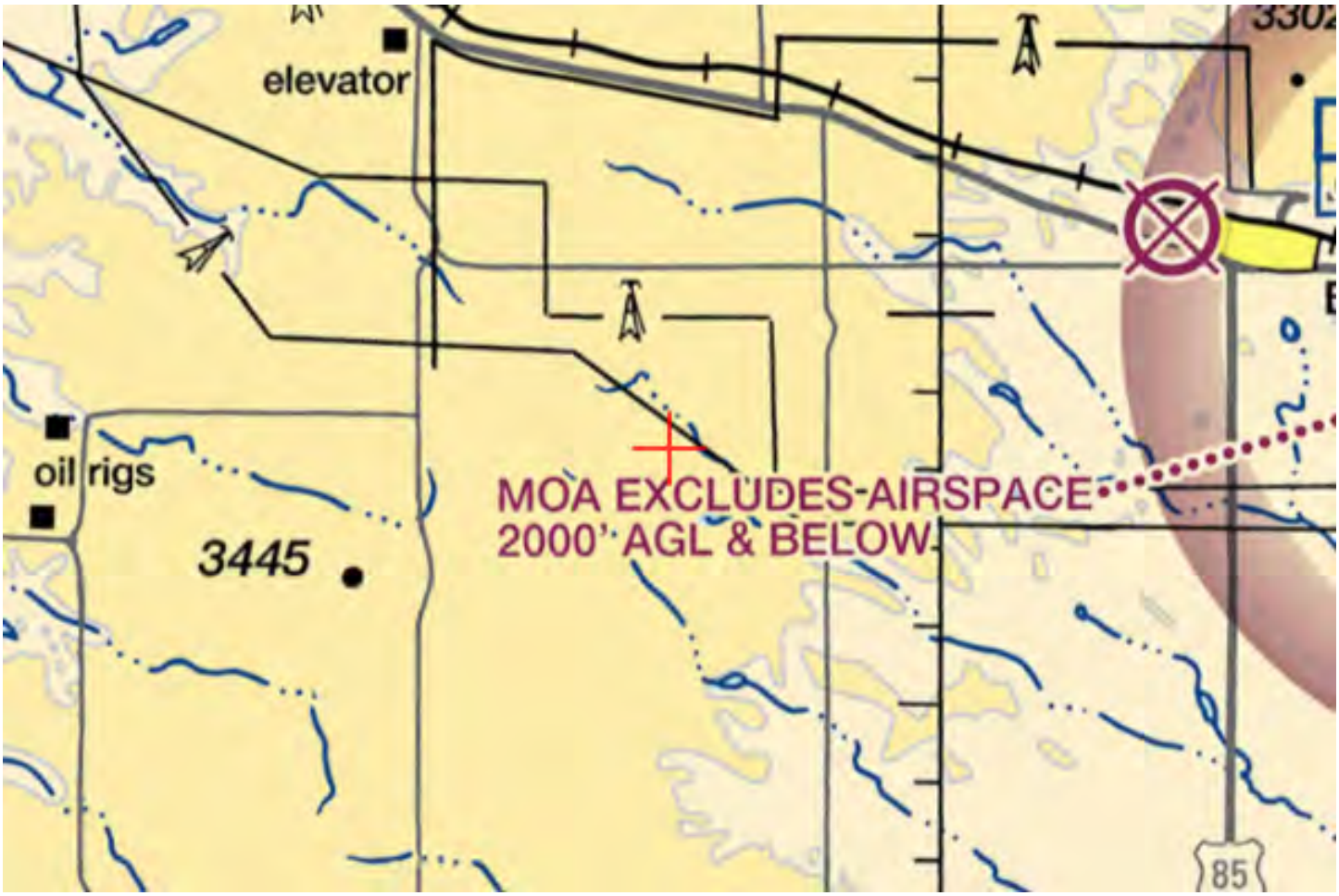
Signature Control No: 488959642-611166576 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2691-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2691-OE



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

Aeronautical Study No.
2021-WTE-2692-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T37a
Location:	Bowman, ND
Latitude:	46-08-16.92N NAD 83
Longitude:	103-40-22.38W
Heights:	3165 feet site elevation (SE)
	499 feet above ground level (AGL)
	3664 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2692-OE.

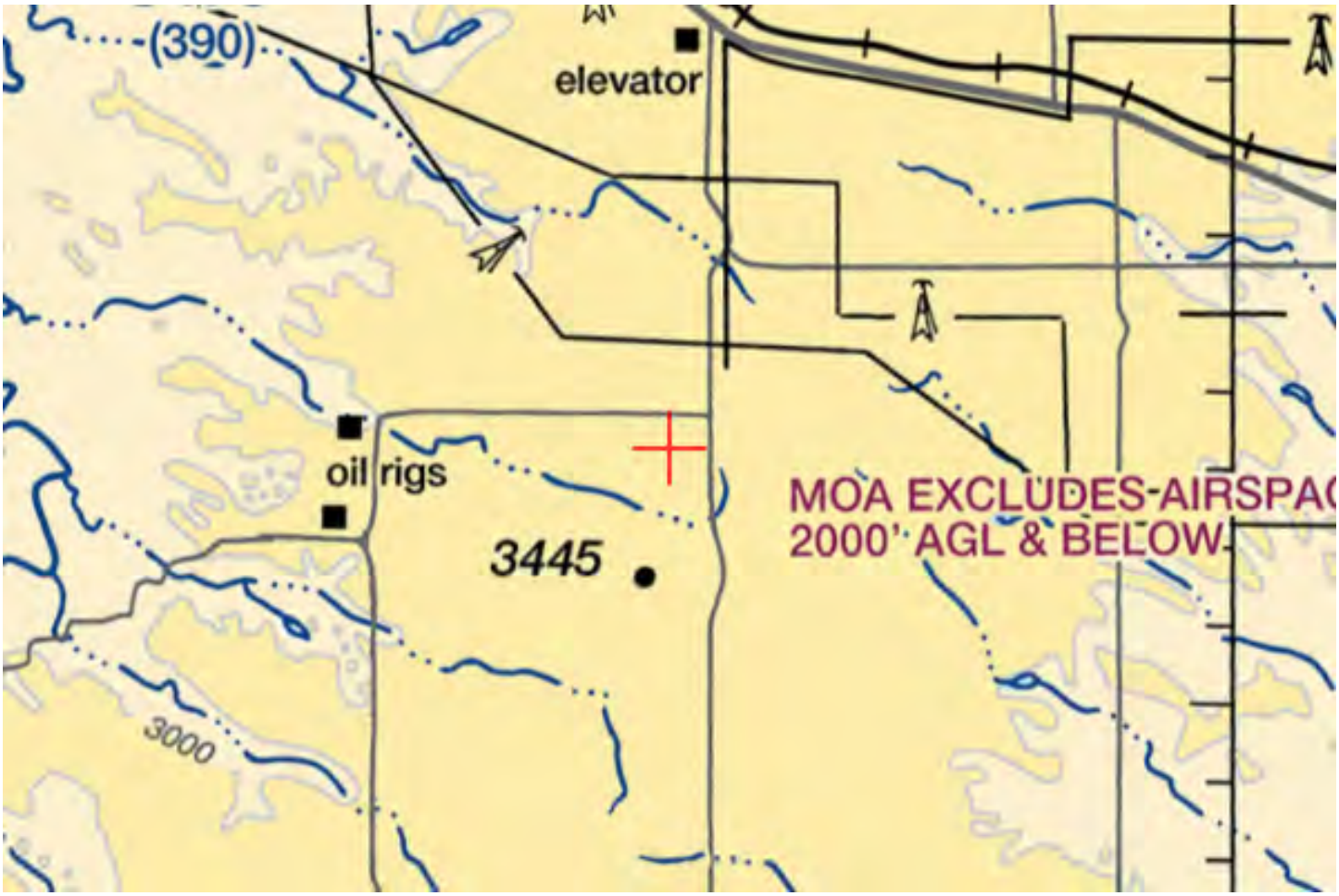
Signature Control No: 488959647-611166580 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2692-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2692-OE



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

Aeronautical Study No.
2021-WTE-2693-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T38
Location:	Bowman, ND
Latitude:	46-08-05.01N NAD 83
Longitude:	103-40-20.03W
Heights:	3196 feet site elevation (SE)
	499 feet above ground level (AGL)
	3695 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2693-OE.

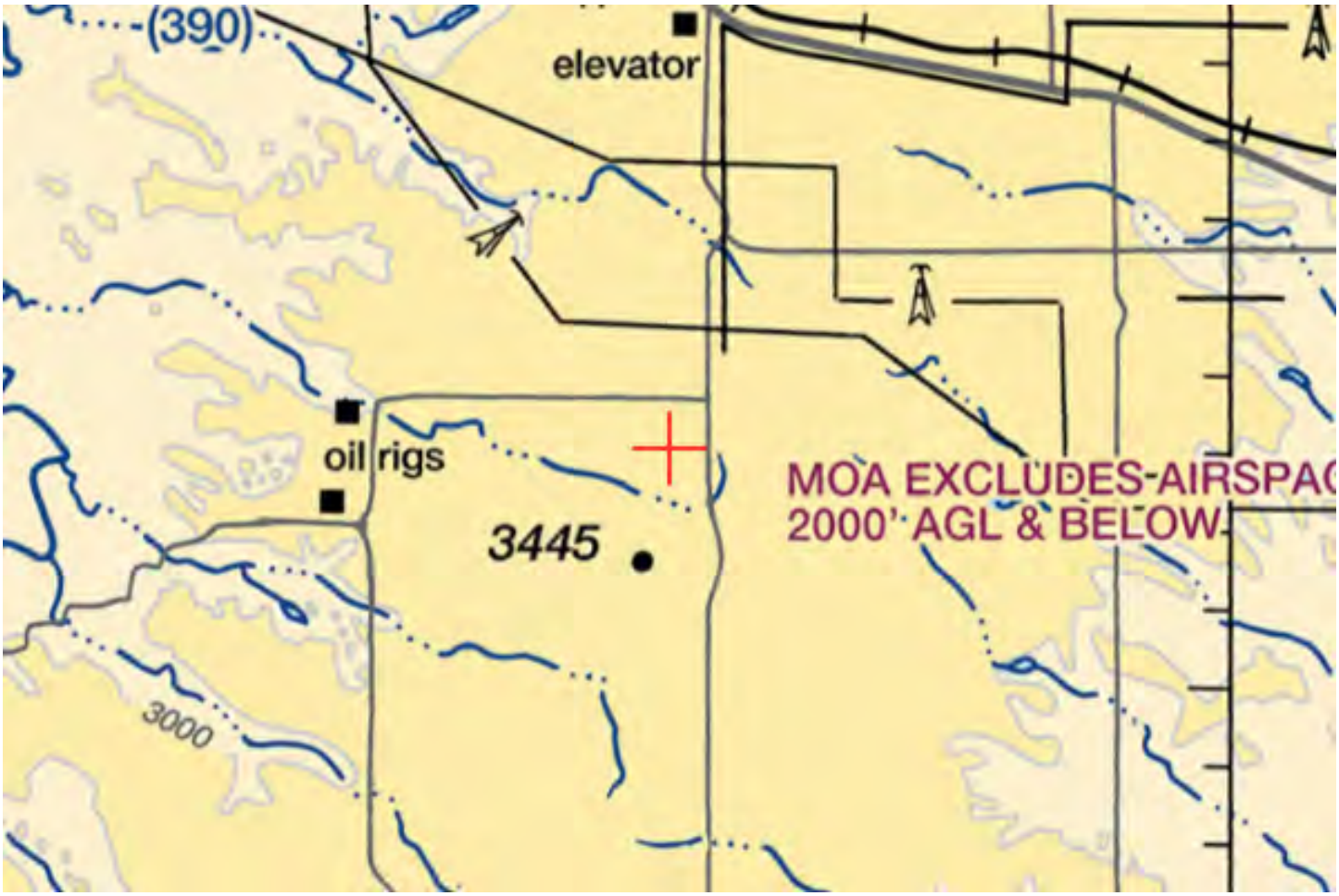
Signature Control No: 488959649-611166578 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2693-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2693-OE



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

Aeronautical Study No.
2021-WTE-2694-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T39
Location:	Bowman, ND
Latitude:	46-07-57.34N NAD 83
Longitude:	103-40-31.27W
Heights:	3172 feet site elevation (SE) 499 feet above ground level (AGL) 3671 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, M , Obstruction Marking and Lighting, white paint only-Chapters 13(Turbines)&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2694-OE.

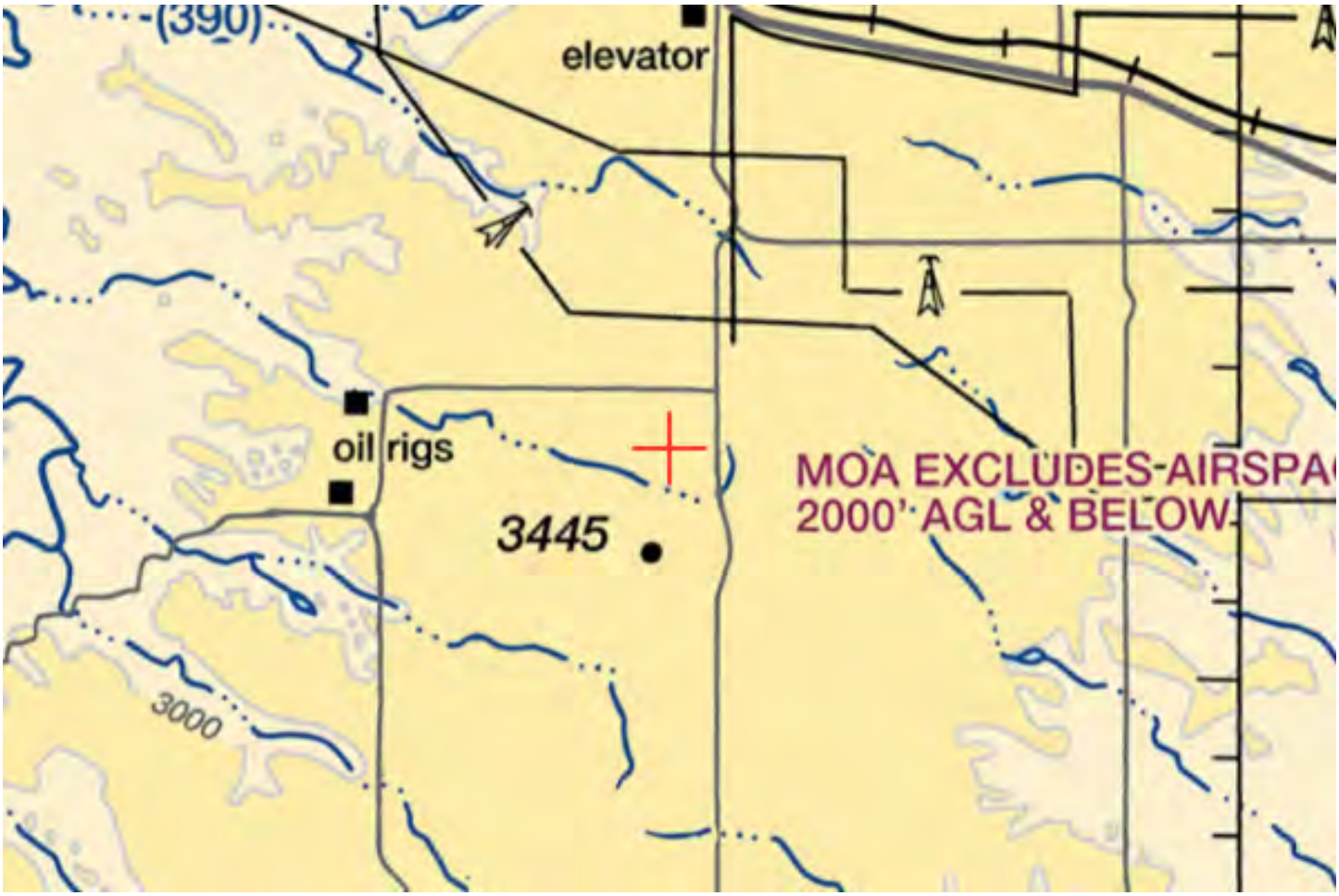
Signature Control No: 488959661-611166341 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Based upon the information provided and most recent wind farm layout plan, we have determined that your request for reduced lighting of this wind turbine meets the guidance prescribed in FAA Advisory Circular 70/7460-1, Chapter 13.5. As a condition, the adjacent structures must continue to be obstruction marked and lighted as specified in their FAA determinations. If at any point in the future, the adjacent structures are unlighted, reduced in height, relocated, dismantled or abandoned, resulting in an unlighted gap greater than ½ statute mile (2640 ft. / 804.67 m.) between lighted turbines, lighting of this structure will be immediately required. The proponent for this study is responsible for monitoring the situation and will promptly initiate a marking and lighting study by E-filing FAA form 7460-1, "Notice of Proposed Construction or Alteration" at the FAA public website https://oeaaa.faa.gov.

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

Sectional Map for ASN 2021-WTE-2694-OE



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

Aeronautical Study No.
2021-WTE-2695-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T40a
Location:	Bowman, ND
Latitude:	46-07-42.97N NAD 83
Longitude:	103-40-08.22W
Heights:	3201 feet site elevation (SE) 499 feet above ground level (AGL) 3700 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2695-OE.

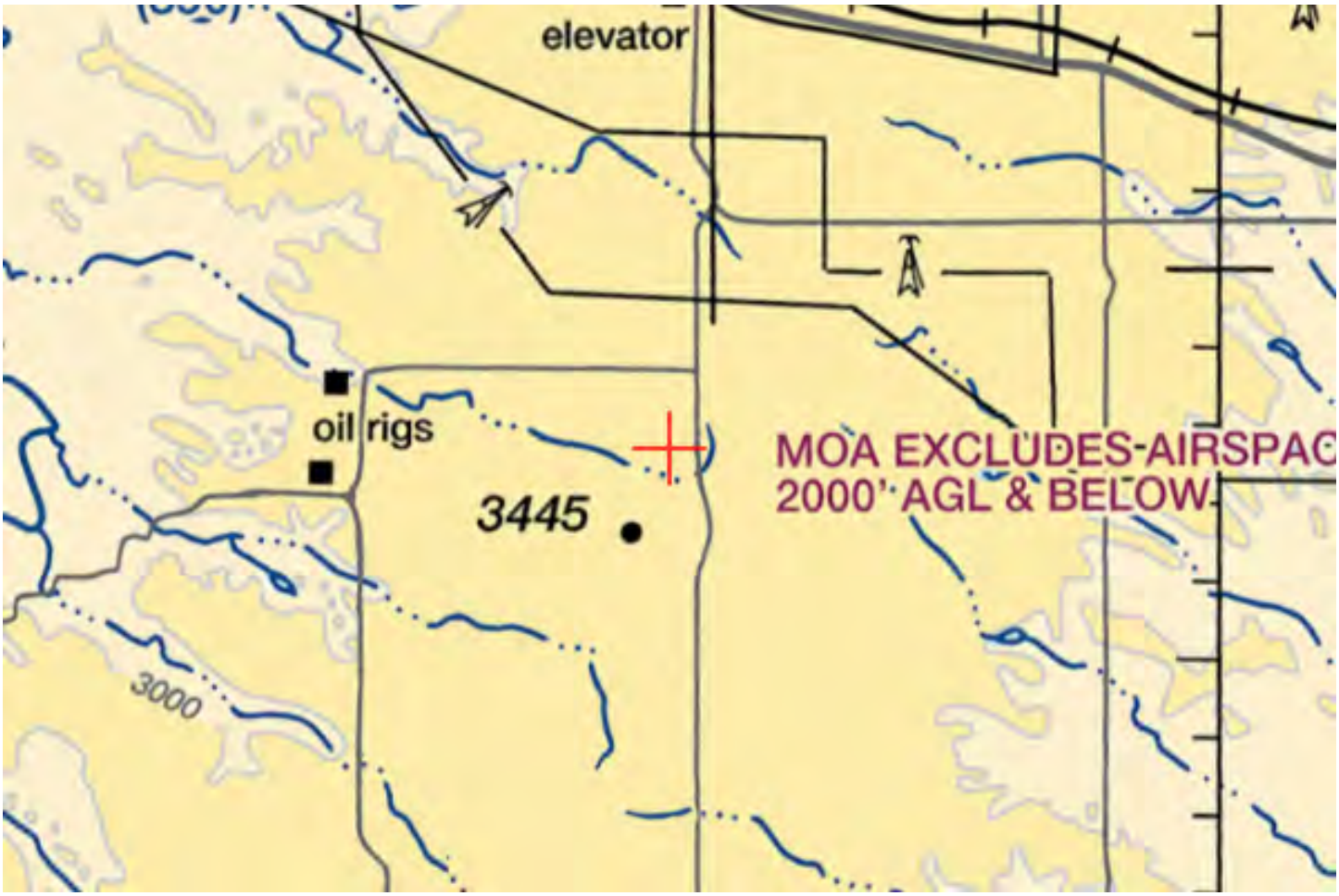
Signature Control No: 488959669-611166581 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2695-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2695-OE



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

Aeronautical Study No.
2021-WTE-2696-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T41
Location:	Bowman, ND
Latitude:	46-07-43.90N NAD 83
Longitude:	103-42-18.27W
Heights:	3109 feet site elevation (SE)
	499 feet above ground level (AGL)
	3608 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2696-OE.

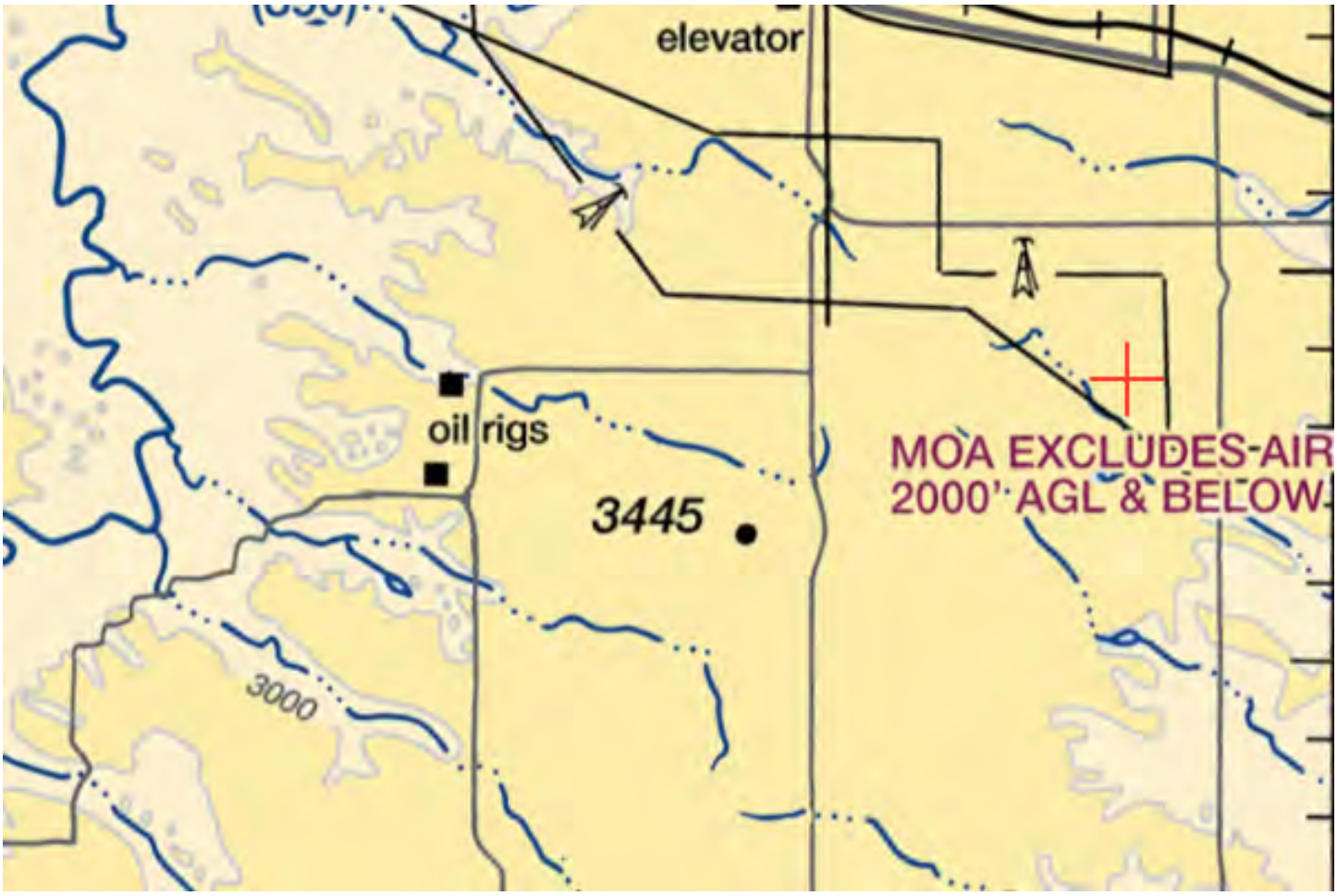
Signature Control No: 488959672-611166582 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2696-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2696-OE



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

Aeronautical Study No.
2021-WTE-2697-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T42a
Location:	Bowman, ND
Latitude:	46-07-24.24N NAD 83
Longitude:	103-41-22.44W
Heights:	3179 feet site elevation (SE)
	499 feet above ground level (AGL)
	3678 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2697-OE.

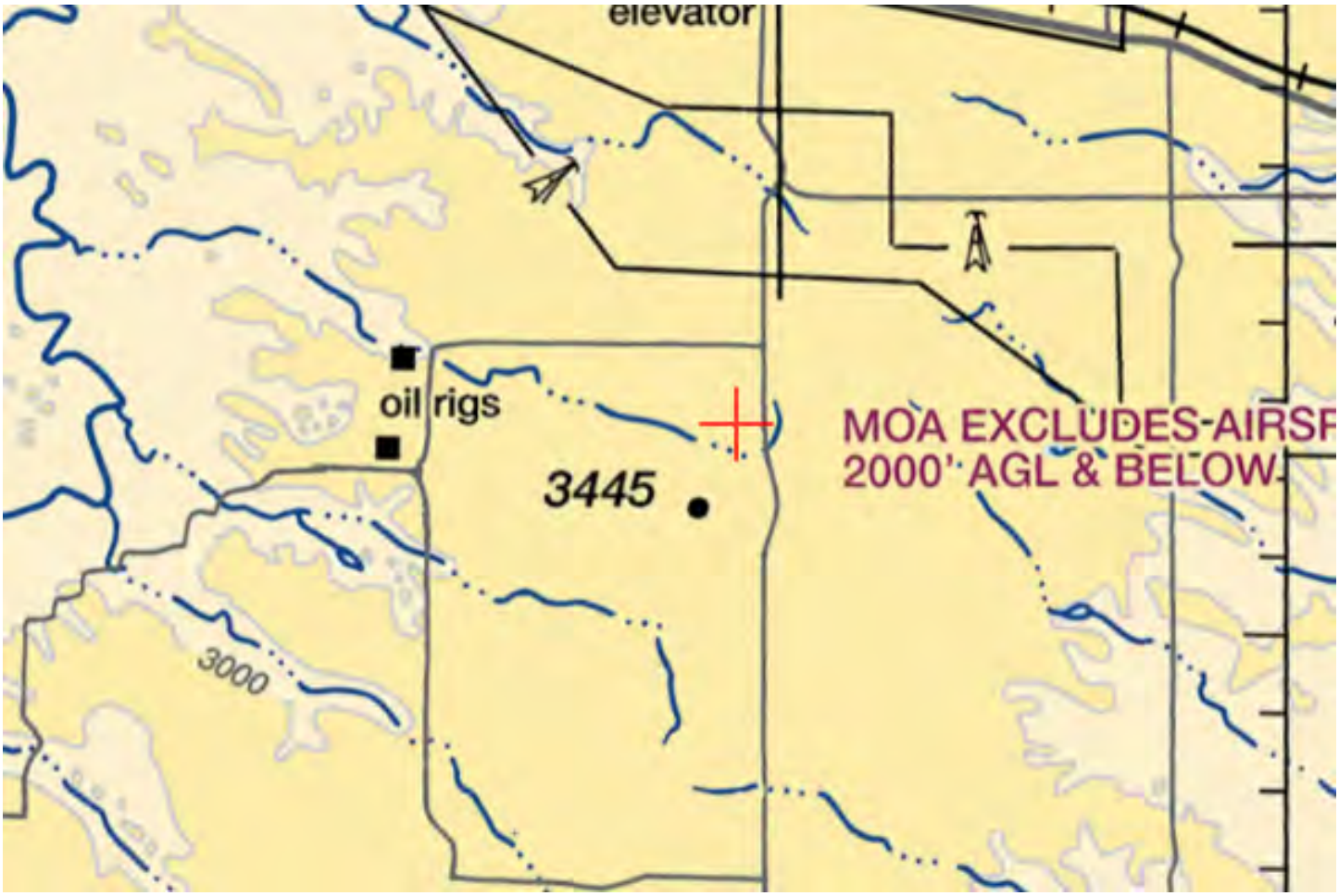
Signature Control No: 488959673-611166583 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2697-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2697-OE



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

Aeronautical Study No.
2021-WTE-2698-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T43
Location:	Bowman, ND
Latitude:	46-07-41.02N NAD 83
Longitude:	103-41-45.63W
Heights:	3117 feet site elevation (SE)
	499 feet above ground level (AGL)
	3616 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2698-OE.

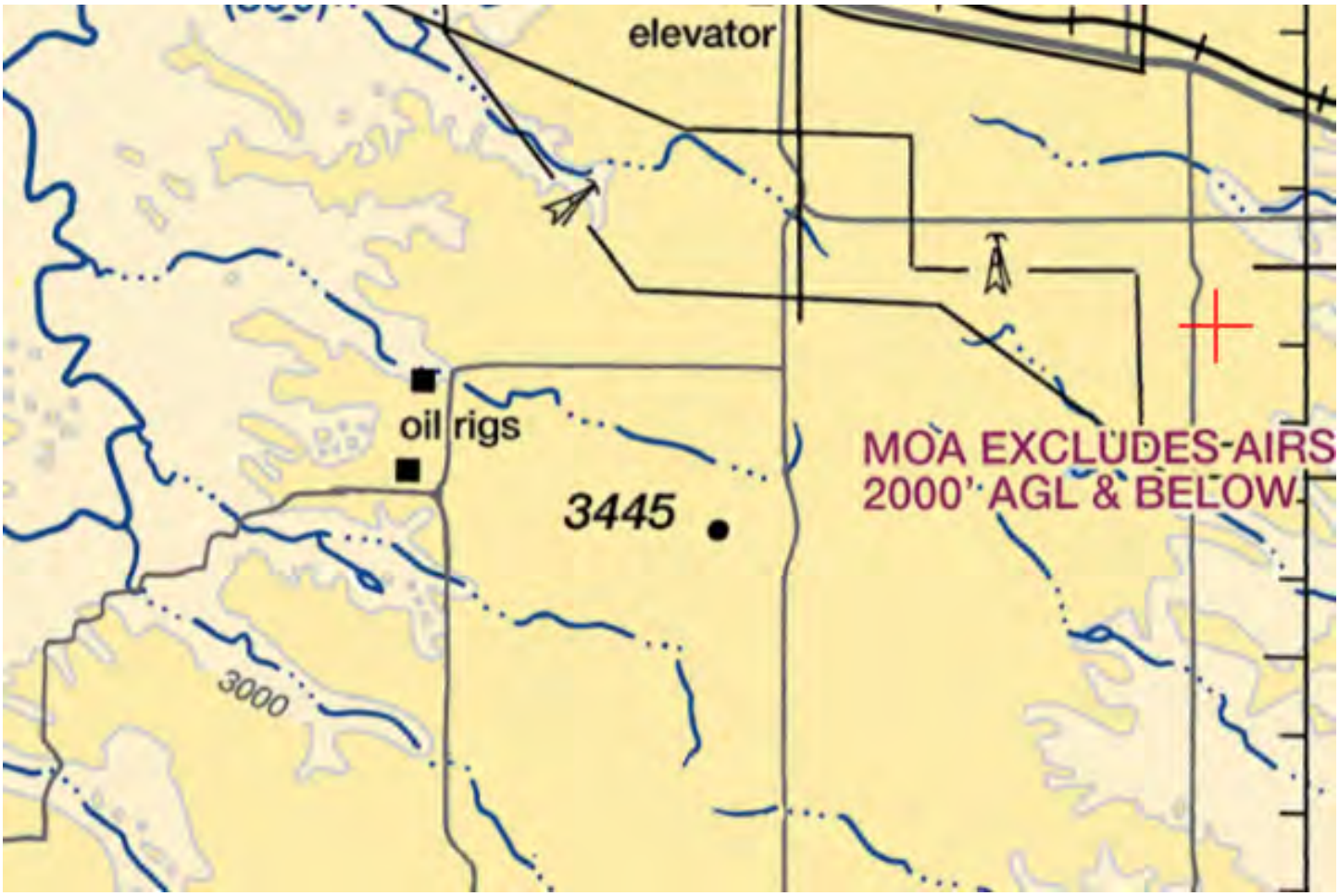
Signature Control No: 488959674-611166585 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2698-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2698-OE



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

Aeronautical Study No.
2021-WTE-2700-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T45
Location:	Bowman, ND
Latitude:	46-07-37.39N NAD 83
Longitude:	103-42-29.97W
Heights:	3113 feet site elevation (SE) 499 feet above ground level (AGL) 3612 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, M , Obstruction Marking and Lighting, white paint only-Chapters 13(Turbines)&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2700-OE.

Signature Control No: 488959676-611166349 (MAL -WT)
Buck Reynolds
Specialist

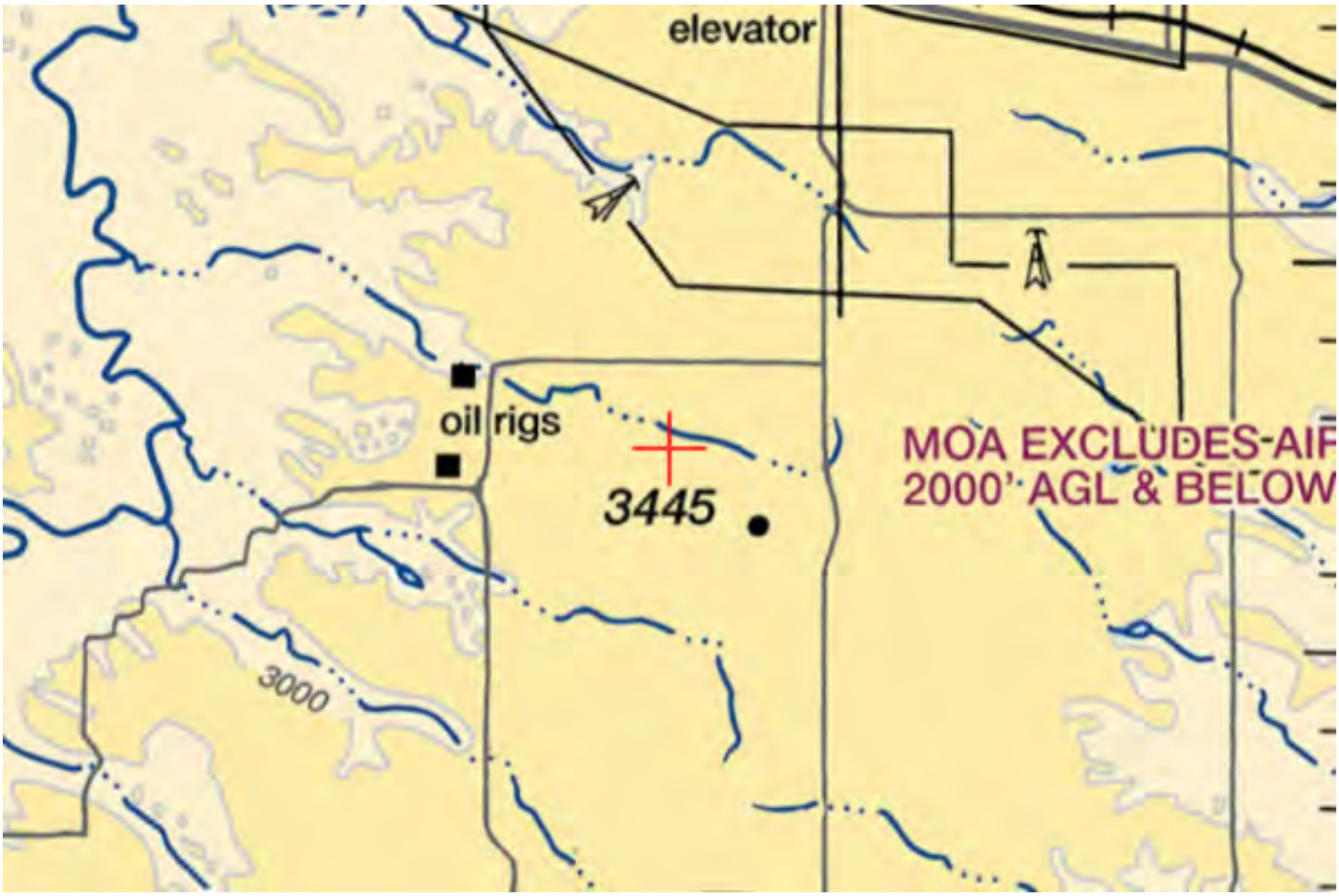
Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2700-OE

Based upon the information provided and most recent wind farm layout plan, we have determined that your request for reduced lighting of this wind turbine meets the guidance prescribed in FAA Advisory Circular 70/7460-1, Chapter 13.5. As a condition, the adjacent structures must continue to be obstruction marked and lighted as specified in their FAA determinations. If at any point in the future, the adjacent structures are unlighted, reduced in height, relocated, dismantled or abandoned, resulting in an unlighted gap greater than ½ statute mile (2640 ft. / 804.67 m.) between lighted turbines, lighting of this structure will be immediately required. The proponent for this study is responsible for monitoring the situation and will promptly initiate a marking and lighting study by E-filing FAA form 7460-1, "Notice of Proposed Construction or Alteration" at the FAA public website https://oeaaa.faa.gov.

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

Sectional Map for ASN 2021-WTE-2700-OE



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

Aeronautical Study No.
2021-WTE-2701-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T46
Location:	Bowman, ND
Latitude:	46-07-28.41N NAD 83
Longitude:	103-42-38.13W
Heights:	3130 feet site elevation (SE)
	499 feet above ground level (AGL)
	3629 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2701-OE.

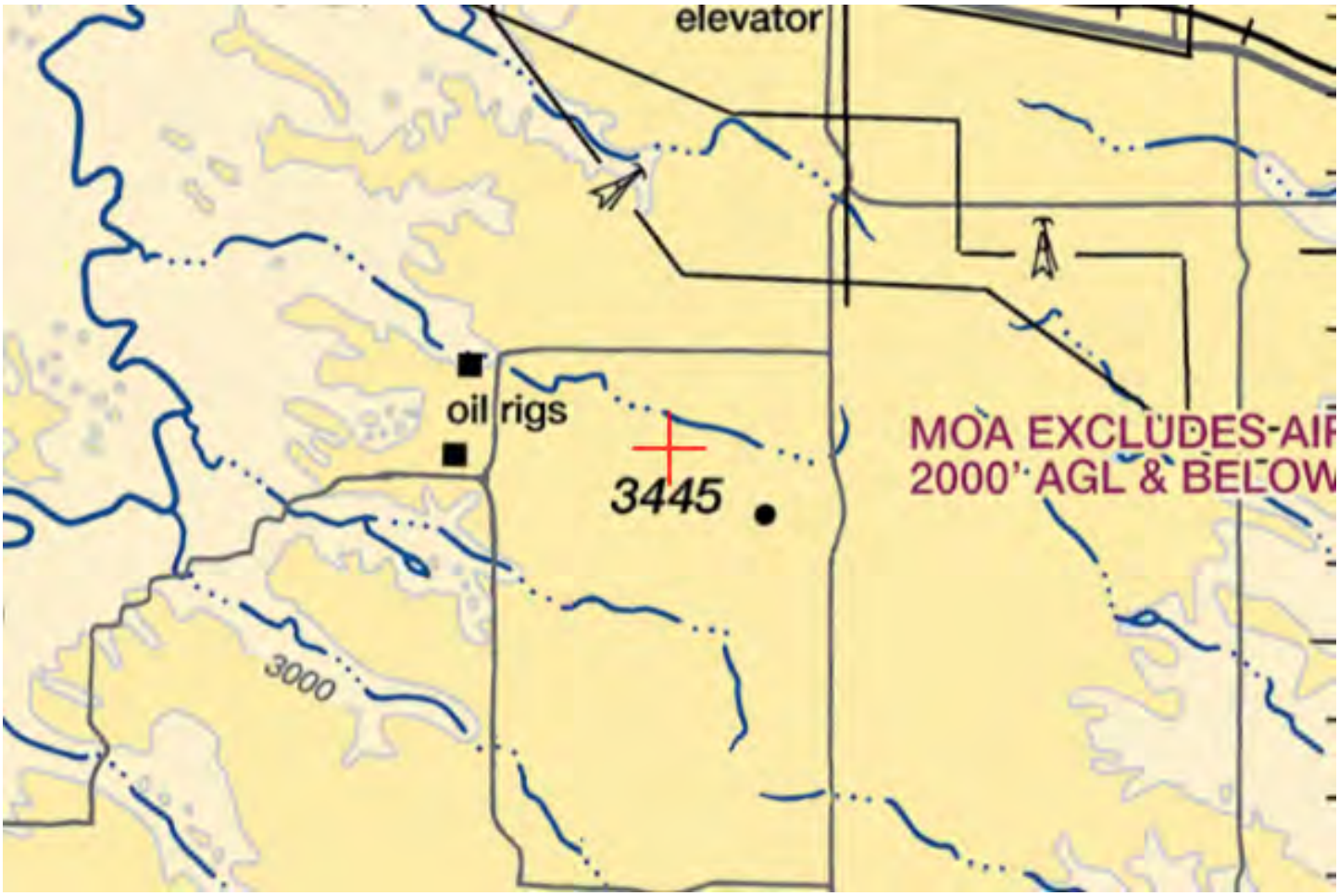
Signature Control No: 488959678-611166584 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2701-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2701-OE



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

Aeronautical Study No.
2021-WTE-2703-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T48a
Location:	Bowman, ND
Latitude:	46-07-24.13N NAD 83
Longitude:	103-41-55.61W
Heights:	3122 feet site elevation (SE)
	499 feet above ground level (AGL)
	3621 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2703-OE.

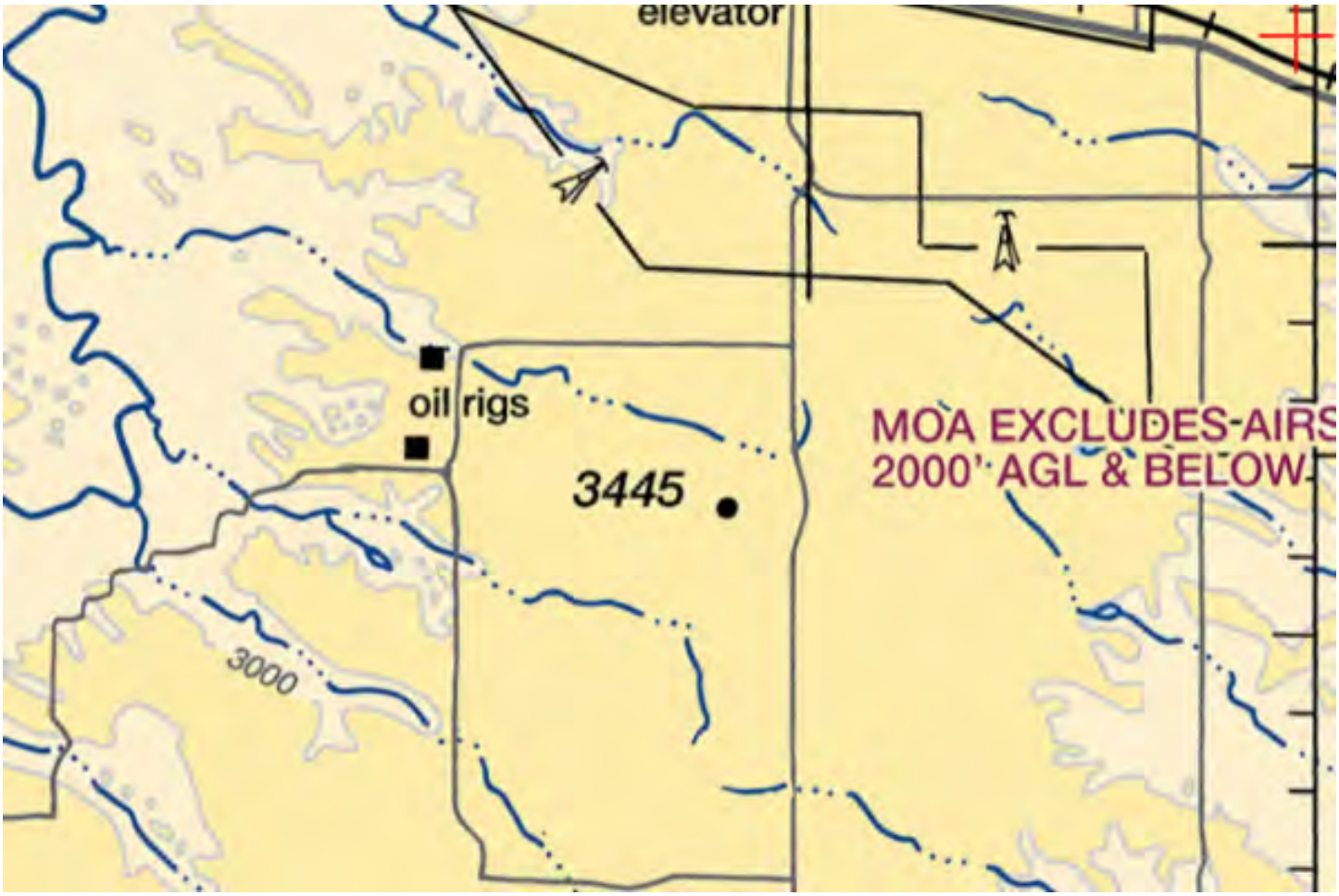
Signature Control No: 488959699-611166586 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2703-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2703-OE



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

Aeronautical Study No.
2021-WTE-2704-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T49
Location:	Bowman, ND
Latitude:	46-07-21.67N NAD 83
Longitude:	103-40-56.02W
Heights:	3143 feet site elevation (SE)
	499 feet above ground level (AGL)
	3642 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2704-OE.

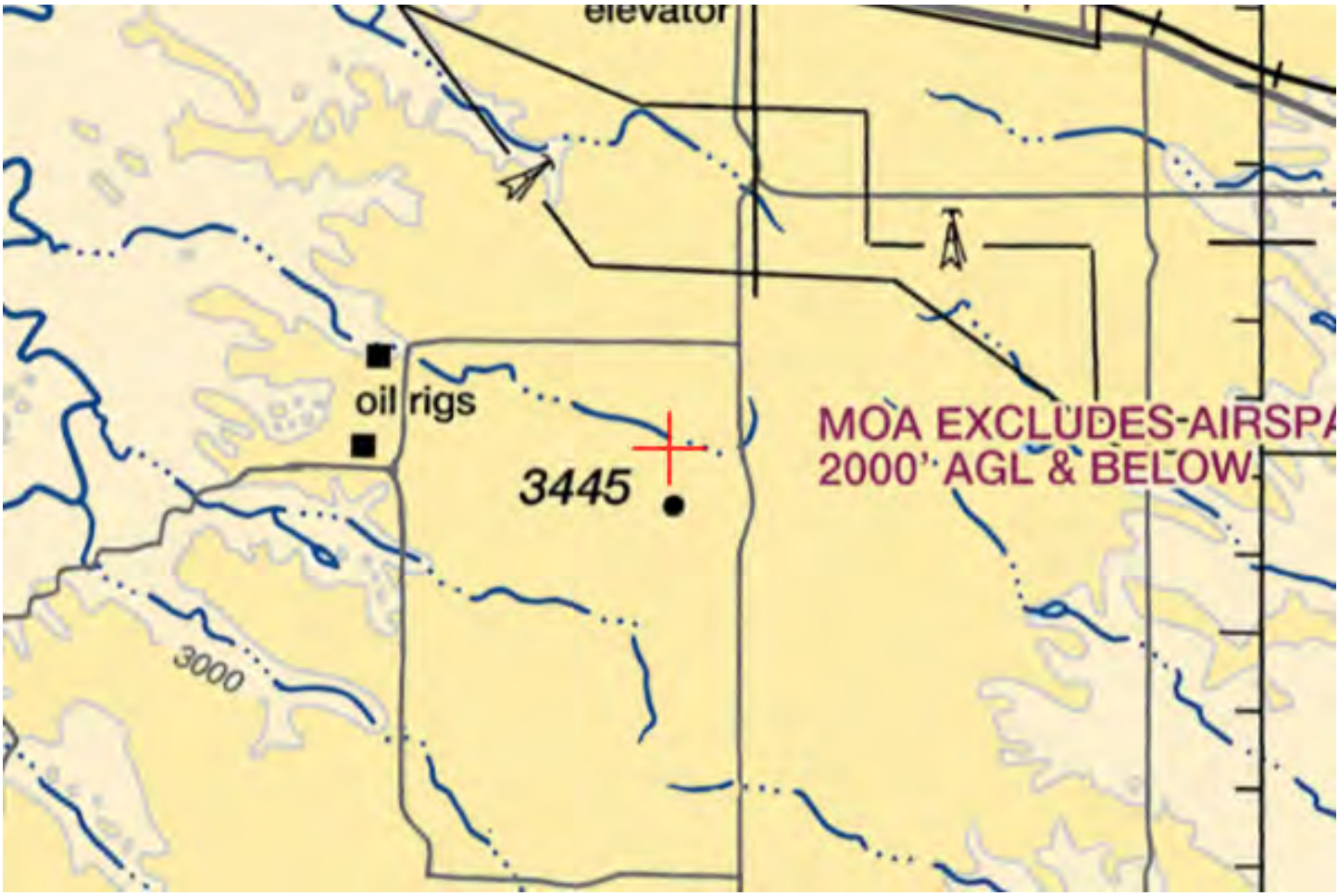
Signature Control No: 488959700-611166587 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2704-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2704-OE



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

Aeronautical Study No.
2021-WTE-2705-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T50a
Location:	Bowman, ND
Latitude:	46-07-22.20N NAD 83
Longitude:	103-40-07.20W
Heights:	3168 feet site elevation (SE)
	499 feet above ground level (AGL)
	3667 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2705-OE.

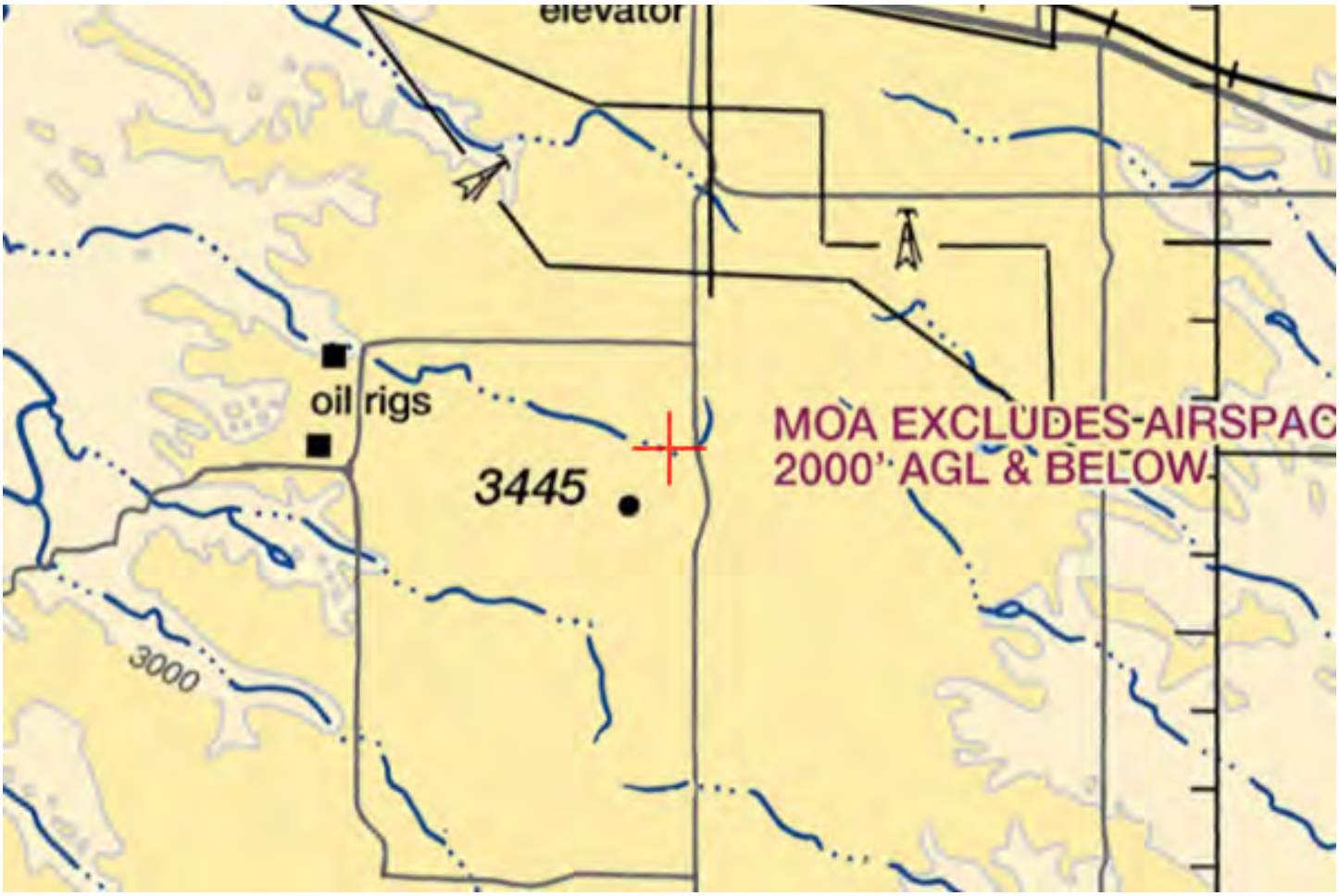
Signature Control No: 488959702-611166588 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2705-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2705-OE



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

Aeronautical Study No.
2021-WTE-2706-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T51
Location:	Bowman, ND
Latitude:	46-06-51.97N NAD 83
Longitude:	103-37-52.24W
Heights:	3216 feet site elevation (SE) 499 feet above ground level (AGL) 3715 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2706-OE.

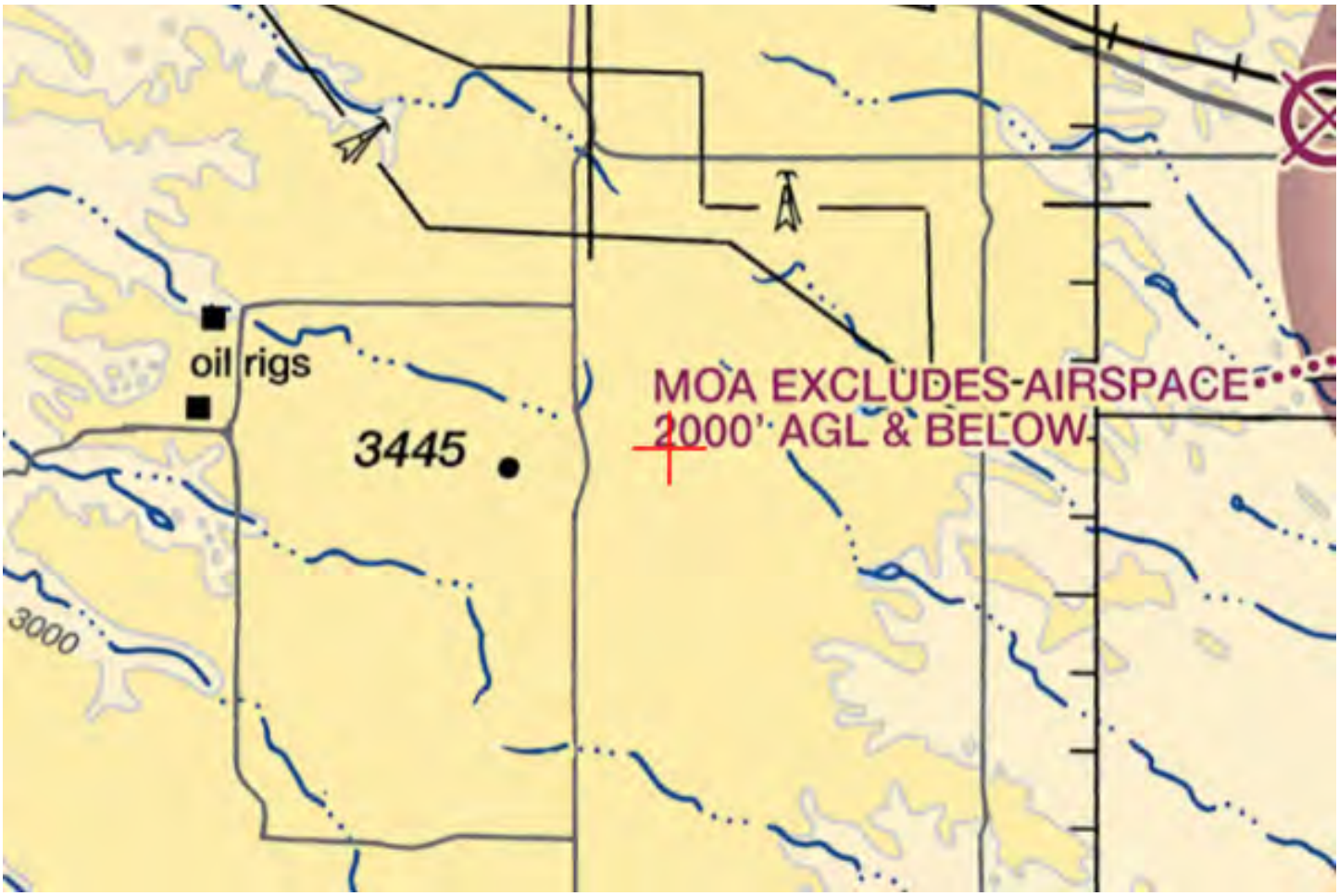
Signature Control No: 488959704-611166589 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2706-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2706-OE



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

Aeronautical Study No.
2021-WTE-2707-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T52
Location:	Bowman, ND
Latitude:	46-06-37.11N NAD 83
Longitude:	103-37-39.51W
Heights:	3211 feet site elevation (SE) 499 feet above ground level (AGL) 3710 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2707-OE.

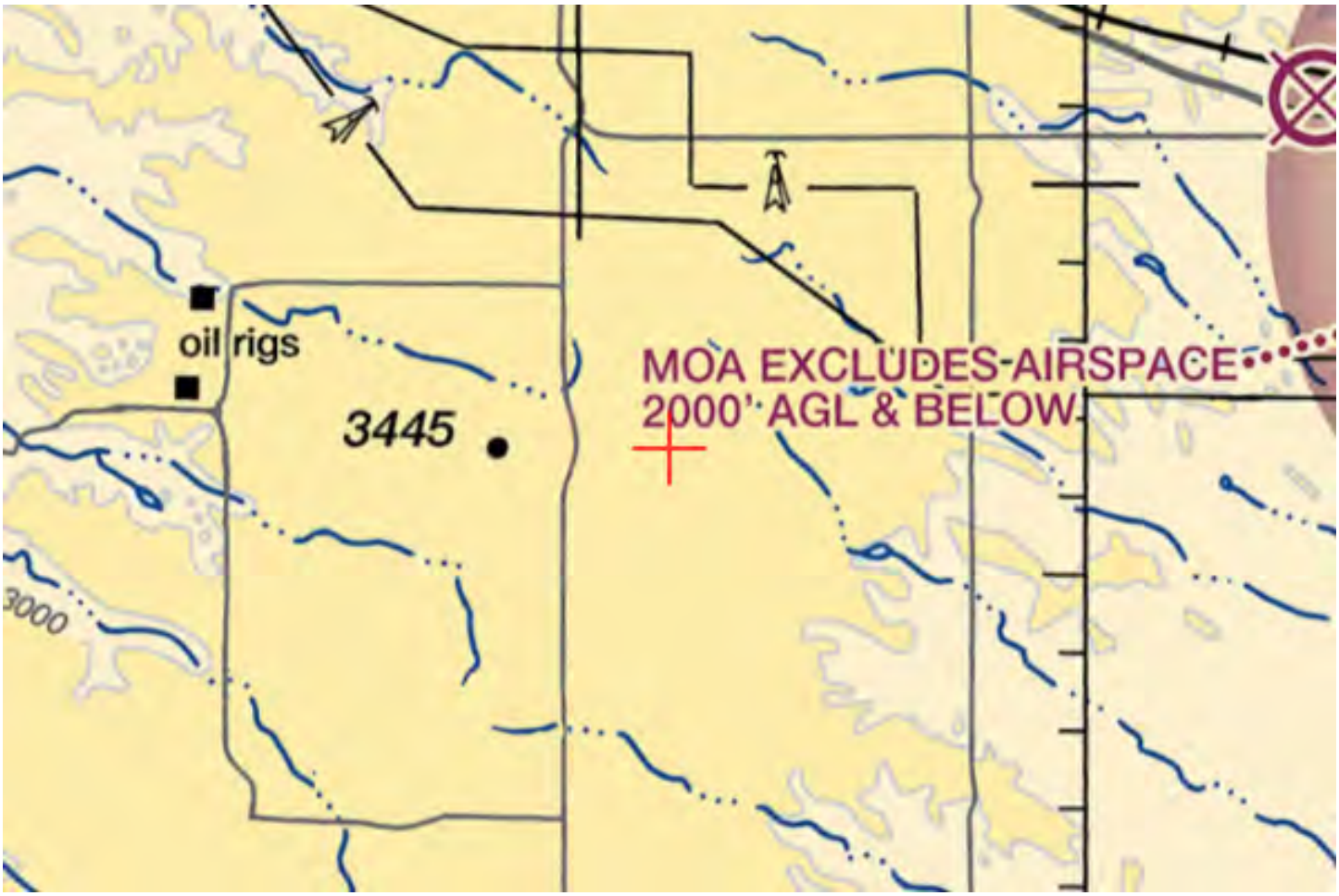
Signature Control No: 488959707-611166590 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2707-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2707-OE



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

Aeronautical Study No.
2021-WTE-2708-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T53a
Location:	Bowman, ND
Latitude:	46-06-33.00N NAD 83
Longitude:	103-37-53.71W
Heights:	3289 feet site elevation (SE)
	499 feet above ground level (AGL)
	3788 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2708-OE.

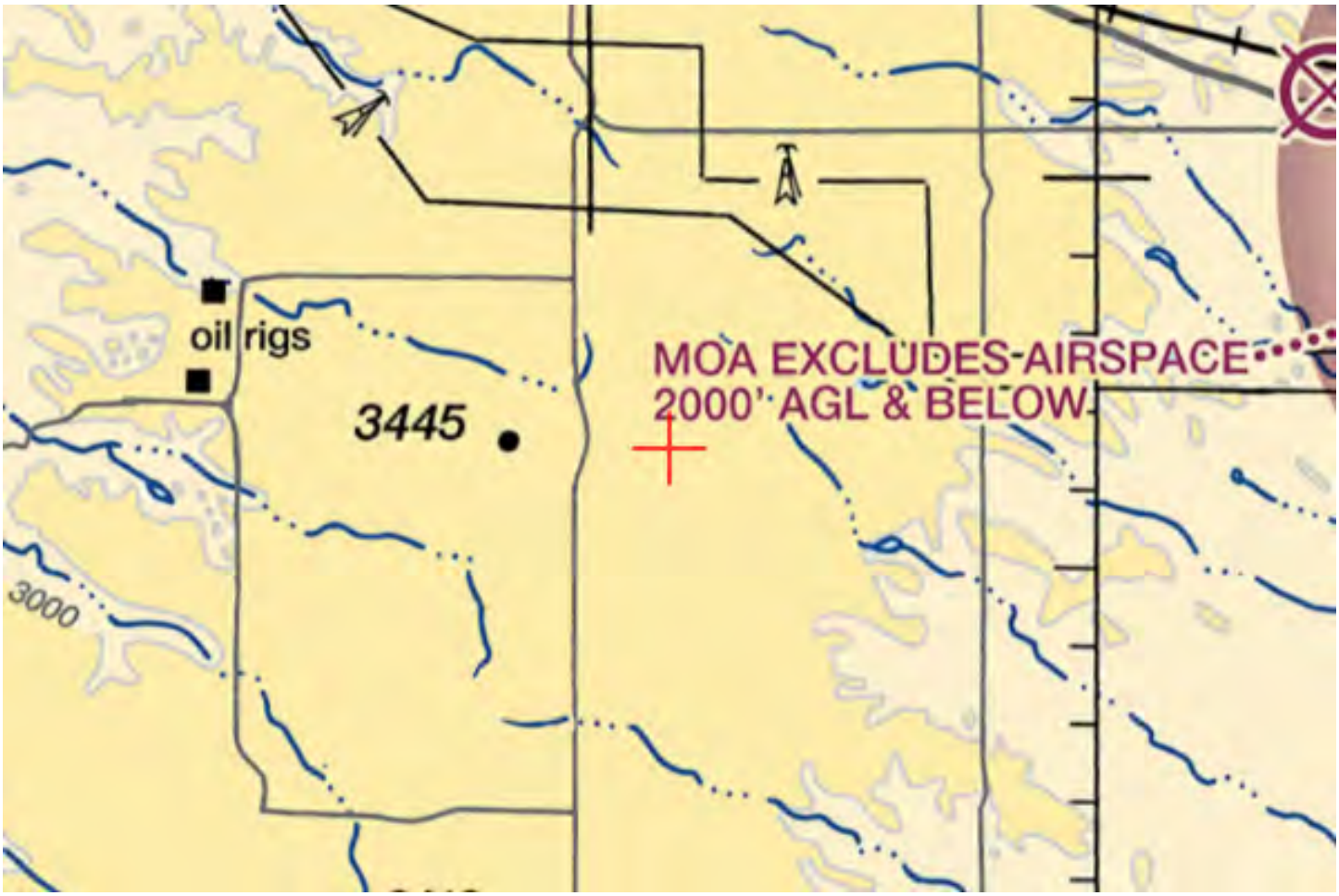
Signature Control No: 488959708-611166591 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2708-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2708-OE



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

Aeronautical Study No.
2021-WTE-2709-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T54a
Location:	Bowman, ND
Latitude:	46-06-23.56N NAD 83
Longitude:	103-35-59.38W
Heights:	3114 feet site elevation (SE) 499 feet above ground level (AGL) 3613 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2709-OE.

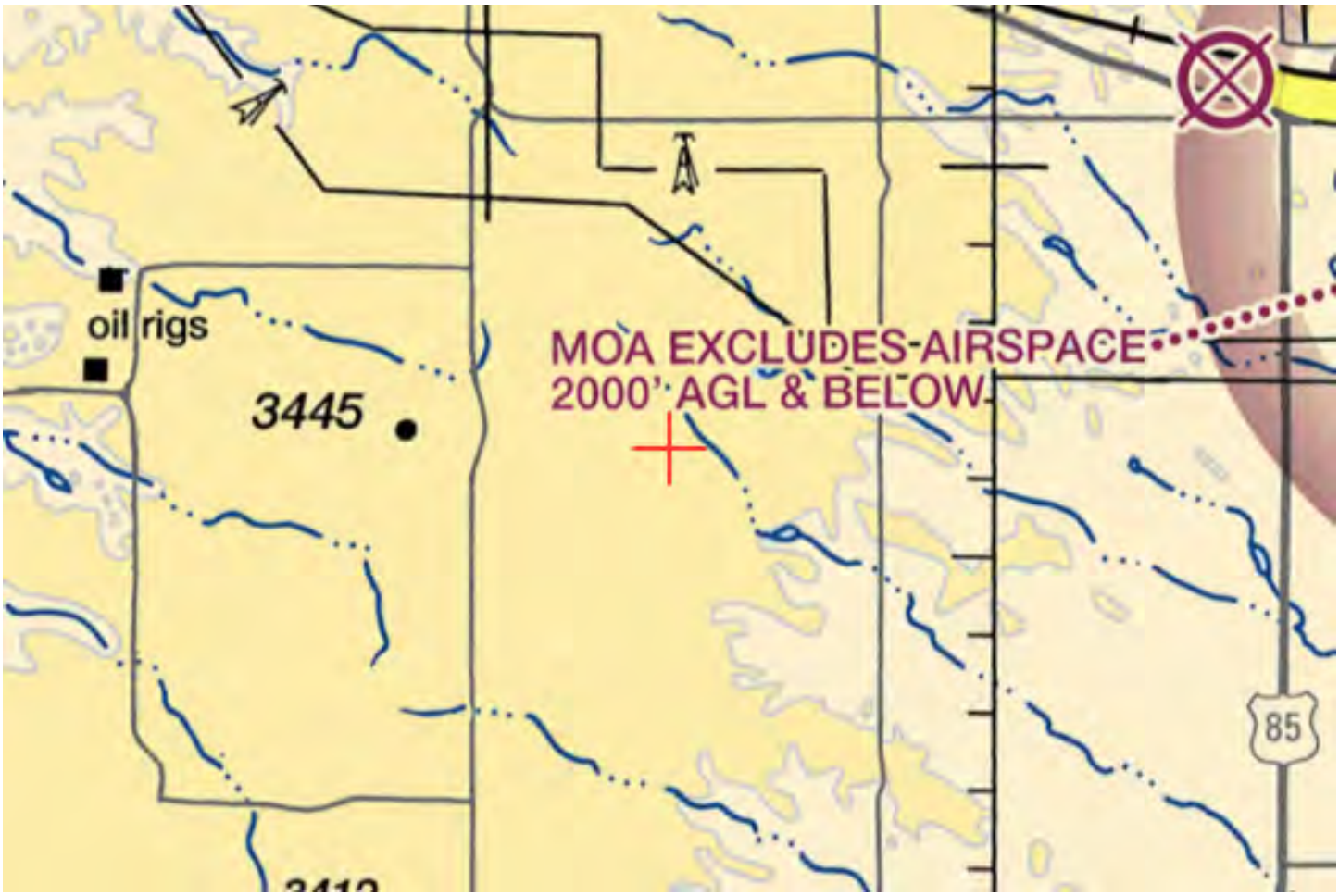
Signature Control No: 488959710-611166597 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2709-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2709-OE



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

Aeronautical Study No.
2021-WTE-2710-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T55a
Location:	Bowman, ND
Latitude:	46-06-08.45N NAD 83
Longitude:	103-36-03.98W
Heights:	3113 feet site elevation (SE) 499 feet above ground level (AGL) 3612 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, M , Obstruction Marking and Lighting, white paint only-Chapters 13(Turbines)&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2710-OE.

Signature Control No: 488959712-611166338 (MAL -WT)
Buck Reynolds
Specialist

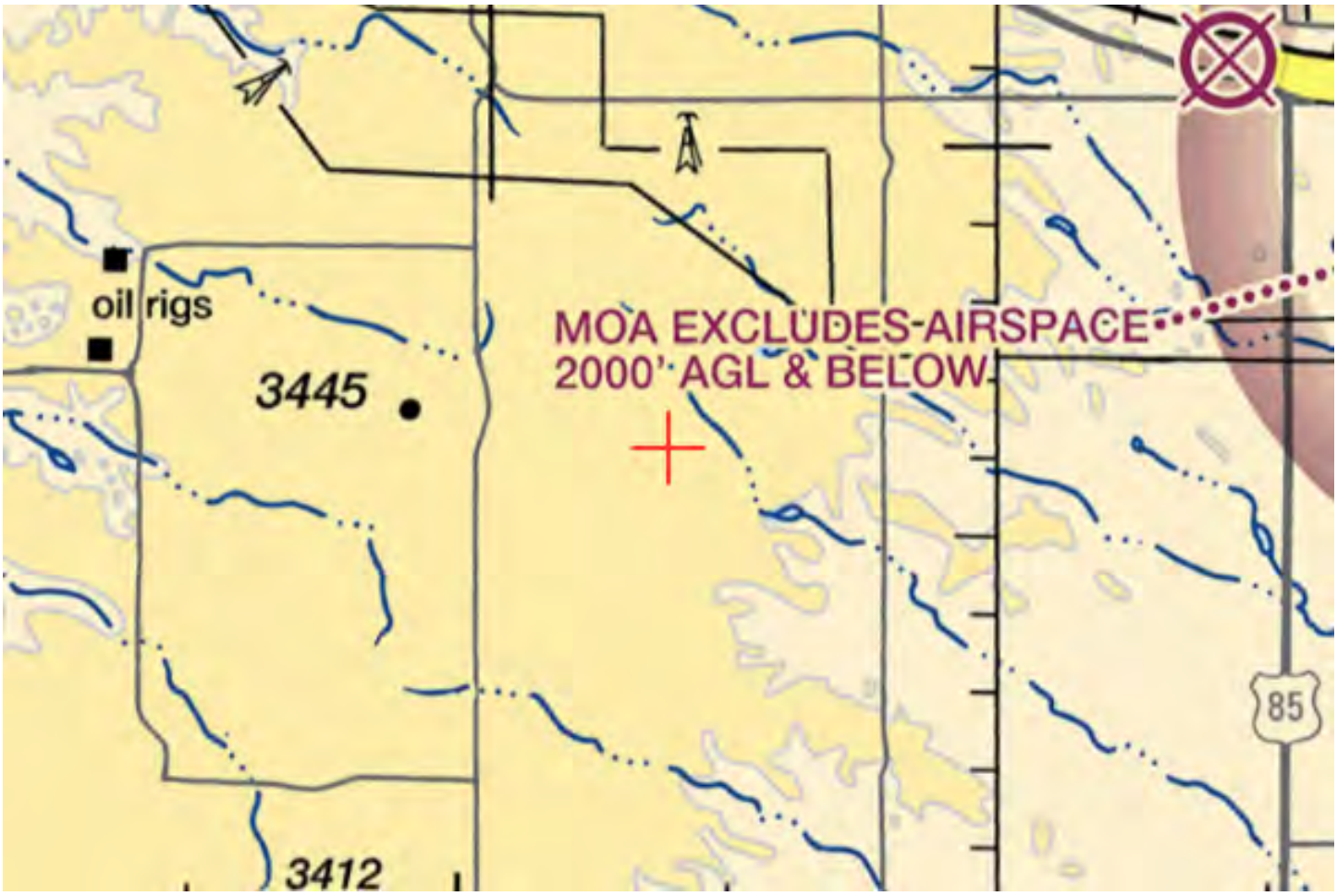
Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2710-OE

Based upon the information provided and most recent wind farm layout plan, we have determined that your request for reduced lighting of this wind turbine meets the guidance prescribed in FAA Advisory Circular 70/7460-1, Chapter 13.5. As a condition, the adjacent structures must continue to be obstruction marked and lighted as specified in their FAA determinations. If at any point in the future, the adjacent structures are unlighted, reduced in height, relocated, dismantled or abandoned, resulting in an unlighted gap greater than ½ statute mile (2640 ft. / 804.67 m.) between lighted turbines, lighting of this structure will be immediately required. The proponent for this study is responsible for monitoring the situation and will promptly initiate a marking and lighting study by E-filing FAA form 7460-1, "Notice of Proposed Construction or Alteration" at the FAA public website https://oeaaa.faa.gov.

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

Sectional Map for ASN 2021-WTE-2710-OE



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

Aeronautical Study No.
2021-WTE-2711-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T56a
Location:	Bowman, ND
Latitude:	46-06-07.99N NAD 83
Longitude:	103-36-42.14W
Heights:	3131 feet site elevation (SE)
	499 feet above ground level (AGL)
	3630 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2711-OE.

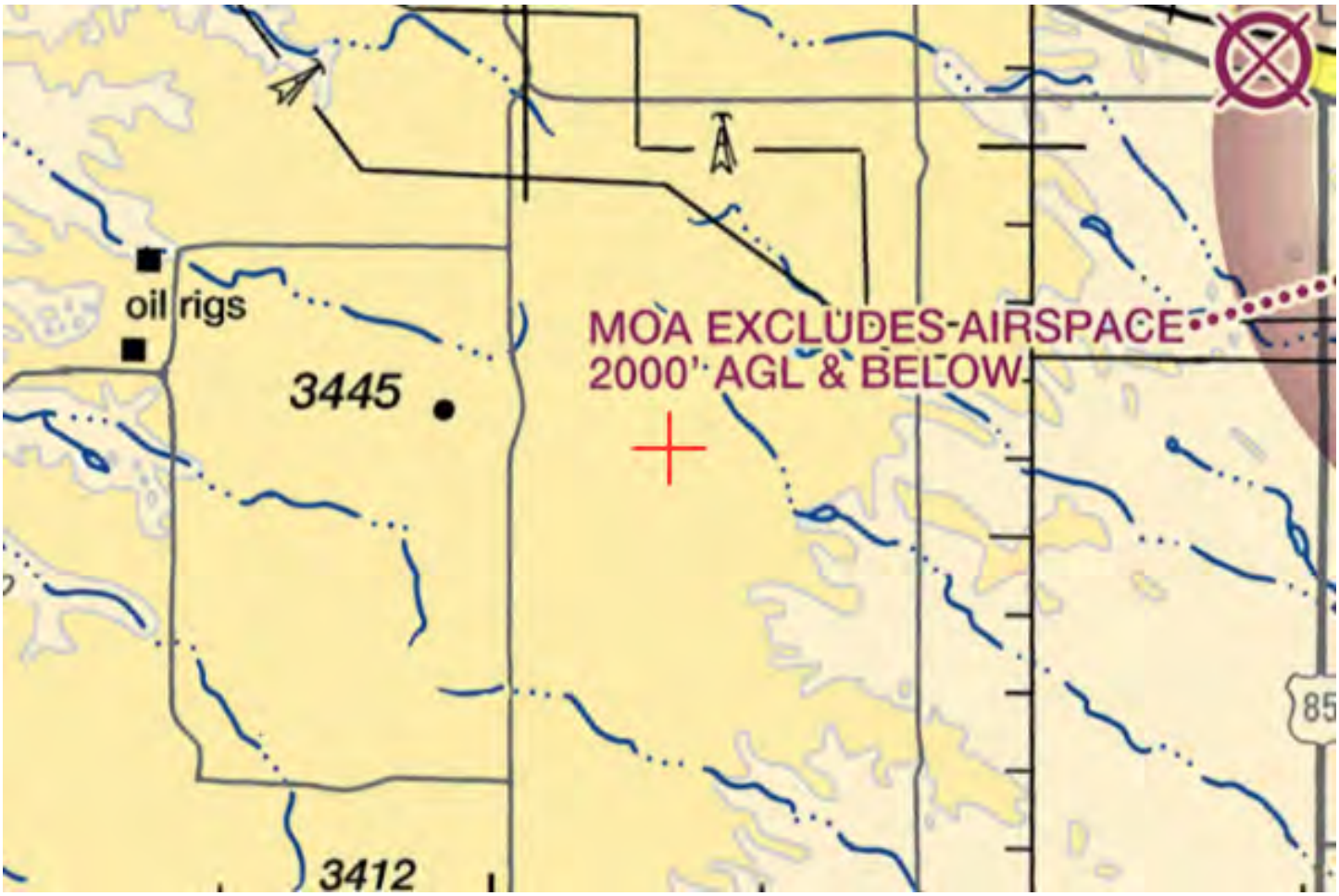
Signature Control No: 488959713-611166601 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2711-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2711-OE



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

Aeronautical Study No.
2021-WTE-2712-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T57a
Location:	Bowman, ND
Latitude:	46-06-08.65N NAD 83
Longitude:	103-37-21.57W
Heights:	3197 feet site elevation (SE)
	499 feet above ground level (AGL)
	3696 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, M , Obstruction Marking and Lighting, white paint only-Chapters 13(Turbines)&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2712-OE.

Signature Control No: 488959714-611166346 (MAL -WT)
Buck Reynolds
Specialist

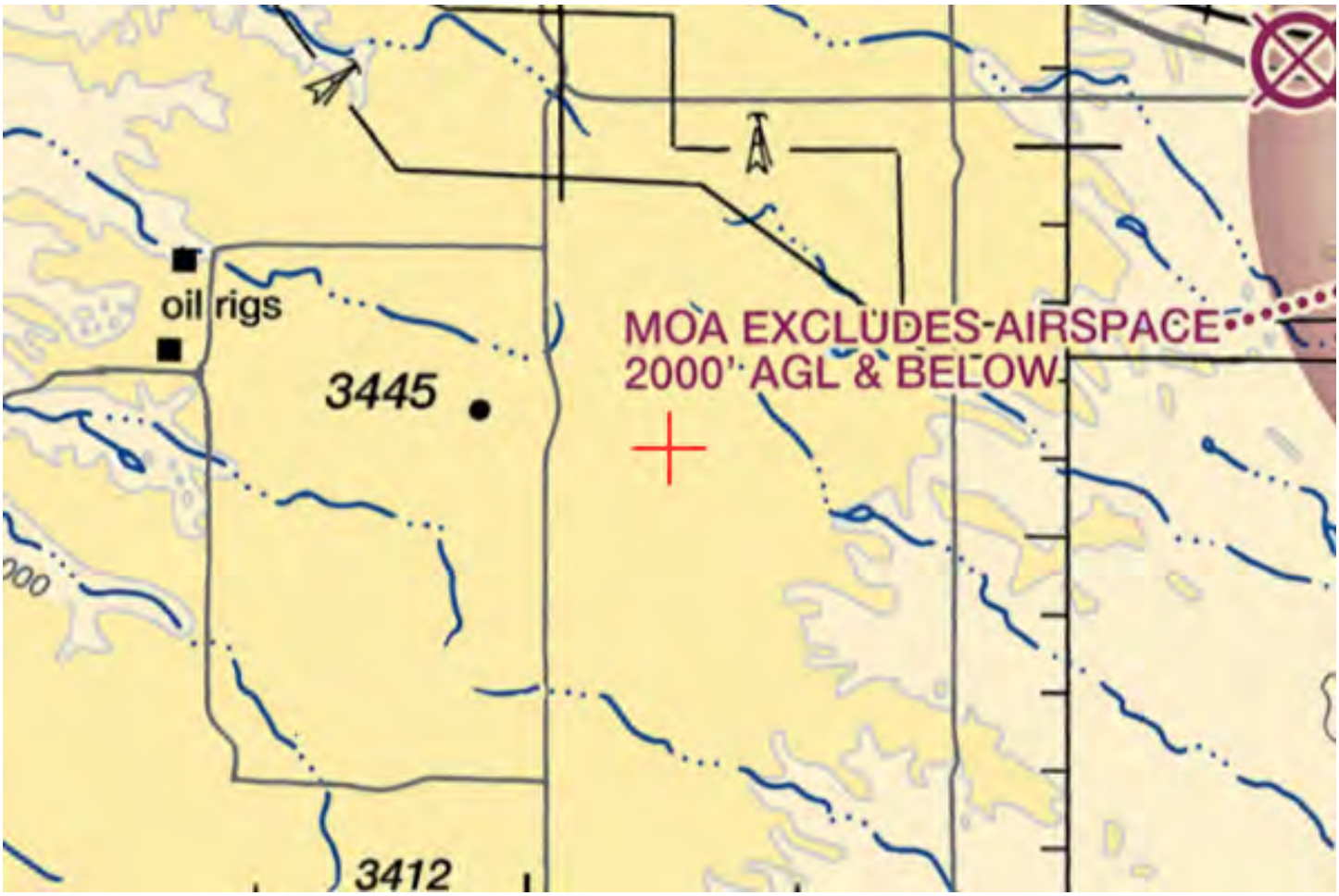
Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2712-OE

Based upon the information provided and most recent wind farm layout plan, we have determined that your request for reduced lighting of this wind turbine meets the guidance prescribed in FAA Advisory Circular 70/7460-1, Chapter 13.5. As a condition, the adjacent structures must continue to be obstruction marked and lighted as specified in their FAA determinations. If at any point in the future, the adjacent structures are unlighted, reduced in height, relocated, dismantled or abandoned, resulting in an unlighted gap greater than ½ statute mile (2640 ft. / 804.67 m.) between lighted turbines, lighting of this structure will be immediately required. The proponent for this study is responsible for monitoring the situation and will promptly initiate a marking and lighting study by E-filing FAA form 7460-1, "Notice of Proposed Construction or Alteration" at the FAA public website https://oeaaa.faa.gov.

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

Sectional Map for ASN 2021-WTE-2712-OE



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

Aeronautical Study No.
2021-WTE-2713-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T58
Location:	Bowman, ND
Latitude:	46-06-01.12N NAD 83
Longitude:	103-37-34.54W
Heights:	3268 feet site elevation (SE)
	499 feet above ground level (AGL)
	3767 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2713-OE.

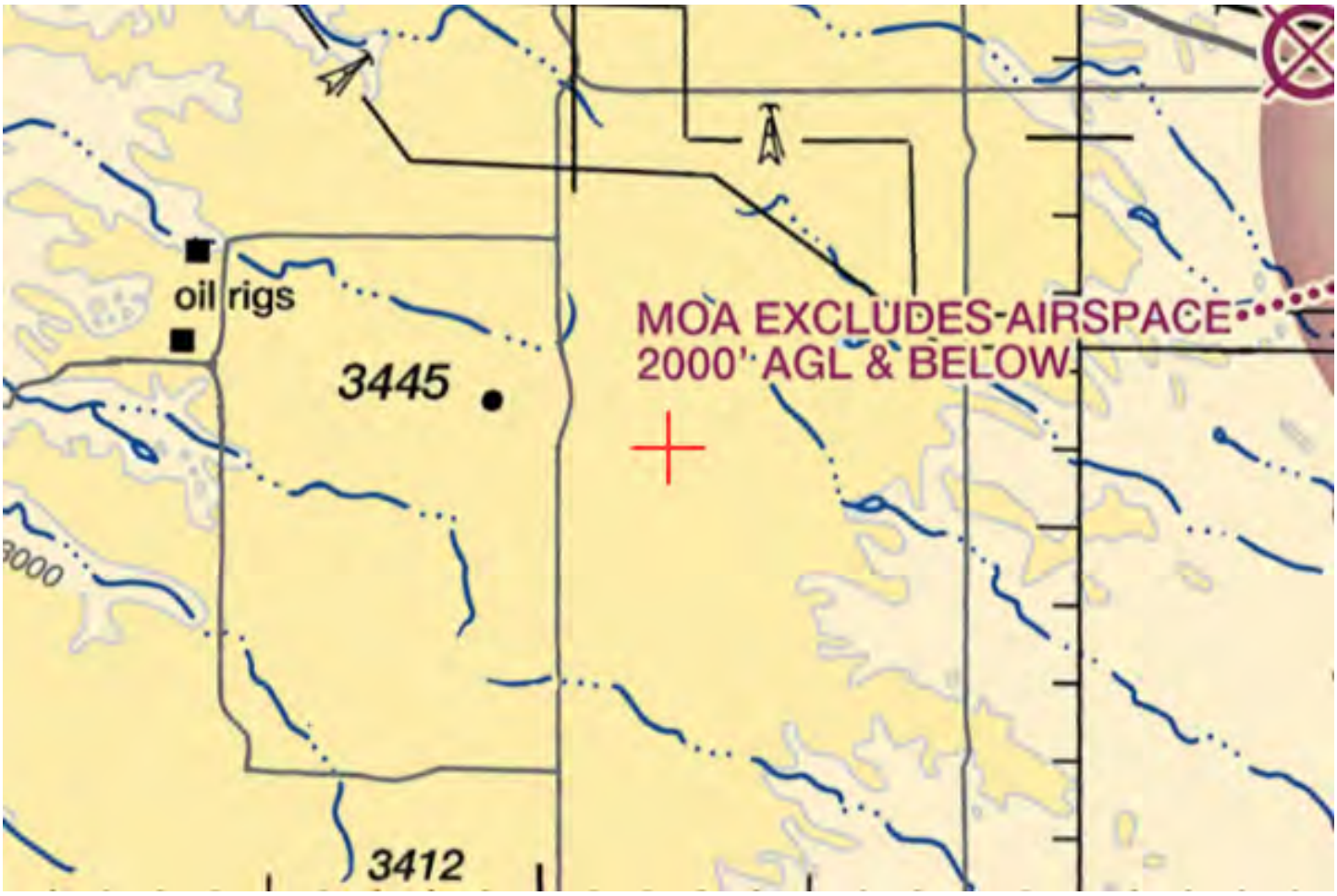
Signature Control No: 488959715-611166603 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2713-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2713-OE



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

Aeronautical Study No.
2021-WTE-2714-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T59
Location:	Bowman, ND
Latitude:	46-05-55.02N NAD 83
Longitude:	103-36-57.19W
Heights:	3142 feet site elevation (SE)
	499 feet above ground level (AGL)
	3641 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, M , Obstruction Marking and Lighting, white paint only-Chapters 13(Turbines)&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2714-OE.

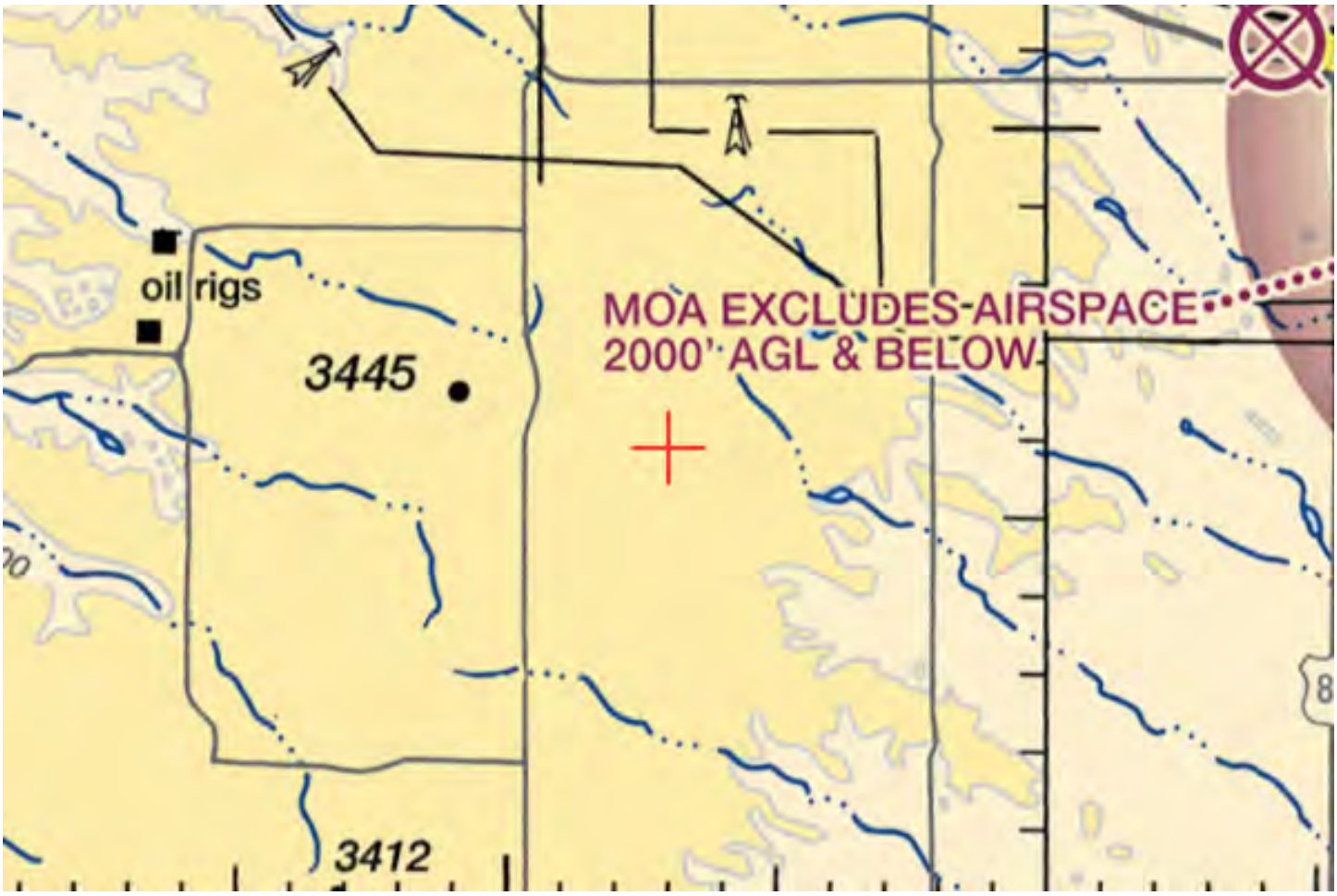
Signature Control No: 488959716-611166340 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Based upon the information provided and most recent wind farm layout plan, we have determined that your request for reduced lighting of this wind turbine meets the guidance prescribed in FAA Advisory Circular 70/7460-1, Chapter 13.5. As a condition, the adjacent structures must continue to be obstruction marked and lighted as specified in their FAA determinations. If at any point in the future, the adjacent structures are unlighted, reduced in height, relocated, dismantled or abandoned, resulting in an unlighted gap greater than ½ statute mile (2640 ft. / 804.67 m.) between lighted turbines, lighting of this structure will be immediately required. The proponent for this study is responsible for monitoring the situation and will promptly initiate a marking and lighting study by E-filing FAA form 7460-1, "Notice of Proposed Construction or Alteration" at the FAA public website https://oeaaa.faa.gov.

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

Sectional Map for ASN 2021-WTE-2714-OE



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

Aeronautical Study No.
2021-WTE-2715-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T60
Location:	Bowman, ND
Latitude:	46-05-52.77N NAD 83
Longitude:	103-36-03.02W
Heights:	3112 feet site elevation (SE)
	499 feet above ground level (AGL)
	3611 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2715-OE.

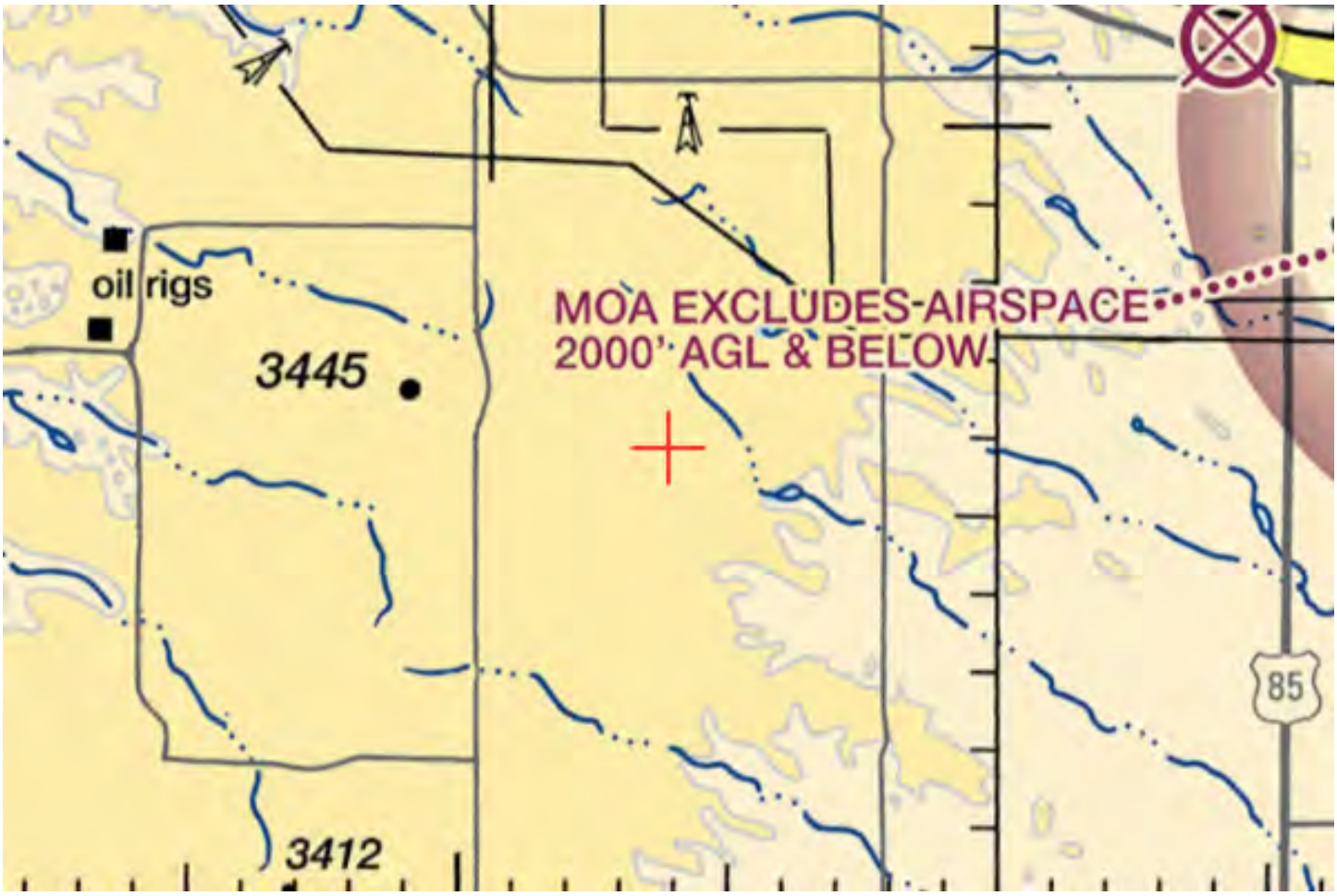
Signature Control No: 488959717-611166604 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2715-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2715-OE



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

Aeronautical Study No.
2021-WTE-2716-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T61
Location:	Bowman, ND
Latitude:	46-05-47.14N NAD 83
Longitude:	103-37-34.32W
Heights:	3237 feet site elevation (SE) 499 feet above ground level (AGL) 3736 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, M , Obstruction Marking and Lighting, white paint only-Chapters 13(Turbines)&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2716-OE.

Signature Control No: 488959720-611166352 (MAL -WT)
Buck Reynolds
Specialist

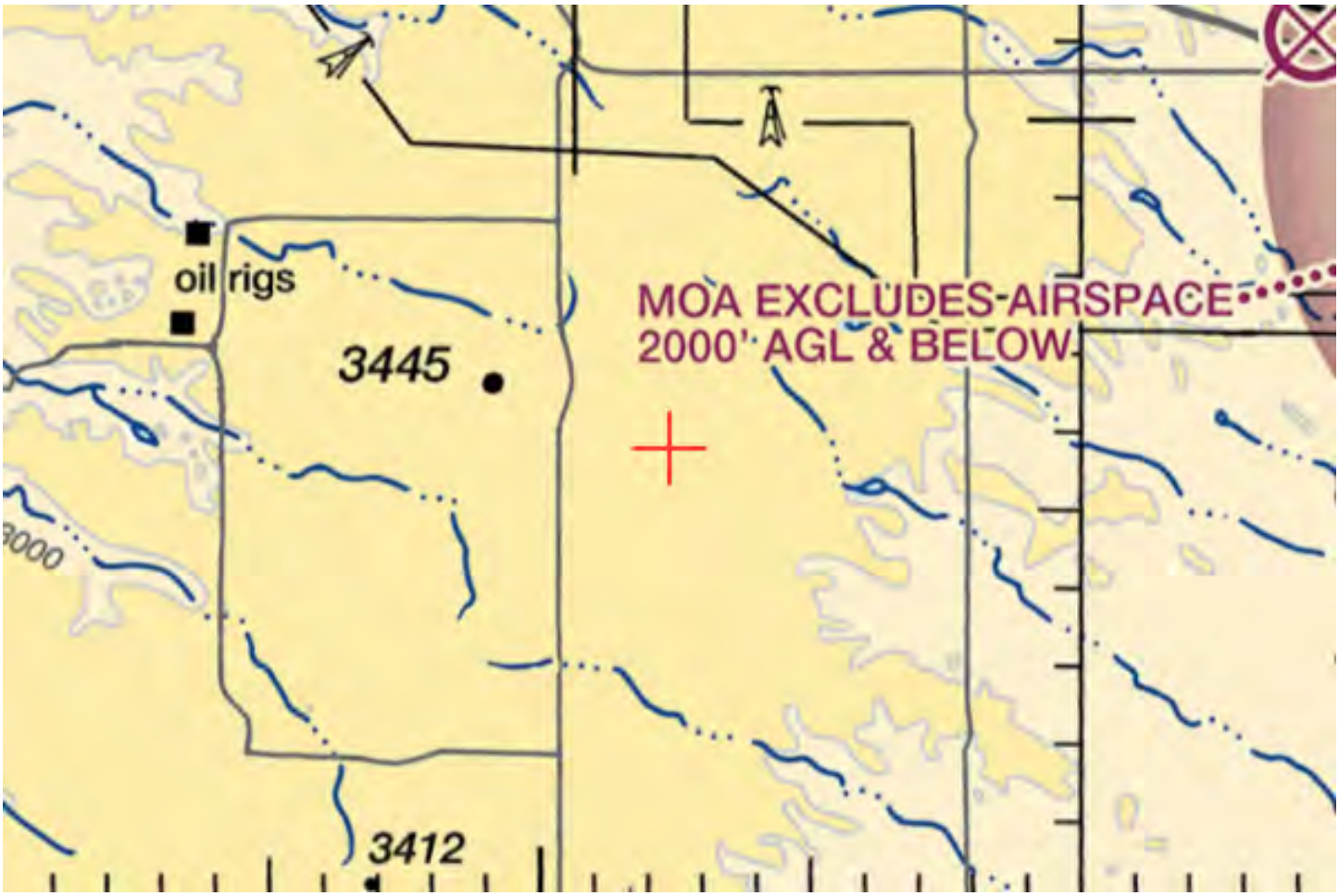
Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2716-OE

Based upon the information provided and most recent wind farm layout plan, we have determined that your request for reduced lighting of this wind turbine meets the guidance prescribed in FAA Advisory Circular 70/7460-1, Chapter 13.5. As a condition, the adjacent structures must continue to be obstruction marked and lighted as specified in their FAA determinations. If at any point in the future, the adjacent structures are unlighted, reduced in height, relocated, dismantled or abandoned, resulting in an unlighted gap greater than ½ statute mile (2640 ft. / 804.67 m.) between lighted turbines, lighting of this structure will be immediately required. The proponent for this study is responsible for monitoring the situation and will promptly initiate a marking and lighting study by E-filing FAA form 7460-1, "Notice of Proposed Construction or Alteration" at the FAA public website https://oeaaa.faa.gov.

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

Sectional Map for ASN 2021-WTE-2716-OE



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

Aeronautical Study No.
2021-WTE-2717-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T62
Location:	Bowman, ND
Latitude:	46-05-39.77N NAD 83
Longitude:	103-36-08.12W
Heights:	3123 feet site elevation (SE)
	499 feet above ground level (AGL)
	3622 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, M , Obstruction Marking and Lighting, white paint only-Chapters 13(Turbines)&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2717-OE.

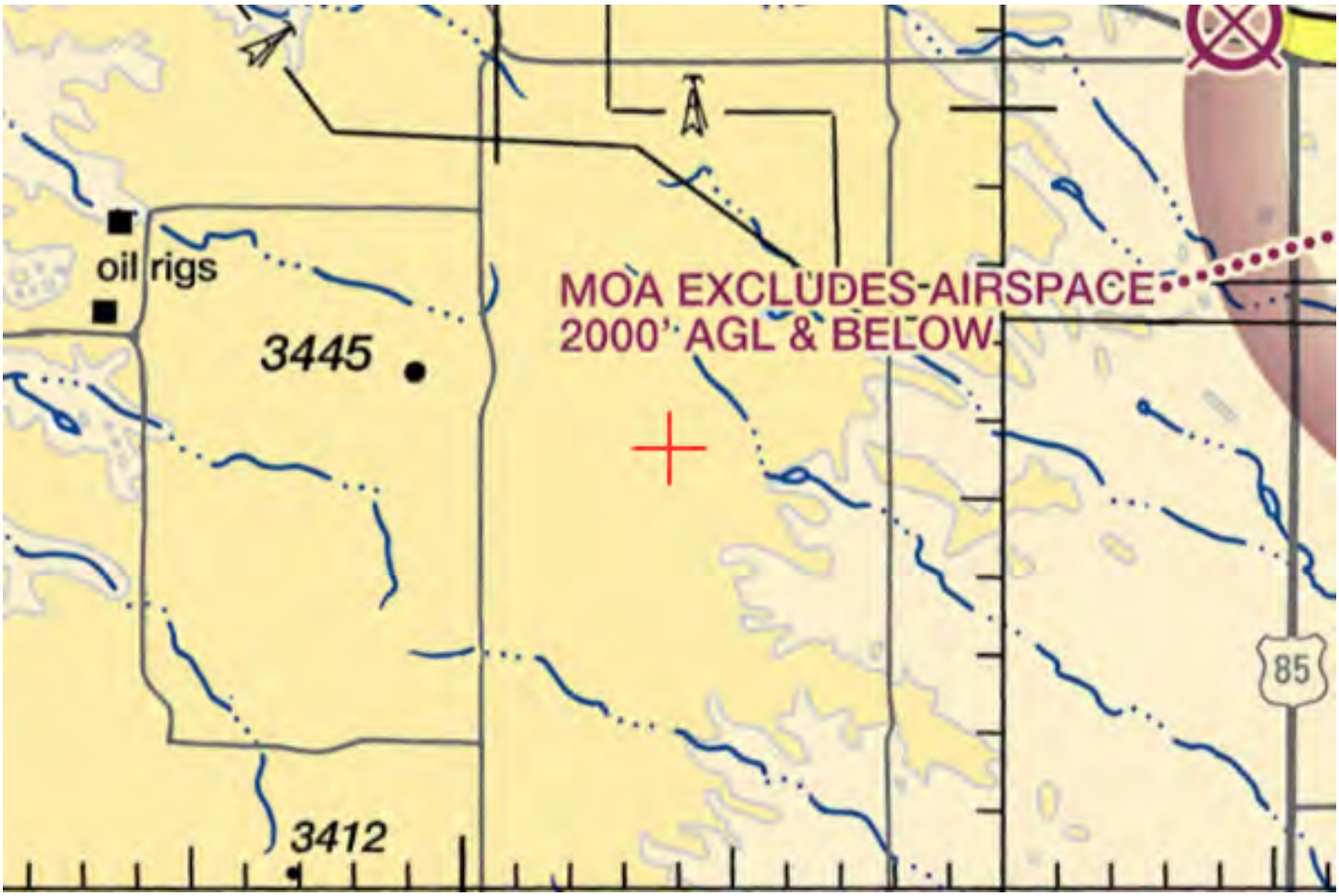
Signature Control No: 488959726-611166336 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Based upon the information provided and most recent wind farm layout plan, we have determined that your request for reduced lighting of this wind turbine meets the guidance prescribed in FAA Advisory Circular 70/7460-1, Chapter 13.5. As a condition, the adjacent structures must continue to be obstruction marked and lighted as specified in their FAA determinations. If at any point in the future, the adjacent structures are unlighted, reduced in height, relocated, dismantled or abandoned, resulting in an unlighted gap greater than ½ statute mile (2640 ft. / 804.67 m.) between lighted turbines, lighting of this structure will be immediately required. The proponent for this study is responsible for monitoring the situation and will promptly initiate a marking and lighting study by E-filing FAA form 7460-1, "Notice of Proposed Construction or Alteration" at the FAA public website https://oeaaa.faa.gov.

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

Sectional Map for ASN 2021-WTE-2717-OE



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

Aeronautical Study No.
2021-WTE-2718-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T63
Location:	Bowman, ND
Latitude:	46-05-38.96N NAD 83
Longitude:	103-37-45.82W
Heights:	3178 feet site elevation (SE)
	499 feet above ground level (AGL)
	3677 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2718-OE.

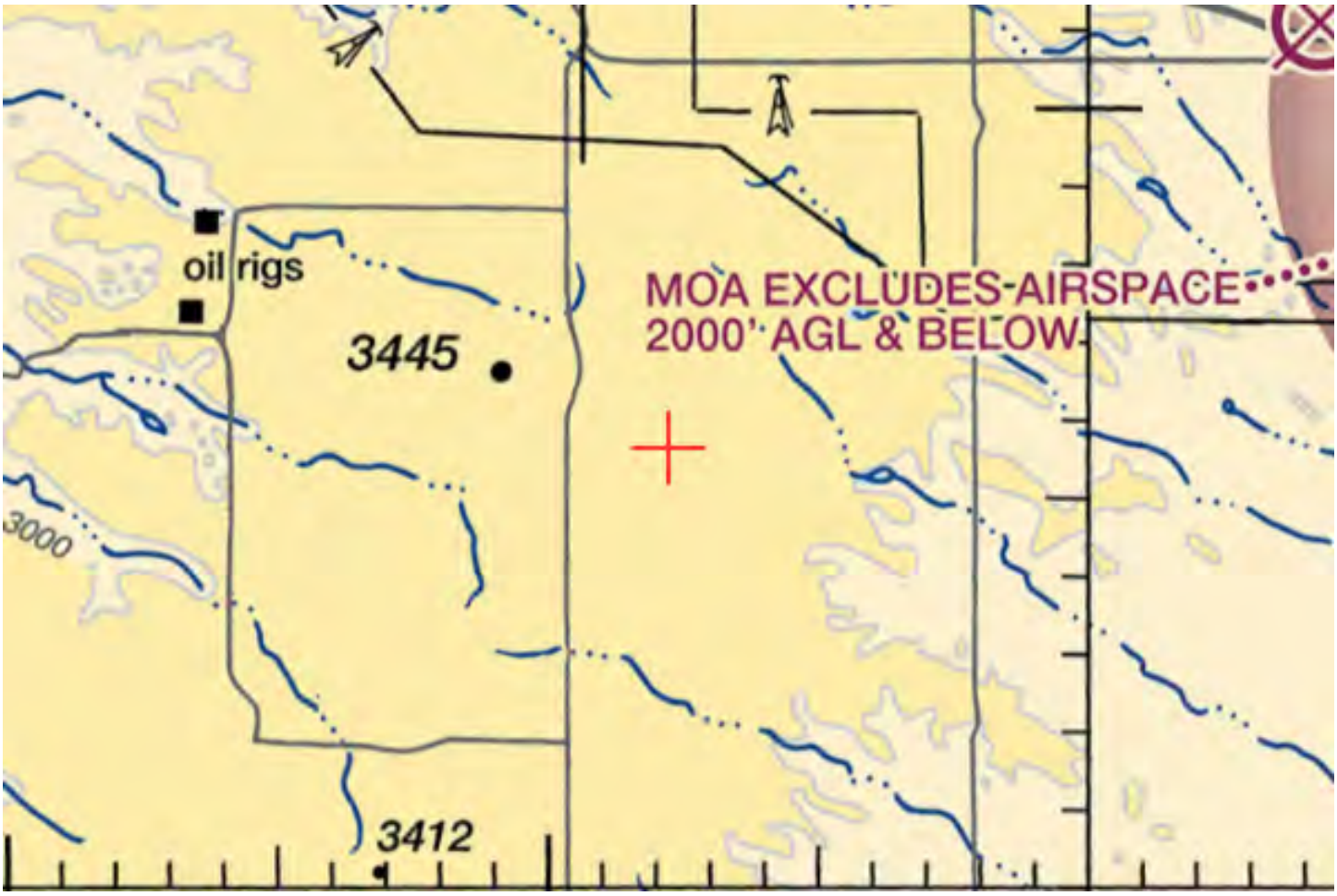
Signature Control No: 488959727-611166605 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2718-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2718-OE



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

Aeronautical Study No.
2021-WTE-2719-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T64
Location:	Bowman, ND
Latitude:	46-05-30.80N NAD 83
Longitude:	103-36-18.94W
Heights:	3113 feet site elevation (SE) 499 feet above ground level (AGL) 3612 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2719-OE.

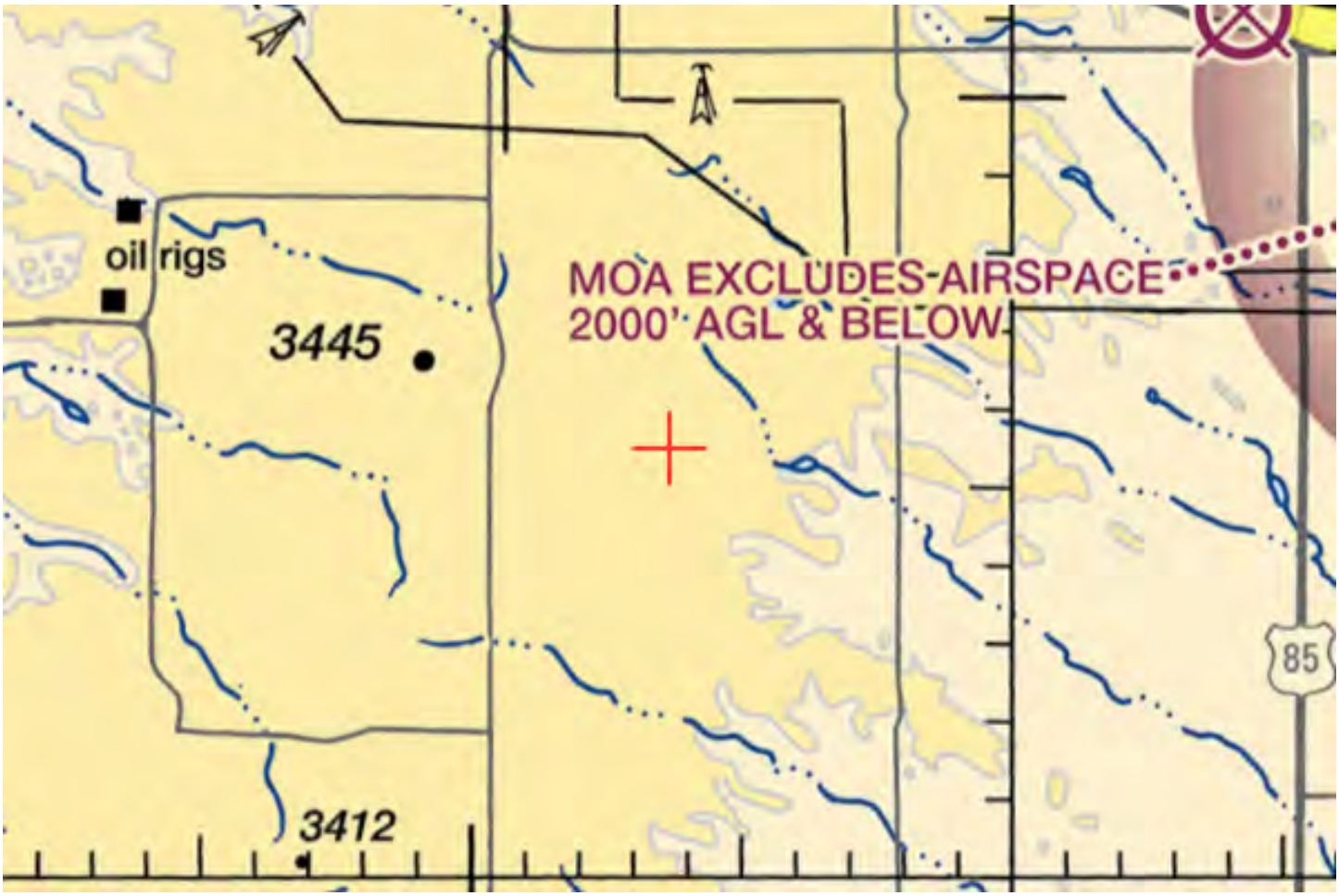
Signature Control No: 488959734-611166606 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2719-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2719-OE



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

Aeronautical Study No.
2021-WTE-2720-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T65
Location:	Bowman, ND
Latitude:	46-05-32.69N NAD 83
Longitude:	103-37-58.98W
Heights:	3162 feet site elevation (SE)
	499 feet above ground level (AGL)
	3661 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, M , Obstruction Marking and Lighting, white paint only-Chapters 13(Turbines)&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2720-OE.

Signature Control No: 488959735-611166342 (MAL -WT)
Buck Reynolds
Specialist

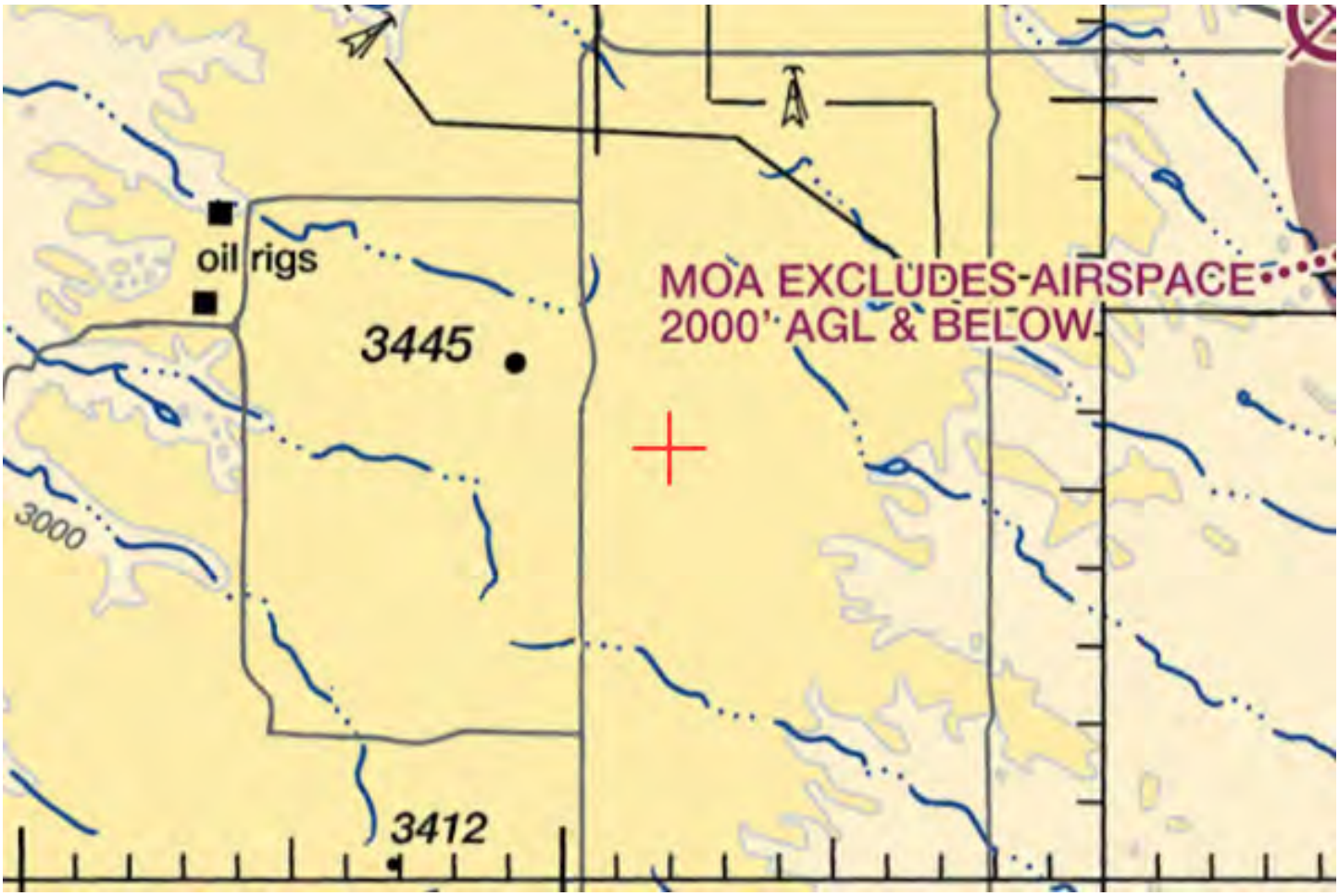
Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2720-OE

Based upon the information provided and most recent wind farm layout plan, we have determined that your request for reduced lighting of this wind turbine meets the guidance prescribed in FAA Advisory Circular 70/7460-1, Chapter 13.5. As a condition, the adjacent structures must continue to be obstruction marked and lighted as specified in their FAA determinations. If at any point in the future, the adjacent structures are unlighted, reduced in height, relocated, dismantled or abandoned, resulting in an unlighted gap greater than ½ statute mile (2640 ft. / 804.67 m.) between lighted turbines, lighting of this structure will be immediately required. The proponent for this study is responsible for monitoring the situation and will promptly initiate a marking and lighting study by E-filing FAA form 7460-1, "Notice of Proposed Construction or Alteration" at the FAA public website https://oeaaa.faa.gov.

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

Sectional Map for ASN 2021-WTE-2720-OE



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

Aeronautical Study No.
2021-WTE-2722-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T67a
Location:	Bowman, ND
Latitude:	46-05-14.25N NAD 83
Longitude:	103-34-48.65W
Heights:	3047 feet site elevation (SE)
	499 feet above ground level (AGL)
	3546 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2722-OE.

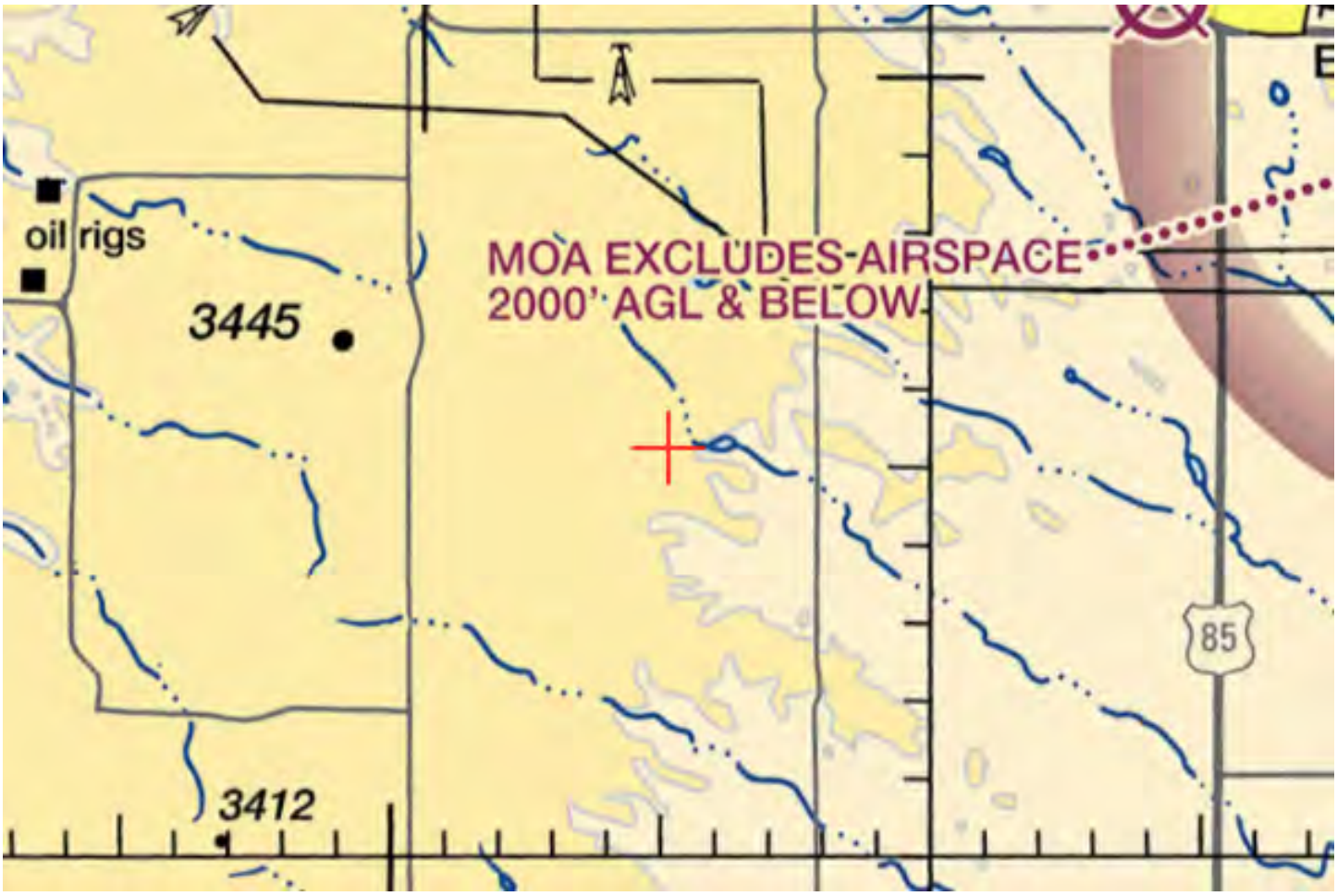
Signature Control No: 488959739-611166607 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2722-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2722-OE



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

Aeronautical Study No.
2021-WTE-2723-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T68
Location:	Bowman, ND
Latitude:	46-05-17.56N NAD 83
Longitude:	103-38-05.16W
Heights:	3150 feet site elevation (SE)
	499 feet above ground level (AGL)
	3649 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2723-OE.

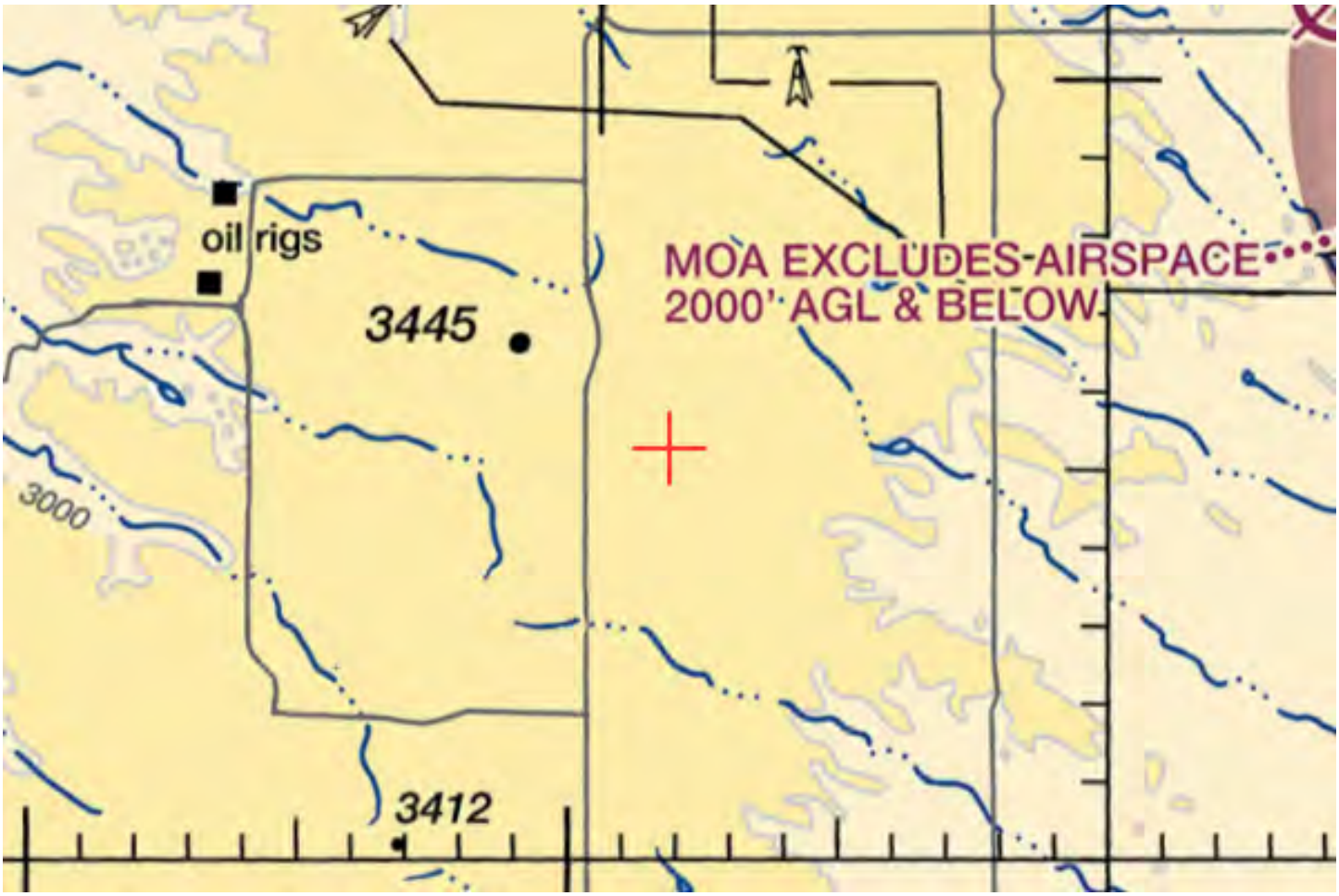
Signature Control No: 488959740-611166609 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2723-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2723-OE



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

Aeronautical Study No.
2021-WTE-2724-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T69
Location:	Bowman, ND
Latitude:	46-05-16.34N NAD 83
Longitude:	103-36-24.96W
Heights:	3128 feet site elevation (SE) 499 feet above ground level (AGL) 3627 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2724-OE.

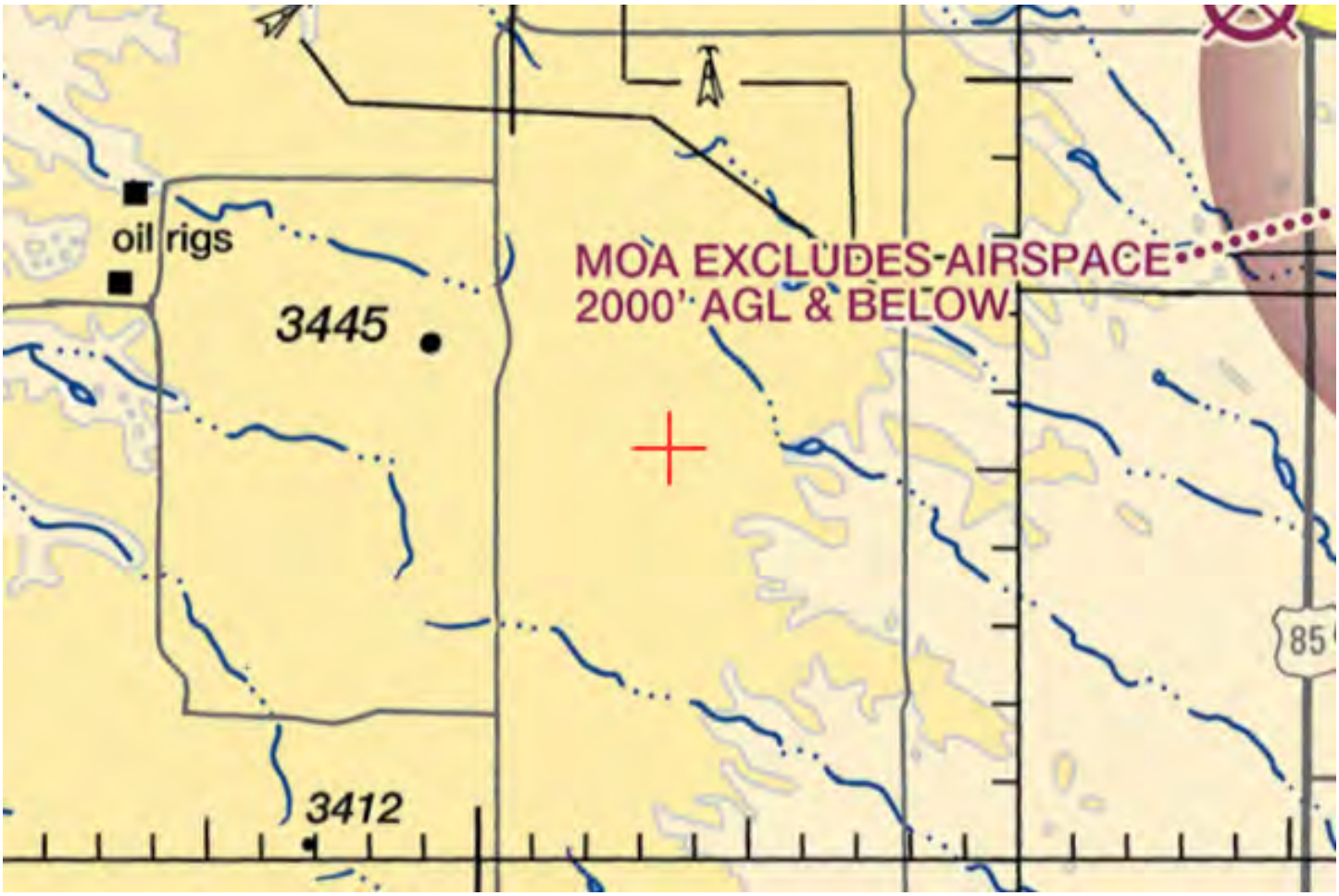
Signature Control No: 488959743-611166608 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2724-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2724-OE



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

Aeronautical Study No.
2021-WTE-2725-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T70
Location:	Bowman, ND
Latitude:	46-05-15.86N NAD 83
Longitude:	103-37-32.93W
Heights:	3145 feet site elevation (SE)
	499 feet above ground level (AGL)
	3644 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2725-OE.

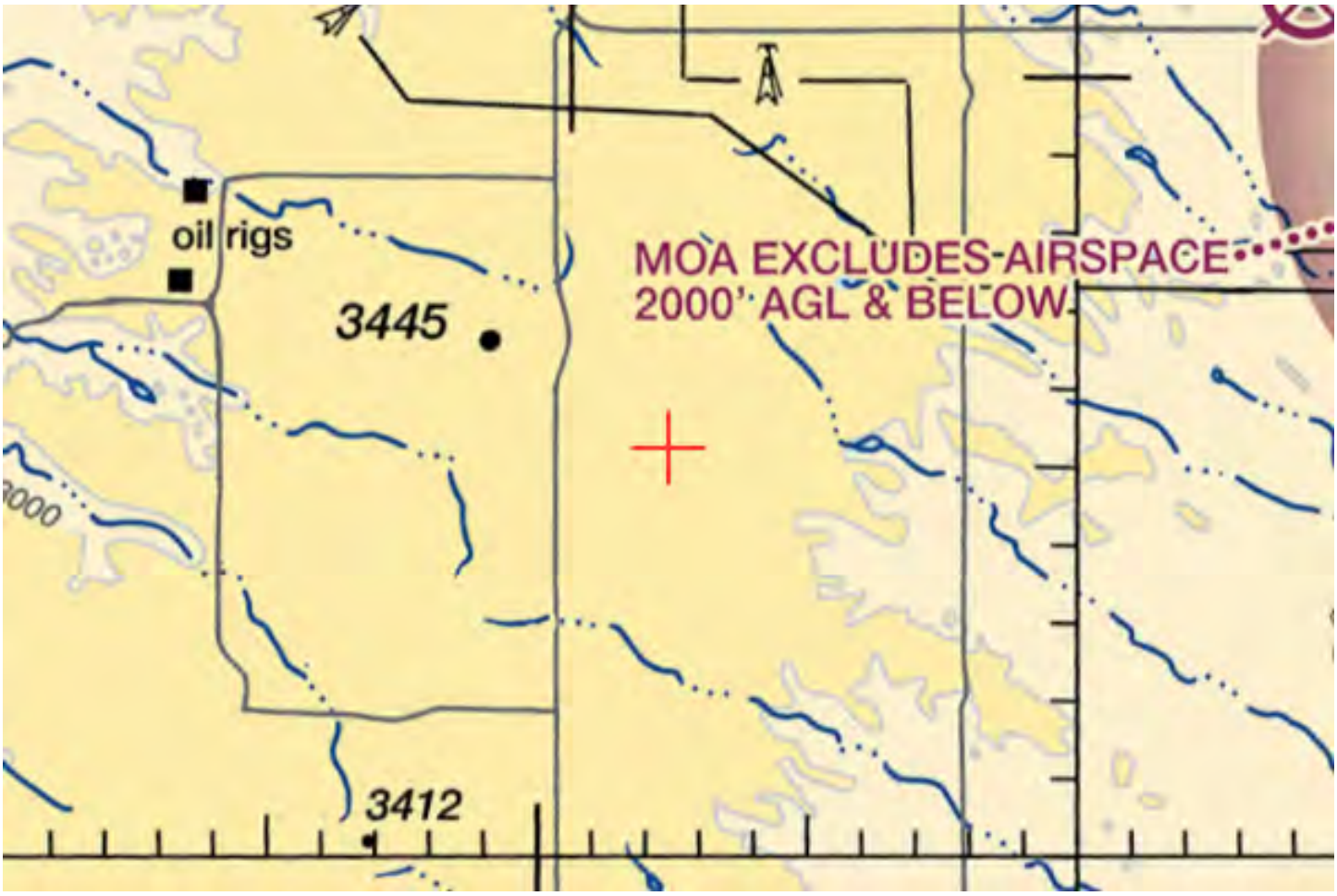
Signature Control No: 488959744-611166610 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2725-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2725-OE



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

Aeronautical Study No.
2021-WTE-2727-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T72
Location:	Bowman, ND
Latitude:	46-04-08.67N NAD 83
Longitude:	103-39-49.03W
Heights:	3238 feet site elevation (SE)
	499 feet above ground level (AGL)
	3737 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, M , Obstruction Marking and Lighting, white paint only-Chapters 13(Turbines)&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2727-OE.

Signature Control No: 488959748-611166359 (MAL -WT)
Buck Reynolds
Specialist

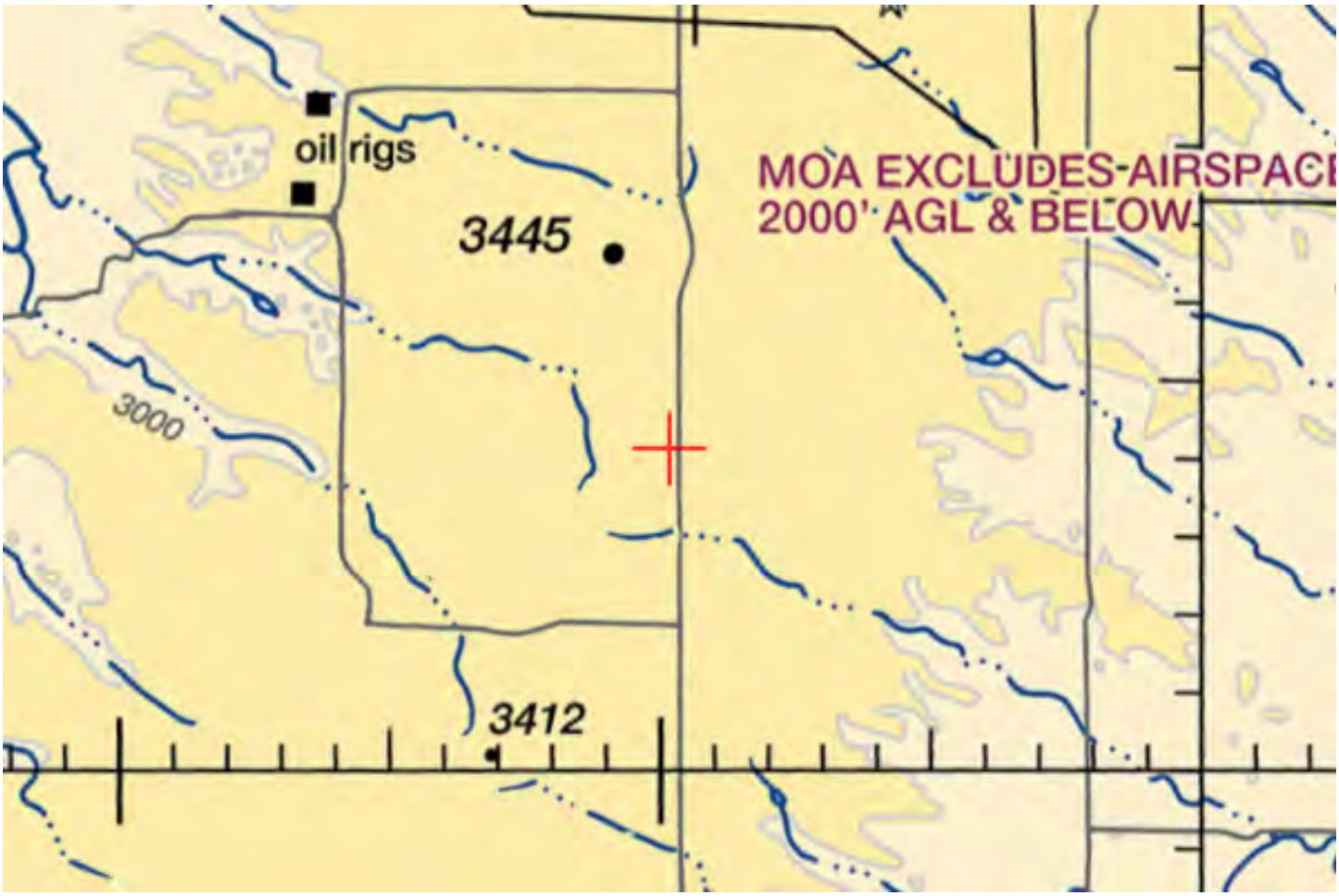
Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2727-OE

Based upon the information provided and most recent wind farm layout plan, we have determined that your request for reduced lighting of this wind turbine meets the guidance prescribed in FAA Advisory Circular 70/7460-1, Chapter 13.5. As a condition, the adjacent structures must continue to be obstruction marked and lighted as specified in their FAA determinations. If at any point in the future, the adjacent structures are unlighted, reduced in height, relocated, dismantled or abandoned, resulting in an unlighted gap greater than ½ statute mile (2640 ft. / 804.67 m.) between lighted turbines, lighting of this structure will be immediately required. The proponent for this study is responsible for monitoring the situation and will promptly initiate a marking and lighting study by E-filing FAA form 7460-1, "Notice of Proposed Construction or Alteration" at the FAA public website https://oeaaa.faa.gov.

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

Sectional Map for ASN 2021-WTE-2727-OE



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

Aeronautical Study No.
2021-WTE-2729-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine T74
Location:	Bowman, ND
Latitude:	46-03-54.74N NAD 83
Longitude:	103-39-50.25W
Heights:	3240 feet site elevation (SE)
	499 feet above ground level (AGL)
	3739 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2729-OE.

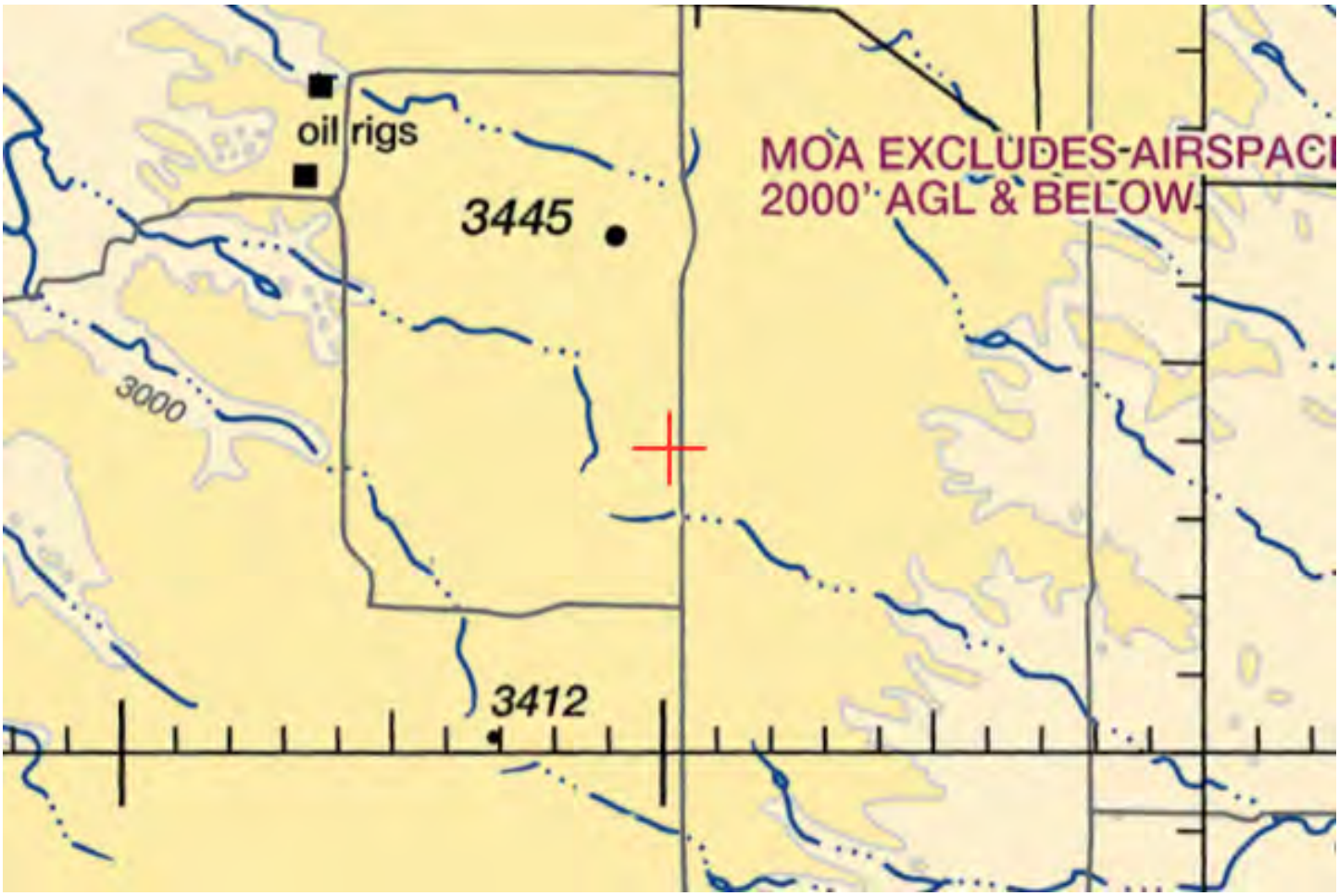
Signature Control No: 488959751-611166612 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2729-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2729-OE



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

Aeronautical Study No.
2021-WTE-2730-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine S1
Location:	Bowman, ND
Latitude:	46-08-09.30N NAD 83
Longitude:	103-30-19.37W
Heights:	2998 feet site elevation (SE)
	499 feet above ground level (AGL)
	3497 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2730-OE.

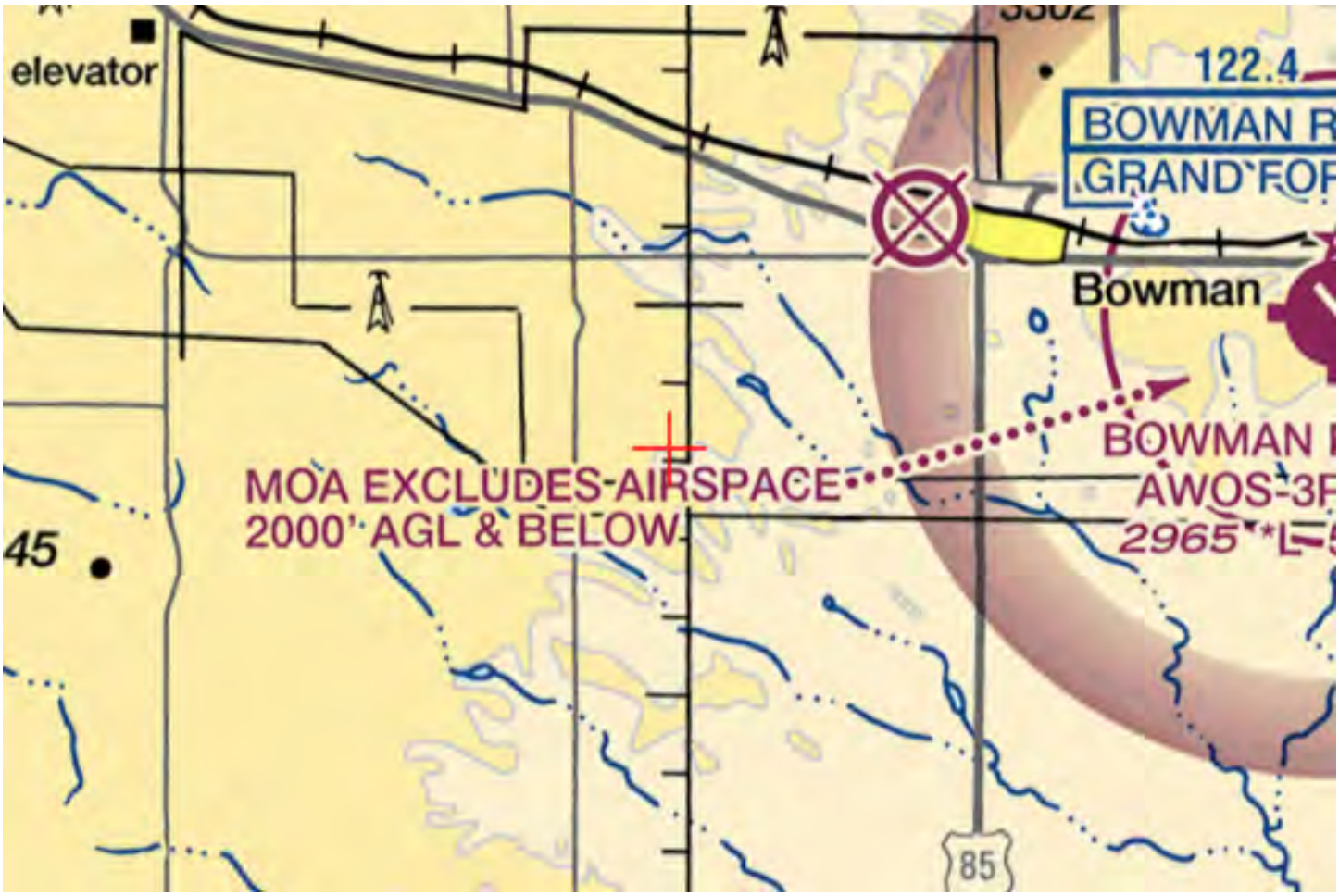
Signature Control No: 488959754-611166613 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2730-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2730-OE



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

Aeronautical Study No.
2021-WTE-2731-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine S2
Location:	Bowman, ND
Latitude:	46-06-58.07N NAD 83
Longitude:	103-31-16.25W
Heights:	2983 feet site elevation (SE)
	499 feet above ground level (AGL)
	3482 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2731-OE.

Signature Control No: 488959758-611166614 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2731-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2731-OE

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

Aeronautical Study No.
2021-WTE-2732-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine S3
Location:	Bowman, ND
Latitude:	46-07-15.11N NAD 83
Longitude:	103-31-06.16W
Heights:	3034 feet site elevation (SE)
	499 feet above ground level (AGL)
	3533 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2732-OE.

Signature Control No: 488959764-611166615 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2732-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2732-OE

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

Aeronautical Study No.
2021-WTE-2733-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine S4
Location:	Bowman, ND
Latitude:	46-08-33.33N NAD 83
Longitude:	103-30-48.75W
Heights:	3036 feet site elevation (SE) 499 feet above ground level (AGL) 3535 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2733-OE.

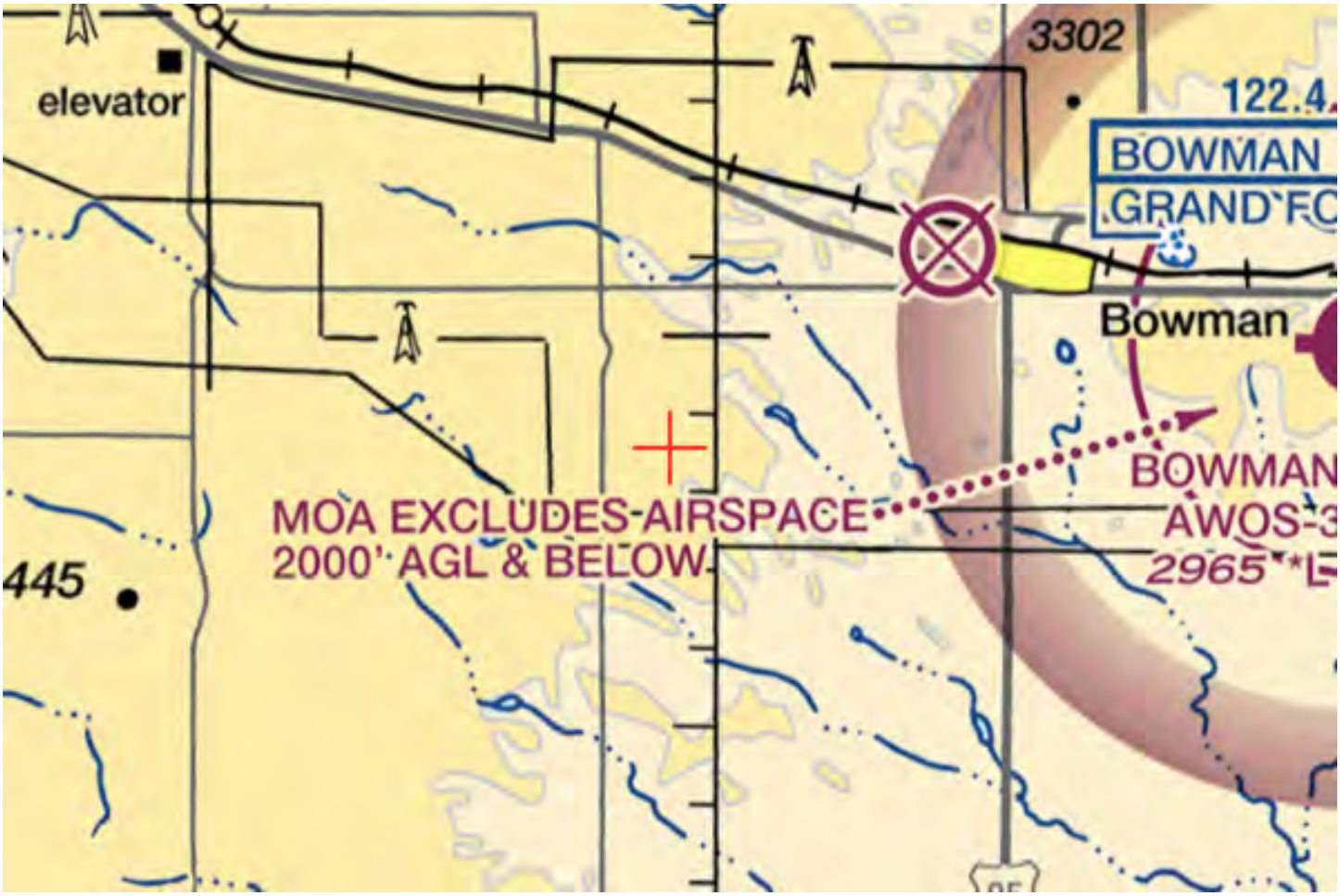
Signature Control No: 488959776-611166616 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2733-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2733-OE



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

Aeronautical Study No.
2021-WTE-2734-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine S5
Location:	Bowman, ND
Latitude:	46-04-51.85N NAD 83
Longitude:	103-35-01.80W
Heights:	3055 feet site elevation (SE)
	499 feet above ground level (AGL)
	3554 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2734-OE.

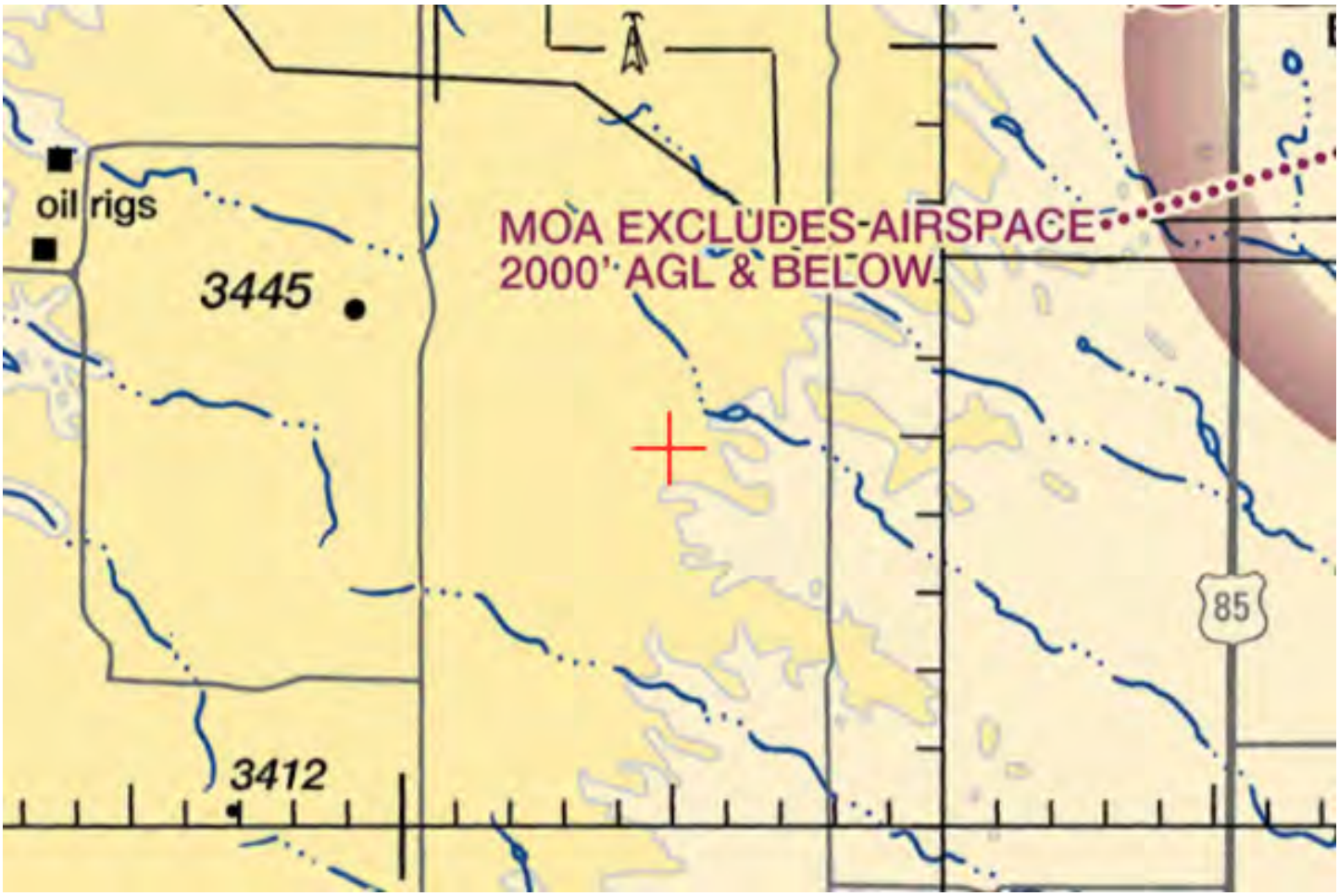
Signature Control No: 488959782-611166617 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2734-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2734-OE



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

Aeronautical Study No.
2021-WTE-2735-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine S6
Location:	Bowman, ND
Latitude:	46-04-15.16N NAD 83
Longitude:	103-33-18.06W
Heights:	3040 feet site elevation (SE)
	499 feet above ground level (AGL)
	3539 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2735-OE.

Signature Control No: 488959787-611166618 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2735-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2735-OE

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

Aeronautical Study No.
2021-WTE-2736-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine S7
Location:	Bowman, ND
Latitude:	46-03-32.12N NAD 83
Longitude:	103-33-46.62W
Heights:	2995 feet site elevation (SE)
	499 feet above ground level (AGL)
	3494 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2736-OE.

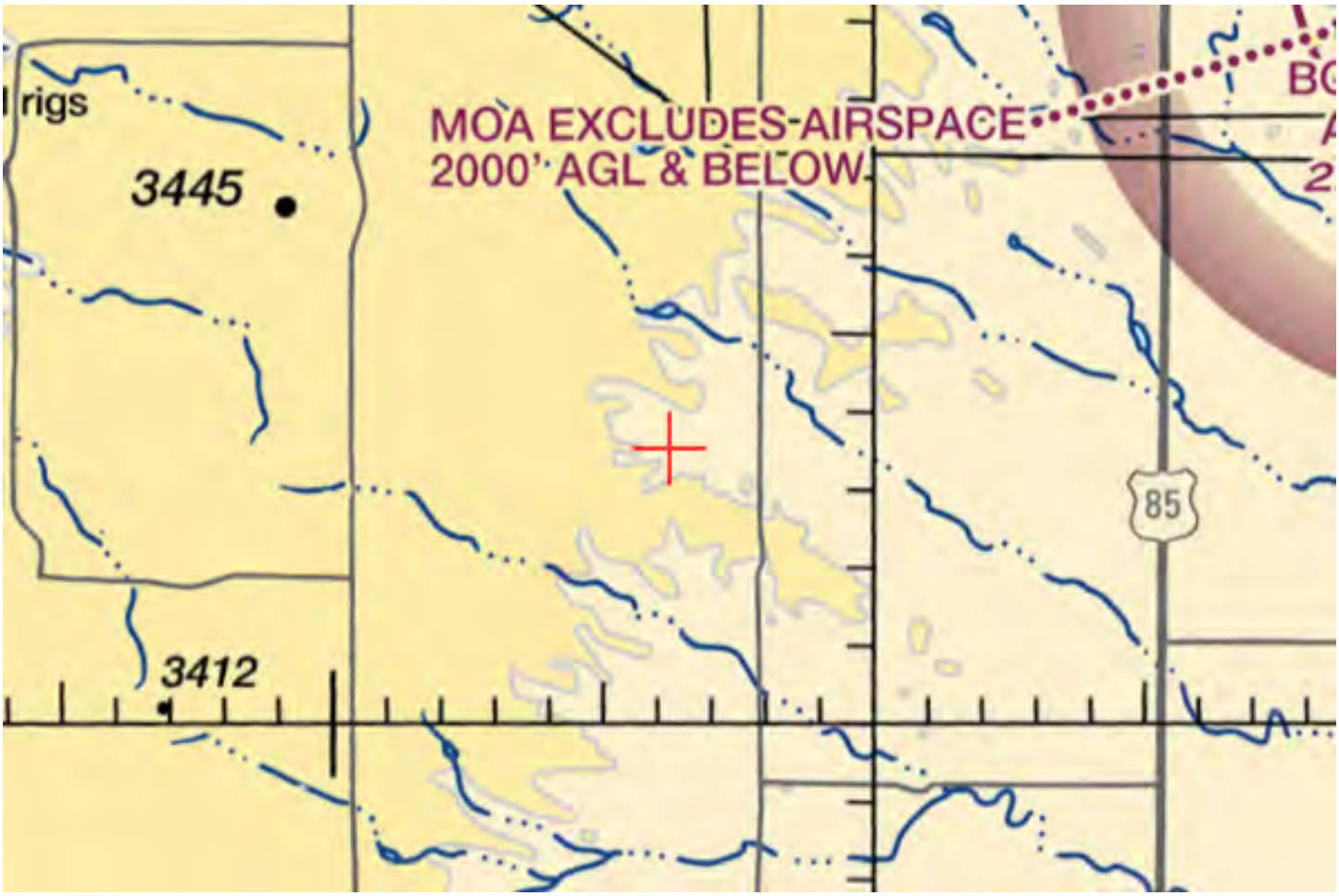
Signature Control No: 488959790-611166620 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2736-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2736-OE



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

Aeronautical Study No.
2021-WTE-2737-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine S8
Location:	Bowman, ND
Latitude:	46-06-22.27N NAD 83
Longitude:	103-31-17.23W
Heights:	2988 feet site elevation (SE)
	499 feet above ground level (AGL)
	3487 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2737-OE.

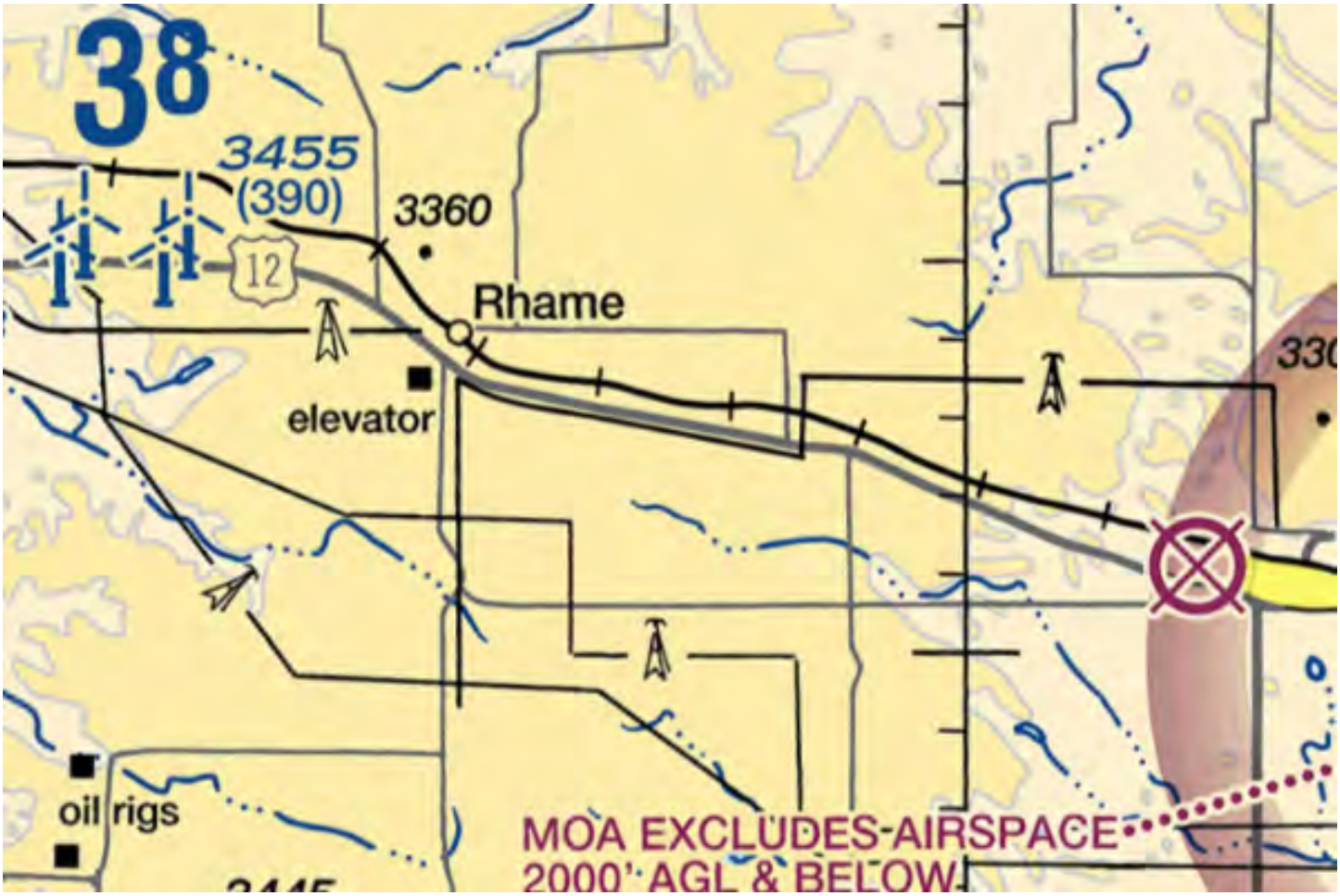
Signature Control No: 488959805-611166621 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2737-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2737-OE



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

Aeronautical Study No.
2021-WTE-2738-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine S9
Location:	Bowman, ND
Latitude:	46-03-29.85N NAD 83
Longitude:	103-34-14.17W
Heights:	3007 feet site elevation (SE)
	499 feet above ground level (AGL)
	3506 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2738-OE.

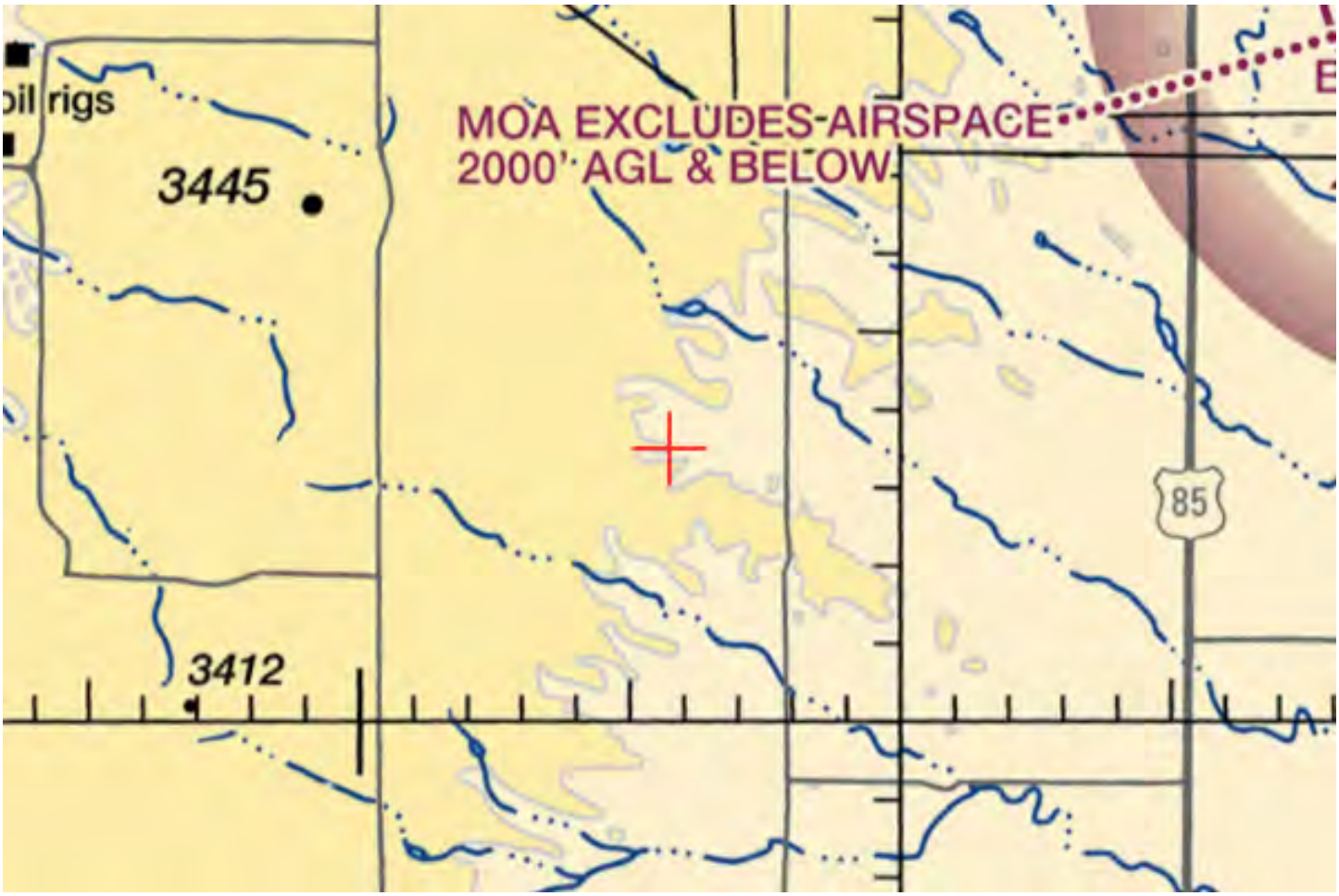
Signature Control No: 488959809-611166619 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2738-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2738-OE



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

Aeronautical Study No.
2021-WTE-2739-OE

Issued Date: 01/31/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Wind Turbine S10
Location:	Bowman, ND
Latitude:	46-04-38.48N NAD 83
Longitude:	103-35-04.52W
Heights:	3020 feet site elevation (SE)
	499 feet above ground level (AGL)
	3519 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, M , Obstruction Marking and Lighting, white paint/ synchronized red lights-Chapters 4,13(Turbines),&15.

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 Air Missions (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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-WTE-2739-OE.

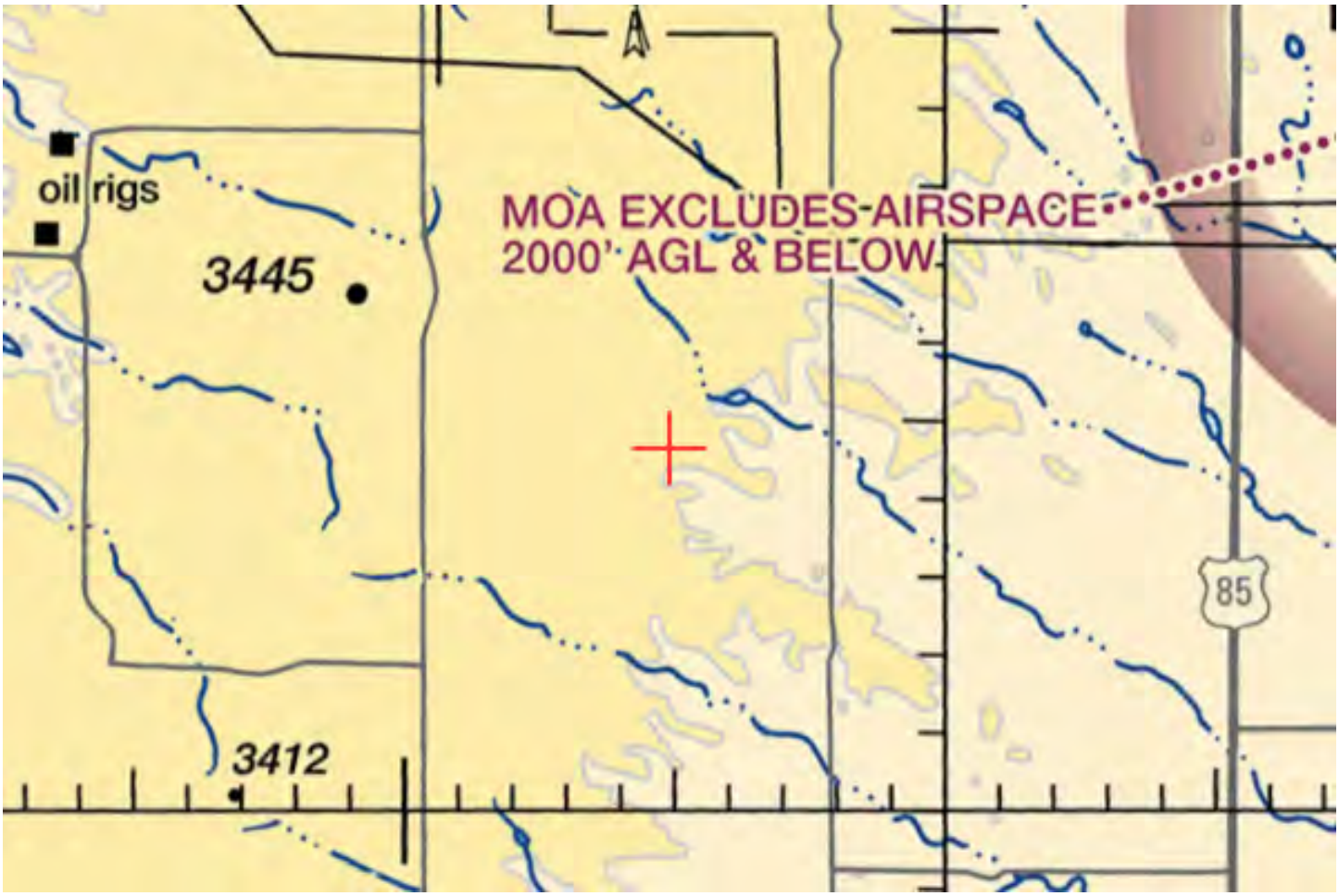
Signature Control No: 488959812-611166623 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2021-WTE-2739-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2021-WTE-2739-OE



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

Aeronautical Study No.
2023-WTE-8247-OE

Issued Date: 04/22/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Met Tower (w/WT Farm) BOW_PMM_B17
Location:	Griffin, ND
Latitude:	46-12-09.04N NAD 83
Longitude:	103-31-29.70W
Heights:	3022 feet site elevation (SE) 292 feet above ground level (AGL) 3314 feet above mean sea level (AMSL)

As a condition to this Determination, the structure is marked/lighted with Red lights and Paint.

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 Air Missions (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

So that aeronautical charts and records can be updated, it is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed when the new system is installed and operational.

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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2023-WTE-8247-OE.

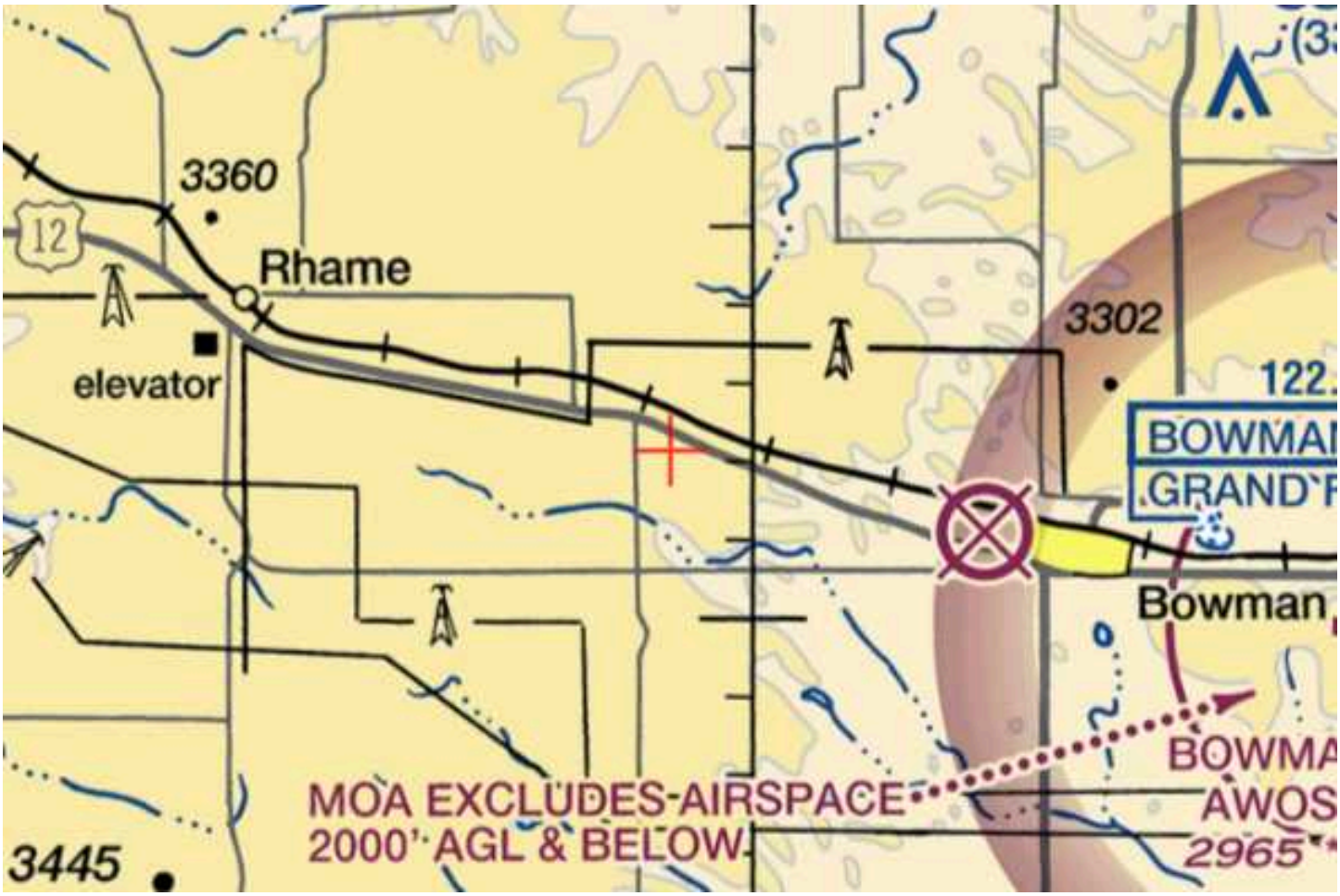
Signature Control No: 607087036-619453360 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2023-WTE-8247-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2023-WTE-8247-OE



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

Aeronautical Study No.
2023-WTE-8248-OE

Issued Date: 04/22/2024

Scott Jansen
Bowman Wind, LLC
310 4th st. NE, Suite 300
Charlottesville, VA 22902

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

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

Structure:	Met Tower (w/WT Farm) BOW_PMM_F52
Location:	Bowman, ND
Latitude:	46-08-01.57N NAD 83
Longitude:	103-30-12.61W
Heights:	2991 feet site elevation (SE) 292 feet above ground level (AGL) 3283 feet above mean sea level (AMSL)

As a condition to this Determination, the structure is marked/lighted with Red lights and Paint.

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 Air Missions (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

So that aeronautical charts and records can be updated, it is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed when the new system is installed and operational.

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 (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2023-WTE-8248-OE.

Signature Control No: 607088470-619453359 (MAL -WT)
Buck Reynolds
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2023-WTE-8248-OE

There is no objection to the use of an Aircraft Detection Lighting System (ADLS) to operate the obstruction lighting for this structure and/or the associated wind farm, so as long as the system meets the specifications of the latest technical note. The sponsor is responsible for ensuring the ADLS is continuously monitored and meets the aircraft detection capabilities for the volume of airspace defined in the current version of FAA Advisory Circular 70/7460-1. The sponsor will ensure this responsibility is specifically transferred to any subsequent owners of the wind farm.

Sectional Map for ASN 2023-WTE-8248-OE