



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

Aeronautical Study No.
2016-WTE-5694-OE

Issued Date: 05/24/2017

Jeff McKee
Buckeye Wind
1251 Waterfront Pl
3rd Floor
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**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine BI - 1
Location:	Urbana, OH
Latitude:	40-10-46.35N NAD 83
Longitude:	83-40-34.70W
Heights:	1159 feet site elevation (SE) 492 feet above ground level (AGL) 1651 feet above mean sea level (AMSL)

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

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

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

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

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

See attachment for additional condition(s) or information.

This determination expires on 11/24/2018 unless:

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

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

This determination is subject to review if an interested party files a petition that is received by the FAA on or before June 23, 2017. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager, Airspace Policy & Regulation, Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This determination becomes final on July 03, 2017 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Regulations & ATC Procedures Group via telephone -- 202-267-8783 - or facsimile 202-267-9328.

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

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

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

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

one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

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

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

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

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

If we can be of further assistance, please contact Paul Holmquist, at (425) 227-2625. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-WTE-5694-OE.

Signature Control No: 300495876-332373511

(DNH -WT)

Mike Helvey

Manager, Obstruction Evaluation Group

Attachment(s)

Additional Information

Map(s)

Additional information for ASN 2016-WTE-5694-OE

Abbreviations

AGL - above ground level

AMSL - above mean sea level

RWY - runway

VFR - visual flight rules

IFR - instrument flight rules

NM - nautical mile

ASN - aeronautical study number

TPA - traffic pattern airspace

Part 77 - Title 14 Code of Federal Regulations (CFR) Part 77, Safe, Efficient Use and Preservation of the Navigable Airspace

1. LOCATION OF PROPOSED CONSTRUCTION

The entire proposed Buckeye I wind turbine project near Urbana, OH consists of 52 turbines at 492 feet AGL and are assigned FAA ASNs 2016-WTE-5694-OE sequentially through 2016-WTE-5745-OE. The proposed wind turbine project lies approximately between 2.71 NM to 8.6 NM east of the Airport Reference Point (ARP) for the Grimes Field Airport (I74), Urbana, OH.

For the sake of efficiency, the narrative below describes 13 of the proposed turbines that have similar impacts, the primary difference being the amount of penetration to 14 CFR Part 77 standards. Separate determinations for each turbine will be made issued and are available on our website at <http://oeaaa.faa.gov>.

ASN (degrees)	AGL/AMSL (feet)	Latitude/Longitude	Distance From I74 (NM)/Azimuth
2016-WTE-5694-OE	492/1651	40-10-46.35N/83-40-34.70W	4.56/051.5
2016-WTE-5701-OE	492/1794	40-09-21.04N/83-38-40.53W	5.23/074.3
2016-WTE-5718-OE	492/1761	40-07-44.15N/83-37-35.34W	5.87/092.0
2016-WTE-5720-OE	492/1765	40-07-33.98N/83-39-06.37W	4.72/094.5
2016-WTE-5721-OE	492/1750	40-07-34.76N/83-37-34.27W	5.90/093.5
2016-WTE-5724-OE	492/1731	40-07-27.96N/83-39-38.28W	4.33/096.3
2016-WTE-5725-OE	492/1764	40-07-23.09N/83-39-07.68W	4.72/096.8
2016-WTE-5727-OE	492/1719	40-07-18.51N/83-39-33.27W	4.41/098.3
2016-WTE-5730-OE	492/1747	40-07-10.89N/83-39-09.40W	4.73/099.2
2016-WTE-5733-OE	492/1670	40-05-32.50N/83-39-03.80W	5.31/116.9
2016-WTE-5735-OE	492/1655	40-05-09.32N/83-38-54.80W	5.60/119.9
2016-WTE-5738-OE	492/1656	40-05-00.02N/83-38-49.03W	5.74/120.9
2016-WTE-5740-OE	492/1643	40-04-44.91N/83-39-03.10W	5.72/124.0

2. OBSTRUCTION STANDARDS EXCEEDED

The 13 proposed turbines would exceed 14 CFR Part 77 standards as described below.

Section 77.17(a)(2): A height Above Ground Level (AGL) or airport elevation, whichever is higher, exceeding a height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 nautical miles of the established reference point of an airport, excluding heliports, with its longest Runway (RWY) more than 3,200 feet in actual length, and that height increases in the proportion of 100 feet for each additional nautical mile from the airport up to a maximum of 499 feet.

ASN	Exceeds Section 77.17(a)(2) By (feet)
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2016-WTE-5694-OE	136
2016-WTE-5701-OE	70
2016-WTE-5718-OE	5
2016-WTE-5720-OE	120
2016-WTE-5721-OE	3
2016-WTE-5724-OE	160
2016-WTE-5725-OE	120
2016-WTE-5727-OE	152
2016-WTE-5730-OE	119
2016-WTE-5733-OE	61
2016-WTE-5735-OE	33
2016-WTE-5738-OE	18
2016-WTE-5740-OE	20

3. EFFECT ON AERONAUTICAL OPERATIONS

The 13 proposed turbines would exceed 14 CFR Part 77 standards as described below.

Section 77.17(a)(2): A height Above Ground Level (AGL) or airport elevation, whichever is higher, exceeding a height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 nautical miles of the established reference point of an airport, excluding heliports, with its longest Runway (RWY) more than 3,200 feet in actual length, and that height increases in the proportion of 100 feet for each additional nautical mile from the airport up to a maximum of 499 feet.

ASN	Exceeds Section 77.17(a)(2) By (feet)
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2016-WTE-5694-OE	136
2016-WTE-5701-OE	70
2016-WTE-5718-OE	5
2016-WTE-5720-OE	120
2016-WTE-5721-OE	3
2016-WTE-5724-OE	160
2016-WTE-5725-OE	120
2016-WTE-5727-OE	152
2016-WTE-5730-OE	119
2016-WTE-5733-OE	61
2016-WTE-5735-OE	33
2016-WTE-5738-OE	18
2016-WTE-5740-OE	20

There are no effects on the VFR traffic pattern.

There are no effects on any existing or proposed arrival, departure, or en route IFR minimum flight altitudes.

There are no physical or electromagnetic effects on the operation of air navigation and communications facilities.

There are no effects on any airspace and routes used by the military.

b. The impact on arrival, departure, and en route procedures for aircraft operating under IFR: None.

c. The impact on all planned public-use airports and aeronautical facilities: None.

d. The cumulative impact resulting from the proposed construction or alteration of a structure when combined with the impact of other existing or proposed structures: None.

The I74 Airport Master Record can be viewed/downloaded <http://www.gcr1.com/5010web/airport.cfm?Site=I74> . It states there are 38 single-engine, 12 multi-engine, 0 jet and 1 helicopter and 4 ultra-light aircraft based there with 23,480 operations for the 12 months ending 3 September, 2016 (latest information).

4. CIRCULATION AND COMMENTS RECEIVED

The proposal was not circularized to the public for comments, as circularization is not required for structures that would exceed the above-cited standard and would be located outside traffic pattern airspace. The proposed turbine(s) is located outside the traffic pattern airspace for all categories of aircraft that use I74.

This policy does not affect the public's right to petition for review determinations regarding structures, which exceed the subject obstruction standards.

5. DETERMINATION - NO HAZARD TO AIR NAVIGATION

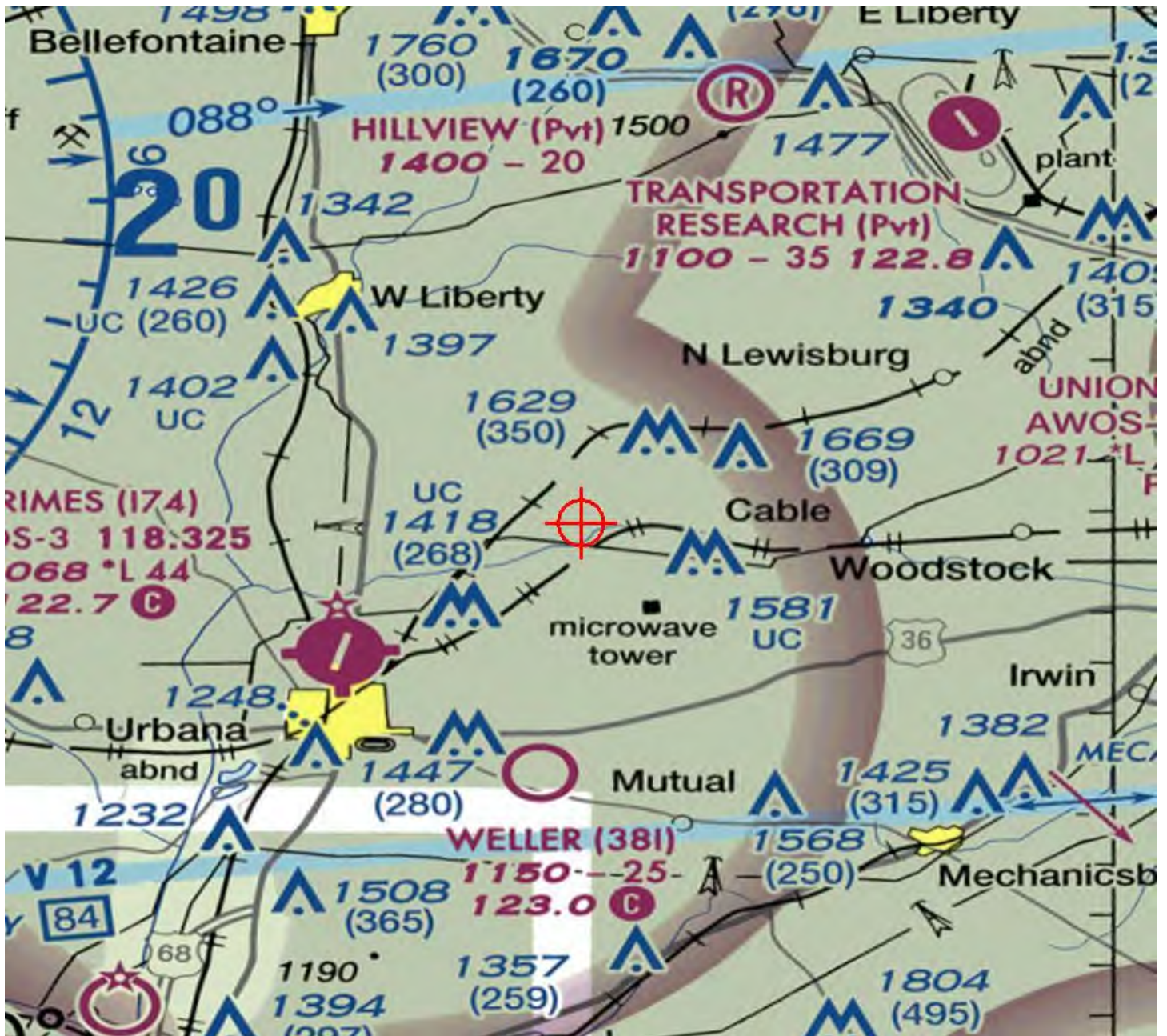
It is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation provided the conditions set forth within this determination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

6. BASIS FOR DECISION

Study for possible VFR effect disclosed that the proposed structure would have no effect on any existing or proposed arrival or departure VFR operations or procedures. At 492 feet AGL the proposed structures would not have a substantial adverse effect on VFR en route flight operations. No other VFR issues could be identified and there are no IFR effects.

The proposed structures must be appropriately obstruction marked and/or lighted to make them more conspicuous to airmen.

NOTE: A recommendation for white paint/synchronized red lights will be made for all turbines until such time as the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height. At that time, the proponent may contact this office and request a re-evaluation of the marking and lighting recommendations for the turbines within this project and a portion of the turbines may qualify for the removal of the lighting recommendation.





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**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ** (CORRECTION)**

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine BI - 2
Location:	Urbana, OH
Latitude:	40-10-27.08N NAD 83
Longitude:	83-40-47.55W
Heights:	1151 feet site elevation (SE) 492 feet above ground level (AGL) 1643 feet above mean sea level (AMSL)

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

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

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

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

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

See attachment for additional condition(s) or information.

This determination expires on 11/24/2018 unless:

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

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

This determination is subject to review if an interested party files a petition that is received by the FAA on or before June 23, 2017. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager, Airspace Policy & Regulation, Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This determination becomes final on July 03, 2017 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Regulations & ATC Procedures Group via telephone -- 202-267-8783 - or facsimile 202-267-9328.

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

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

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

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

one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

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

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

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

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

If we can be of further assistance, please contact Paul Holmquist, at (425) 227-2625. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-WTE-5695-OE.

Signature Control No: 300495877-332375232

(DNH -WT)

Mike Helvey

Manager, Obstruction Evaluation Group

Attachment(s)

Additional Information

Map(s)

Additional information for ASN 2016-WTE-5695-OE

Abbreviations

AGL - above ground level

AMSL - above mean sea level

RWY - runway

VFR - visual flight rules

IFR - instrument flight rules

NM - nautical mile

ASN - aeronautical study number

TPA - traffic pattern airspace

Part 77 - Title 14 Code of Federal Regulations (CFR) Part 77, Safe, Efficient Use and Preservation of the Navigable Airspace

1. LOCATION OF PROPOSED CONSTRUCTION

The entire proposed Buckeye I wind turbine project near Urbana, OH consists of 52 turbines at 492 feet AGL and are assigned FAA ASNs 2016-WTE-5694-OE sequentially through 2016-WTE-5745-OE. The proposed wind turbine project lies approximately between 2.71 NM to 8.6 NM east of the Airport Reference Point (ARP) for the Grimes Field Airport (I74), Urbana, OH.

For the sake of efficiency, the narrative below describes 16 of the proposed turbines that have similar impacts, the primary difference being the amount of penetration to 14 CFR Part 77 standards. Separate determinations for each turbine will be made issued and are available on our website at <http://oeaaa.faa.gov>.

ASN (degrees)	AGL/AMSL (feet)	Latitude/Longitude	Distance From I74 (NM)/Azimuth
2016-WTE-5695-OE	492/1643	40-10-27.08N/83-40-47.55W	4.23/053.4
2016-WTE-5696-OE	492/1631	40-10-02.85N/83-40-47.65W	4.01/058.2
2016-WTE-5697-OE	492/1653	40-10-02.94N/83-40-18.70W	4.33/060.8
2016-WTE-5698-OE	492/1646	40-09-51.40N/83-40-38.41W	4.02/061.4
2016-WTE-5699-OE	492/1649	40-09-40.70N/83-40-29.92W	4.03/064.4
2016-WTE-5702-OE	492/1652	40-09-08.96N/83-40-16.92W	3.99/072.3
2016-WTE-5706-OE	492/1649	40-08-54.91N/83-40-18.82W	3.90/075.5
2016-WTE-5710-OE	492/1645	40-08-23.94N/83-40-15.88W	3.85/083.1
2016-WTE-5717-OE	492/1627	40-07-43.03N/83-41-20.94W	3.00/094.3
2016-WTE-5719-OE	492/1623	40-07-34.94N/83-41-09.13W	3.16/096.5
2016-WTE-5722-OE	492/1620	40-07-27.80N/83-41-33.05W	2.87/099.6
2016-WTE-5723-OE	492/1629	40-07-24.94N/83-40-58.30W	3.32/099.1
2016-WTE-5726-OE	492/1624	40-07-18.58N/83-41-25.13W	3.00/102.1
2016-WTE-5728-OE	492/1619	40-07-13.58N/83-41-50.02W	2.71/105.3
2016-WTE-5729-OE	492/1620	40-07-09.05N/83-41-13.77W	3.18/104.4
2016-WTE-5731-OE	492/1619	40-07-04.85N/83-41-42.07W	2.85/107.6

2. OBSTRUCTION STANDARDS EXCEEDED

The 16 proposed turbines would exceed 14 CFR Part 77 standards as described below.

Section 77.17(a)(2): A height Above Ground Level (AGL) or airport elevation, whichever is higher, exceeding a height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 nautical miles of the established reference point of an airport, excluding heliports, with its longest Runway (RWY) more than 3,200 feet in actual length, and that height increases in the proportion of 100 feet for each additional nautical mile from the airport up to a maximum of 499 feet.

ASN	Exceeds Section 77.17(a)(2) By (feet)
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2016-WTE-5695-OE	169
2016-WTE-5696-OE	192
2016-WTE-5697-OE	160
2016-WTE-5698-OE	191
2016-WTE-5699-OE	189
2016-WTE-5702-OE	193
2016-WTE-5706-OE	202
2016-WTE-5710-OE	208
2016-WTE-5717-OE	292
2016-WTE-5719-OE	277
2016-WTE-5722-OE	292
2016-WTE-5723-OE	261
2016-WTE-5726-OE	292
2016-WTE-5728-OE	292
2016-WTE-5729-OE	275
2016-WTE-5731-OE	292

The turbines lie within I74 Traffic Pattern Airspace (TPA) for I74 as described in FAA JO 7400.2K, 6-3-8, Evaluating Effect on Visual Flight Rules (VFR) Operations. They would exceed the TPA Section 77.17(a)(2) surface as applied to a visual approach runway as described below.

The listed turbines below lie within the lateral boundaries and penetrate category D traffic pattern airspace for RWY 02/20 at I74. Category D aircraft are those aircraft with an approach speed of between 141-165 knots. The turbines are outside of traffic pattern airspace for all aircraft with an approach speed of less than 141 knots.

ASN	Exceeds TPA By (feet)
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2016-WTE-5695-OE	169
2016-WTE-5696-OE	192
2016-WTE-5697-OE	160
2016-WTE-5698-OE	191
2016-WTE-5699-OE	189
2016-WTE-5702-OE	193
2016-WTE-5706-OE	202
2016-WTE-5710-OE	208
2016-WTE-5717-OE	209
2016-WTE-5719-OE	205
2016-WTE-5722-OE	202
2016-WTE-5723-OE	211
2016-WTE-5726-OE	57
2016-WTE-5728-OE	201
2016-WTE-5729-OE	202
2016-WTE-5731-OE	201

3. EFFECT ON AERONAUTICAL OPERATIONS

The 16 proposed turbines would exceed 14 CFR Part 77 standards as described below.

Section 77.17(a)(2): A height Above Ground Level (AGL) or airport elevation, whichever is higher, exceeding a height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 nautical miles of the established reference point of an airport, excluding heliports, with its longest Runway (RWY) more than 3,200 feet in actual length, and that height increases in the proportion of 100 feet for each additional nautical mile from the airport up to a maximum of 499 feet.

ASN	Exceeds Section 77.17(a)(2) By (feet)
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2016-WTE-5695-OE	169
2016-WTE-5696-OE	192
2016-WTE-5697-OE	160
2016-WTE-5698-OE	191
2016-WTE-5699-OE	189
2016-WTE-5702-OE	193
2016-WTE-5706-OE	202
2016-WTE-5710-OE	208
2016-WTE-5717-OE	292
2016-WTE-5719-OE	277
2016-WTE-5722-OE	292
2016-WTE-5723-OE	261
2016-WTE-5726-OE	292
2016-WTE-5728-OE	292
2016-WTE-5729-OE	275
2016-WTE-5731-OE	292

Although the 16 turbines lie within the I74 VFR Category D TPA as described by FAA JO 7400.2L, I74 airport is identified as design code CII according to the current airport layout plane (ALP) for present conditions and future planning. There is little to no chance of Category D operating at this airport and therefore the proposed turbines would not have an adverse effect on the operational VFR TPA for I74.

There are no effects on any existing or proposed arrival, departure, or en route IFR minimum flight altitudes. There are no physical or electromagnetic effects on the operation of air navigation and communications facilities.

There are no effects on any airspace and routes used by the military.

b. The impact on arrival, departure, and en route procedures for aircraft operating under IFR: None.

c. The impact on all planned public-use airports and aeronautical facilities: None.

d. The cumulative impact resulting from the proposed construction or alteration of a structure when combined with the impact of other existing or proposed structures: None.

The I74 Airport Master Record can be viewed/downloaded <http://www.gcr1.com/5010web/airport.cfm?Site=I74> . It states there are 38 single-engine, 12 multi-engine, 0 jet and 1 helicopter and 4 ultra-light aircraft based there with 23,480 operations for the 12 months ending 3 September, 2016 (latest information).

4. CIRCULATION AND COMMENTS RECEIVED

The proposal was circulated for public comment based on 24 March 2017 and public comment period closed on 30 April, 2017. One comment was received 6 April, 2017.

The State of Ohio Department of Transportation advised the applicant that per ORC 4561.30-4561.39 these structures require a permit from ODOT Office of Aviation prior to construction.

FAA's response: the FAA conducts aeronautical studies as prescribed under 14 CFR Part 77, Safe, Efficient Use, and Preservation of the Navigable Airspace. The Ohio process of permitting is independent of the FAA process and subsequently is not taken into consideration in aeronautical studies.

5. DETERMINATION - NO HAZARD TO AIR NAVIGATION

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

6. BASIS FOR DECISION

Study for possible VFR effect disclosed that the proposed structures would not affect existing or proposed en route, arrival or departure VFR operations or procedures. Circularization and further aeronautical study found that the proposed structures would not conflict with airspace required to conduct normal VFR traffic pattern operations at I74 or any other known public use or military airports as there would not be a significant number (if any) Category D aircraft affected by the proposal. No other VFR issues could be identified and there are no IFR effects.

The proposed structures must be appropriately obstruction marked and/or lighted to make them more conspicuous to airmen.

NOTE: A recommendation for white paint/synchronized red lights will be made for all turbines until such time as the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height. At that time, the proponent may contact this office and request a re-evaluation of the marking and lighting recommendations for the turbines within this project and a portion of the turbines may qualify for the removal of the lighting recommendation.



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

Aeronautical Study No.
2016-WTE-5696-OE

Issued Date: 05/24/2017

Jeff McKee
Buckeye Wind
1251 Waterfront Pl
3rd Floor
Pittsburgh, PA 15222

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ** (CORRECTION)**

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine BI - 3
Location:	Urbana, OH
Latitude:	40-10-02.85N NAD 83
Longitude:	83-40-47.65W
Heights:	1139 feet site elevation (SE) 492 feet above ground level (AGL) 1631 feet above mean sea level (AMSL)

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

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

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

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

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

See attachment for additional condition(s) or information.

This determination expires on 11/24/2018 unless:

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

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

This determination is subject to review if an interested party files a petition that is received by the FAA on or before June 23, 2017. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager, Airspace Policy & Regulation, Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This determination becomes final on July 03, 2017 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Regulations & ATC Procedures Group via telephone -- 202-267-8783 - or facsimile 202-267-9328.

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

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

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

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

one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

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

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

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

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

If we can be of further assistance, please contact Paul Holmquist, at (425) 227-2625. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-WTE-5696-OE.

Signature Control No: 300495878-332375227

(DNH -WT)

Mike Helvey

Manager, Obstruction Evaluation Group

Attachment(s)

Additional Information

Map(s)

Additional information for ASN 2016-WTE-5696-OE

Abbreviations

AGL - above ground level

AMSL - above mean sea level

RWY - runway

VFR - visual flight rules

IFR - instrument flight rules

NM - nautical mile

ASN - aeronautical study number

TPA - traffic pattern airspace

Part 77 - Title 14 Code of Federal Regulations (CFR) Part 77, Safe, Efficient Use and Preservation of the Navigable Airspace

1. LOCATION OF PROPOSED CONSTRUCTION

The entire proposed Buckeye I wind turbine project near Urbana, OH consists of 52 turbines at 492 feet AGL and are assigned FAA ASNs 2016-WTE-5694-OE sequentially through 2016-WTE-5745-OE. The proposed wind turbine project lies approximately between 2.71 NM to 8.6 NM east of the Airport Reference Point (ARP) for the Grimes Field Airport (I74), Urbana, OH.

For the sake of efficiency, the narrative below describes 16 of the proposed turbines that have similar impacts, the primary difference being the amount of penetration to 14 CFR Part 77 standards. Separate determinations for each turbine will be made issued and are available on our website at <http://oeaaa.faa.gov>.

ASN (degrees)	AGL/AMSL (feet)	Latitude/Longitude	Distance From I74 (NM)/Azimuth
2016-WTE-5695-OE	492/1643	40-10-27.08N/83-40-47.55W	4.23/053.4
2016-WTE-5696-OE	492/1631	40-10-02.85N/83-40-47.65W	4.01/058.2
2016-WTE-5697-OE	492/1653	40-10-02.94N/83-40-18.70W	4.33/060.8
2016-WTE-5698-OE	492/1646	40-09-51.40N/83-40-38.41W	4.02/061.4
2016-WTE-5699-OE	492/1649	40-09-40.70N/83-40-29.92W	4.03/064.4
2016-WTE-5702-OE	492/1652	40-09-08.96N/83-40-16.92W	3.99/072.3
2016-WTE-5706-OE	492/1649	40-08-54.91N/83-40-18.82W	3.90/075.5
2016-WTE-5710-OE	492/1645	40-08-23.94N/83-40-15.88W	3.85/083.1
2016-WTE-5717-OE	492/1627	40-07-43.03N/83-41-20.94W	3.00/094.3
2016-WTE-5719-OE	492/1623	40-07-34.94N/83-41-09.13W	3.16/096.5
2016-WTE-5722-OE	492/1620	40-07-27.80N/83-41-33.05W	2.87/099.6
2016-WTE-5723-OE	492/1629	40-07-24.94N/83-40-58.30W	3.32/099.1
2016-WTE-5726-OE	492/1624	40-07-18.58N/83-41-25.13W	3.00/102.1
2016-WTE-5728-OE	492/1619	40-07-13.58N/83-41-50.02W	2.71/105.3
2016-WTE-5729-OE	492/1620	40-07-09.05N/83-41-13.77W	3.18/104.4
2016-WTE-5731-OE	492/1619	40-07-04.85N/83-41-42.07W	2.85/107.6

2. OBSTRUCTION STANDARDS EXCEEDED

The 16 proposed turbines would exceed 14 CFR Part 77 standards as described below.

Section 77.17(a)(2): A height Above Ground Level (AGL) or airport elevation, whichever is higher, exceeding a height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 nautical miles of the established reference point of an airport, excluding heliports, with its longest Runway (RWY) more than 3,200 feet in actual length, and that height increases in the proportion of 100 feet for each additional nautical mile from the airport up to a maximum of 499 feet.

ASN	Exceeds Section 77.17(a)(2) By (feet)
-----	---------------------------------------

2016-WTE-5695-OE	169
2016-WTE-5696-OE	192
2016-WTE-5697-OE	160
2016-WTE-5698-OE	191
2016-WTE-5699-OE	189
2016-WTE-5702-OE	193
2016-WTE-5706-OE	202
2016-WTE-5710-OE	208
2016-WTE-5717-OE	292
2016-WTE-5719-OE	277
2016-WTE-5722-OE	292
2016-WTE-5723-OE	261
2016-WTE-5726-OE	292
2016-WTE-5728-OE	292
2016-WTE-5729-OE	275
2016-WTE-5731-OE	292

The turbines lie within I74 Traffic Pattern Airspace (TPA) for I74 as described in FAA JO 7400.2K, 6-3-8, Evaluating Effect on Visual Flight Rules (VFR) Operations. They would exceed the TPA Section 77.17(a)(2) surface as applied to a visual approach runway as described below.

The listed turbines below lie within the lateral boundaries and penetrate category D traffic pattern airspace for RWY 02/20 at I74. Category D aircraft are those aircraft with an approach speed of between 141-165 knots. The turbines are outside of traffic pattern airspace for all aircraft with an approach speed of less than 141 knots.

ASN	Exceeds TPA By (feet)
-----	-----------------------

2016-WTE-5695-OE	169
2016-WTE-5696-OE	192
2016-WTE-5697-OE	160
2016-WTE-5698-OE	191
2016-WTE-5699-OE	189
2016-WTE-5702-OE	193
2016-WTE-5706-OE	202
2016-WTE-5710-OE	208
2016-WTE-5717-OE	209
2016-WTE-5719-OE	205
2016-WTE-5722-OE	202
2016-WTE-5723-OE	211
2016-WTE-5726-OE	57
2016-WTE-5728-OE	201
2016-WTE-5729-OE	202
2016-WTE-5731-OE	201

3. EFFECT ON AERONAUTICAL OPERATIONS

The 16 proposed turbines would exceed 14 CFR Part 77 standards as described below.

Section 77.17(a)(2): A height Above Ground Level (AGL) or airport elevation, whichever is higher, exceeding a height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 nautical miles of the established reference point of an airport, excluding heliports, with its longest Runway (RWY) more than 3,200 feet in actual length, and that height increases in the proportion of 100 feet for each additional nautical mile from the airport up to a maximum of 499 feet.

ASN	Exceeds Section 77.17(a)(2) By (feet)
-----	---------------------------------------

2016-WTE-5695-OE	169
2016-WTE-5696-OE	192
2016-WTE-5697-OE	160
2016-WTE-5698-OE	191
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2016-WTE-5702-OE	193
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2016-WTE-5722-OE	292
2016-WTE-5723-OE	261
2016-WTE-5726-OE	292
2016-WTE-5728-OE	292
2016-WTE-5729-OE	275
2016-WTE-5731-OE	292

Although the 16 turbines lie within the I74 VFR Category D TPA as described by FAA JO 7400.2L, I74 airport is identified as design code CII according to the current airport layout plane (ALP) for present conditions and future planning. There is little to no chance of Category D operating at this airport and therefore the proposed turbines would not have an adverse effect on the operational VFR TPA for I74.

There are no effects on any existing or proposed arrival, departure, or en route IFR minimum flight altitudes. There are no physical or electromagnetic effects on the operation of air navigation and communications facilities.

There are no effects on any airspace and routes used by the military.

b. The impact on arrival, departure, and en route procedures for aircraft operating under IFR: None.

c. The impact on all planned public-use airports and aeronautical facilities: None.

d. The cumulative impact resulting from the proposed construction or alteration of a structure when combined with the impact of other existing or proposed structures: None.

The I74 Airport Master Record can be viewed/downloaded <http://www.gcr1.com/5010web/airport.cfm?Site=I74> . It states there are 38 single-engine, 12 multi-engine, 0 jet and 1 helicopter and 4 ultra-light aircraft based there with 23,480 operations for the 12 months ending 3 September, 2016 (latest information).

4. CIRCULATION AND COMMENTS RECEIVED

The proposal was circulated for public comment based on 24 March 2017 and public comment period closed on 30 April, 2017. One comment was received 6 April, 2017.

The State of Ohio Department of Transportation advised the applicant that per ORC 4561.30-4561.39 these structures require a permit from ODOT Office of Aviation prior to construction.

FAA's response: the FAA conducts aeronautical studies as prescribed under 14 CFR Part 77, Safe, Efficient Use, and Preservation of the Navigable Airspace. The Ohio process of permitting is independent of the FAA process and subsequently is not taken into consideration in aeronautical studies.

5. DETERMINATION - NO HAZARD TO AIR NAVIGATION

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

6. BASIS FOR DECISION

Study for possible VFR effect disclosed that the proposed structures would not affect existing or proposed en route, arrival or departure VFR operations or procedures. Circularization and further aeronautical study found that the proposed structures would not conflict with airspace required to conduct normal VFR traffic pattern operations at I74 or any other known public use or military airports as there would not be a significant number (if any) Category D aircraft affected by the proposal. No other VFR issues could be identified and there are no IFR effects.

The proposed structures must be appropriately obstruction marked and/or lighted to make them more conspicuous to airmen.

NOTE: A recommendation for white paint/synchronized red lights will be made for all turbines until such time as the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height. At that time, the proponent may contact this office and request a re-evaluation of the marking and lighting recommendations for the turbines within this project and a portion of the turbines may qualify for the removal of the lighting recommendation.





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10101 Hillwood Parkway
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Aeronautical Study No.
2016-WTE-5697-OE

Issued Date: 05/24/2017

Jeff McKee
Buckeye Wind
1251 Waterfront Pl
3rd Floor
Pittsburgh, PA 15222

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ** (CORRECTION)**

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine BI - 4
Location:	Urbana, OH
Latitude:	40-10-02.94N NAD 83
Longitude:	83-40-18.70W
Heights:	1161 feet site elevation (SE) 492 feet above ground level (AGL) 1653 feet above mean sea level (AMSL)

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

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

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

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

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

See attachment for additional condition(s) or information.

This determination expires on 11/24/2018 unless:

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

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

This determination is subject to review if an interested party files a petition that is received by the FAA on or before June 23, 2017. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager, Airspace Policy & Regulation, Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

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

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

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

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

one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

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

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

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

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

If we can be of further assistance, please contact Paul Holmquist, at (425) 227-2625. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-WTE-5697-OE.

Signature Control No: 300495879-332375225

(DNH -WT)

Mike Helvey

Manager, Obstruction Evaluation Group

Attachment(s)

Additional Information

Map(s)

Additional information for ASN 2016-WTE-5697-OE

Abbreviations

AGL - above ground level

AMSL - above mean sea level

RWY - runway

VFR - visual flight rules

IFR - instrument flight rules

NM - nautical mile

ASN - aeronautical study number

TPA - traffic pattern airspace

Part 77 - Title 14 Code of Federal Regulations (CFR) Part 77, Safe, Efficient Use and Preservation of the Navigable Airspace

1. LOCATION OF PROPOSED CONSTRUCTION

The entire proposed Buckeye I wind turbine project near Urbana, OH consists of 52 turbines at 492 feet AGL and are assigned FAA ASNs 2016-WTE-5694-OE sequentially through 2016-WTE-5745-OE. The proposed wind turbine project lies approximately between 2.71 NM to 8.6 NM east of the Airport Reference Point (ARP) for the Grimes Field Airport (I74), Urbana, OH.

For the sake of efficiency, the narrative below describes 16 of the proposed turbines that have similar impacts, the primary difference being the amount of penetration to 14 CFR Part 77 standards. Separate determinations for each turbine will be made issued and are available on our website at <http://oeaaa.faa.gov>.

ASN (degrees)	AGL/AMSL (feet)	Latitude/Longitude	Distance From I74 (NM)/Azimuth
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2016-WTE-5696-OE	492/1631	40-10-02.85N/83-40-47.65W	4.01/058.2
2016-WTE-5697-OE	492/1653	40-10-02.94N/83-40-18.70W	4.33/060.8
2016-WTE-5698-OE	492/1646	40-09-51.40N/83-40-38.41W	4.02/061.4
2016-WTE-5699-OE	492/1649	40-09-40.70N/83-40-29.92W	4.03/064.4
2016-WTE-5702-OE	492/1652	40-09-08.96N/83-40-16.92W	3.99/072.3
2016-WTE-5706-OE	492/1649	40-08-54.91N/83-40-18.82W	3.90/075.5
2016-WTE-5710-OE	492/1645	40-08-23.94N/83-40-15.88W	3.85/083.1
2016-WTE-5717-OE	492/1627	40-07-43.03N/83-41-20.94W	3.00/094.3
2016-WTE-5719-OE	492/1623	40-07-34.94N/83-41-09.13W	3.16/096.5
2016-WTE-5722-OE	492/1620	40-07-27.80N/83-41-33.05W	2.87/099.6
2016-WTE-5723-OE	492/1629	40-07-24.94N/83-40-58.30W	3.32/099.1
2016-WTE-5726-OE	492/1624	40-07-18.58N/83-41-25.13W	3.00/102.1
2016-WTE-5728-OE	492/1619	40-07-13.58N/83-41-50.02W	2.71/105.3
2016-WTE-5729-OE	492/1620	40-07-09.05N/83-41-13.77W	3.18/104.4
2016-WTE-5731-OE	492/1619	40-07-04.85N/83-41-42.07W	2.85/107.6

2. OBSTRUCTION STANDARDS EXCEEDED

The 16 proposed turbines would exceed 14 CFR Part 77 standards as described below.

Section 77.17(a)(2): A height Above Ground Level (AGL) or airport elevation, whichever is higher, exceeding a height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 nautical miles of the established reference point of an airport, excluding heliports, with its longest Runway (RWY) more than 3,200 feet in actual length, and that height increases in the proportion of 100 feet for each additional nautical mile from the airport up to a maximum of 499 feet.

ASN	Exceeds Section 77.17(a)(2) By (feet)
-----	---------------------------------------

2016-WTE-5695-OE	169
2016-WTE-5696-OE	192
2016-WTE-5697-OE	160
2016-WTE-5698-OE	191
2016-WTE-5699-OE	189
2016-WTE-5702-OE	193
2016-WTE-5706-OE	202
2016-WTE-5710-OE	208
2016-WTE-5717-OE	292
2016-WTE-5719-OE	277
2016-WTE-5722-OE	292
2016-WTE-5723-OE	261
2016-WTE-5726-OE	292
2016-WTE-5728-OE	292
2016-WTE-5729-OE	275
2016-WTE-5731-OE	292

The turbines lie within I74 Traffic Pattern Airspace (TPA) for I74 as described in FAA JO 7400.2K, 6-3-8, Evaluating Effect on Visual Flight Rules (VFR) Operations. They would exceed the TPA Section 77.17(a)(2) surface as applied to a visual approach runway as described below.

The listed turbines below lie within the lateral boundaries and penetrate category D traffic pattern airspace for RWY 02/20 at I74. Category D aircraft are those aircraft with an approach speed of between 141-165 knots. The turbines are outside of traffic pattern airspace for all aircraft with an approach speed of less than 141 knots.

ASN	Exceeds TPA By (feet)
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2016-WTE-5695-OE	169
2016-WTE-5696-OE	192
2016-WTE-5697-OE	160
2016-WTE-5698-OE	191
2016-WTE-5699-OE	189
2016-WTE-5702-OE	193
2016-WTE-5706-OE	202
2016-WTE-5710-OE	208
2016-WTE-5717-OE	209
2016-WTE-5719-OE	205
2016-WTE-5722-OE	202
2016-WTE-5723-OE	211
2016-WTE-5726-OE	57
2016-WTE-5728-OE	201
2016-WTE-5729-OE	202
2016-WTE-5731-OE	201

3. EFFECT ON AERONAUTICAL OPERATIONS

The 16 proposed turbines would exceed 14 CFR Part 77 standards as described below.

Section 77.17(a)(2): A height Above Ground Level (AGL) or airport elevation, whichever is higher, exceeding a height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 nautical miles of the established reference point of an airport, excluding heliports, with its longest Runway (RWY) more than 3,200 feet in actual length, and that height increases in the proportion of 100 feet for each additional nautical mile from the airport up to a maximum of 499 feet.

ASN	Exceeds Section 77.17(a)(2) By (feet)
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2016-WTE-5695-OE	169
2016-WTE-5696-OE	192
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2016-WTE-5726-OE	292
2016-WTE-5728-OE	292
2016-WTE-5729-OE	275
2016-WTE-5731-OE	292

Although the 16 turbines lie within the I74 VFR Category D TPA as described by FAA JO 7400.2L, I74 airport is identified as design code CII according to the current airport layout plane (ALP) for present conditions and future planning. There is little to no chance of Category D operating at this airport and therefore the proposed turbines would not have an adverse effect on the operational VFR TPA for I74.

There are no effects on any existing or proposed arrival, departure, or en route IFR minimum flight altitudes. There are no physical or electromagnetic effects on the operation of air navigation and communications facilities.

There are no effects on any airspace and routes used by the military.

b. The impact on arrival, departure, and en route procedures for aircraft operating under IFR: None.

c. The impact on all planned public-use airports and aeronautical facilities: None.

d. The cumulative impact resulting from the proposed construction or alteration of a structure when combined with the impact of other existing or proposed structures: None.

The I74 Airport Master Record can be viewed/downloaded <http://www.gcr1.com/5010web/airport.cfm?Site=I74> . It states there are 38 single-engine, 12 multi-engine, 0 jet and 1 helicopter and 4 ultra-light aircraft based there with 23,480 operations for the 12 months ending 3 September, 2016 (latest information).

4. CIRCULATION AND COMMENTS RECEIVED

The proposal was circulated for public comment based on 24 March 2017 and public comment period closed on 30 April, 2017. One comment was received 6 April, 2017.

The State of Ohio Department of Transportation advised the applicant that per ORC 4561.30-4561.39 these structures require a permit from ODOT Office of Aviation prior to construction.

FAA's response: the FAA conducts aeronautical studies as prescribed under 14 CFR Part 77, Safe, Efficient Use, and Preservation of the Navigable Airspace. The Ohio process of permitting is independent of the FAA process and subsequently is not taken into consideration in aeronautical studies.

5. DETERMINATION - NO HAZARD TO AIR NAVIGATION

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

6. BASIS FOR DECISION

Study for possible VFR effect disclosed that the proposed structures would not affect existing or proposed en route, arrival or departure VFR operations or procedures. Circularization and further aeronautical study found that the proposed structures would not conflict with airspace required to conduct normal VFR traffic pattern operations at I74 or any other known public use or military airports as there would not be a significant number (if any) Category D aircraft affected by the proposal. No other VFR issues could be identified and there are no IFR effects.

The proposed structures must be appropriately obstruction marked and/or lighted to make them more conspicuous to airmen.

NOTE: A recommendation for white paint/synchronized red lights will be made for all turbines until such time as the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height. At that time, the proponent may contact this office and request a re-evaluation of the marking and lighting recommendations for the turbines within this project and a portion of the turbines may qualify for the removal of the lighting recommendation.



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

Aeronautical Study No.
2016-WTE-5698-OE

Issued Date: 05/24/2017

Jeff McKee
Buckeye Wind
1251 Waterfront Pl
3rd Floor
Pittsburgh, PA 15222

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ** (CORRECTION)**

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine BI - 5
Location:	Urbana, OH
Latitude:	40-09-51.40N NAD 83
Longitude:	83-40-38.41W
Heights:	1154 feet site elevation (SE) 492 feet above ground level (AGL) 1646 feet above mean sea level (AMSL)

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

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

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

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

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

See attachment for additional condition(s) or information.

This determination expires on 11/24/2018 unless:

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

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

This determination is subject to review if an interested party files a petition that is received by the FAA on or before June 23, 2017. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager, Airspace Policy & Regulation, Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This determination becomes final on July 03, 2017 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Regulations & ATC Procedures Group via telephone -- 202-267-8783 - or facsimile 202-267-9328.

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

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

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

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

one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

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

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

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

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

If we can be of further assistance, please contact Paul Holmquist, at (425) 227-2625. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-WTE-5698-OE.

Signature Control No: 300495880-332375238

(DNH -WT)

Mike Helvey

Manager, Obstruction Evaluation Group

Attachment(s)

Additional Information

Map(s)

Additional information for ASN 2016-WTE-5698-OE

Abbreviations

AGL - above ground level

AMSL - above mean sea level

RWY - runway

VFR - visual flight rules

IFR - instrument flight rules

NM - nautical mile

ASN - aeronautical study number

TPA - traffic pattern airspace

Part 77 - Title 14 Code of Federal Regulations (CFR) Part 77, Safe, Efficient Use and Preservation of the Navigable Airspace

1. LOCATION OF PROPOSED CONSTRUCTION

The entire proposed Buckeye I wind turbine project near Urbana, OH consists of 52 turbines at 492 feet AGL and are assigned FAA ASNs 2016-WTE-5694-OE sequentially through 2016-WTE-5745-OE. The proposed wind turbine project lies approximately between 2.71 NM to 8.6 NM east of the Airport Reference Point (ARP) for the Grimes Field Airport (I74), Urbana, OH.

For the sake of efficiency, the narrative below describes 16 of the proposed turbines that have similar impacts, the primary difference being the amount of penetration to 14 CFR Part 77 standards. Separate determinations for each turbine will be made issued and are available on our website at <http://oeaaa.faa.gov>.

ASN (degrees)	AGL/AMSL (feet)	Latitude/Longitude	Distance From I74 (NM)/Azimuth
2016-WTE-5695-OE	492/1643	40-10-27.08N/83-40-47.55W	4.23/053.4
2016-WTE-5696-OE	492/1631	40-10-02.85N/83-40-47.65W	4.01/058.2
2016-WTE-5697-OE	492/1653	40-10-02.94N/83-40-18.70W	4.33/060.8
2016-WTE-5698-OE	492/1646	40-09-51.40N/83-40-38.41W	4.02/061.4
2016-WTE-5699-OE	492/1649	40-09-40.70N/83-40-29.92W	4.03/064.4
2016-WTE-5702-OE	492/1652	40-09-08.96N/83-40-16.92W	3.99/072.3
2016-WTE-5706-OE	492/1649	40-08-54.91N/83-40-18.82W	3.90/075.5
2016-WTE-5710-OE	492/1645	40-08-23.94N/83-40-15.88W	3.85/083.1
2016-WTE-5717-OE	492/1627	40-07-43.03N/83-41-20.94W	3.00/094.3
2016-WTE-5719-OE	492/1623	40-07-34.94N/83-41-09.13W	3.16/096.5
2016-WTE-5722-OE	492/1620	40-07-27.80N/83-41-33.05W	2.87/099.6
2016-WTE-5723-OE	492/1629	40-07-24.94N/83-40-58.30W	3.32/099.1
2016-WTE-5726-OE	492/1624	40-07-18.58N/83-41-25.13W	3.00/102.1
2016-WTE-5728-OE	492/1619	40-07-13.58N/83-41-50.02W	2.71/105.3
2016-WTE-5729-OE	492/1620	40-07-09.05N/83-41-13.77W	3.18/104.4
2016-WTE-5731-OE	492/1619	40-07-04.85N/83-41-42.07W	2.85/107.6

2. OBSTRUCTION STANDARDS EXCEEDED

The 16 proposed turbines would exceed 14 CFR Part 77 standards as described below.

Section 77.17(a)(2): A height Above Ground Level (AGL) or airport elevation, whichever is higher, exceeding a height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 nautical miles of the established reference point of an airport, excluding heliports, with its longest Runway (RWY) more than 3,200 feet in actual length, and that height increases in the proportion of 100 feet for each additional nautical mile from the airport up to a maximum of 499 feet.

ASN	Exceeds Section 77.17(a)(2) By (feet)
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2016-WTE-5695-OE	169
2016-WTE-5696-OE	192
2016-WTE-5697-OE	160
2016-WTE-5698-OE	191
2016-WTE-5699-OE	189
2016-WTE-5702-OE	193
2016-WTE-5706-OE	202
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2016-WTE-5719-OE	277
2016-WTE-5722-OE	292
2016-WTE-5723-OE	261
2016-WTE-5726-OE	292
2016-WTE-5728-OE	292
2016-WTE-5729-OE	275
2016-WTE-5731-OE	292

The turbines lie within I74 Traffic Pattern Airspace (TPA) for I74 as described in FAA JO 7400.2K, 6-3-8, Evaluating Effect on Visual Flight Rules (VFR) Operations. They would exceed the TPA Section 77.17(a)(2) surface as applied to a visual approach runway as described below.

The listed turbines below lie within the lateral boundaries and penetrate category D traffic pattern airspace for RWY 02/20 at I74. Category D aircraft are those aircraft with an approach speed of between 141-165 knots. The turbines are outside of traffic pattern airspace for all aircraft with an approach speed of less than 141 knots.

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2016-WTE-5726-OE	57
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3. EFFECT ON AERONAUTICAL OPERATIONS

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2016-WTE-5726-OE	292
2016-WTE-5728-OE	292
2016-WTE-5729-OE	275
2016-WTE-5731-OE	292

Although the 16 turbines lie within the I74 VFR Category D TPA as described by FAA JO 7400.2L, I74 airport is identified as design code CII according to the current airport layout plane (ALP) for present conditions and future planning. There is little to no chance of Category D operating at this airport and therefore the proposed turbines would not have an adverse effect on the operational VFR TPA for I74.

There are no effects on any existing or proposed arrival, departure, or en route IFR minimum flight altitudes. There are no physical or electromagnetic effects on the operation of air navigation and communications facilities.

There are no effects on any airspace and routes used by the military.

b. The impact on arrival, departure, and en route procedures for aircraft operating under IFR: None.

c. The impact on all planned public-use airports and aeronautical facilities: None.

d. The cumulative impact resulting from the proposed construction or alteration of a structure when combined with the impact of other existing or proposed structures: None.

The I74 Airport Master Record can be viewed/downloaded <http://www.gcr1.com/5010web/airport.cfm?Site=I74> . It states there are 38 single-engine, 12 multi-engine, 0 jet and 1 helicopter and 4 ultra-light aircraft based there with 23,480 operations for the 12 months ending 3 September, 2016 (latest information).

4. CIRCULATION AND COMMENTS RECEIVED

The proposal was circulated for public comment based on 24 March 2017 and public comment period closed on 30 April, 2017. One comment was received 6 April, 2017.

The State of Ohio Department of Transportation advised the applicant that per ORC 4561.30-4561.39 these structures require a permit from ODOT Office of Aviation prior to construction.

FAA's response: the FAA conducts aeronautical studies as prescribed under 14 CFR Part 77, Safe, Efficient Use, and Preservation of the Navigable Airspace. The Ohio process of permitting is independent of the FAA process and subsequently is not taken into consideration in aeronautical studies.

5. DETERMINATION - NO HAZARD TO AIR NAVIGATION

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

6. BASIS FOR DECISION

Study for possible VFR effect disclosed that the proposed structures would not affect existing or proposed en route, arrival or departure VFR operations or procedures. Circularization and further aeronautical study found that the proposed structures would not conflict with airspace required to conduct normal VFR traffic pattern operations at I74 or any other known public use or military airports as there would not be a significant number (if any) Category D aircraft affected by the proposal. No other VFR issues could be identified and there are no IFR effects.

The proposed structures must be appropriately obstruction marked and/or lighted to make them more conspicuous to airmen.

NOTE: A recommendation for white paint/synchronized red lights will be made for all turbines until such time as the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height. At that time, the proponent may contact this office and request a re-evaluation of the marking and lighting recommendations for the turbines within this project and a portion of the turbines may qualify for the removal of the lighting recommendation.



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

Aeronautical Study No.
2016-WTE-5699-OE

Issued Date: 05/24/2017

Jeff McKee
Buckeye Wind
1251 Waterfront Pl
3rd Floor
Pittsburgh, PA 15222

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ** (CORRECTION)**

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine BI - 6
Location:	Urbana, OH
Latitude:	40-09-40.70N NAD 83
Longitude:	83-40-29.92W
Heights:	1157 feet site elevation (SE) 492 feet above ground level (AGL) 1649 feet above mean sea level (AMSL)

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

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

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

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

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

See attachment for additional condition(s) or information.

This determination expires on 11/24/2018 unless:

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

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

This determination is subject to review if an interested party files a petition that is received by the FAA on or before June 23, 2017. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager, Airspace Policy & Regulation, Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This determination becomes final on July 03, 2017 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Regulations & ATC Procedures Group via telephone -- 202-267-8783 - or facsimile 202-267-9328.

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

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

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

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

one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

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

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

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

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

If we can be of further assistance, please contact Paul Holmquist, at (425) 227-2625. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-WTE-5699-OE.

Signature Control No: 300495881-332375235

(DNH -WT)

Mike Helvey

Manager, Obstruction Evaluation Group

Attachment(s)

Additional Information

Map(s)

Additional information for ASN 2016-WTE-5699-OE

Abbreviations

AGL - above ground level

AMSL - above mean sea level

RWY - runway

VFR - visual flight rules

IFR - instrument flight rules

NM - nautical mile

ASN - aeronautical study number

TPA - traffic pattern airspace

Part 77 - Title 14 Code of Federal Regulations (CFR) Part 77, Safe, Efficient Use and Preservation of the Navigable Airspace

1. LOCATION OF PROPOSED CONSTRUCTION

The entire proposed Buckeye I wind turbine project near Urbana, OH consists of 52 turbines at 492 feet AGL and are assigned FAA ASNs 2016-WTE-5694-OE sequentially through 2016-WTE-5745-OE. The proposed wind turbine project lies approximately between 2.71 NM to 8.6 NM east of the Airport Reference Point (ARP) for the Grimes Field Airport (I74), Urbana, OH.

For the sake of efficiency, the narrative below describes 16 of the proposed turbines that have similar impacts, the primary difference being the amount of penetration to 14 CFR Part 77 standards. Separate determinations for each turbine will be made issued and are available on our website at <http://oeaaa.faa.gov>.

ASN (degrees)	AGL/AMSL (feet)	Latitude/Longitude	Distance From I74 (NM)/Azimuth
2016-WTE-5695-OE	492/1643	40-10-27.08N/83-40-47.55W	4.23/053.4
2016-WTE-5696-OE	492/1631	40-10-02.85N/83-40-47.65W	4.01/058.2
2016-WTE-5697-OE	492/1653	40-10-02.94N/83-40-18.70W	4.33/060.8
2016-WTE-5698-OE	492/1646	40-09-51.40N/83-40-38.41W	4.02/061.4
2016-WTE-5699-OE	492/1649	40-09-40.70N/83-40-29.92W	4.03/064.4
2016-WTE-5702-OE	492/1652	40-09-08.96N/83-40-16.92W	3.99/072.3
2016-WTE-5706-OE	492/1649	40-08-54.91N/83-40-18.82W	3.90/075.5
2016-WTE-5710-OE	492/1645	40-08-23.94N/83-40-15.88W	3.85/083.1
2016-WTE-5717-OE	492/1627	40-07-43.03N/83-41-20.94W	3.00/094.3
2016-WTE-5719-OE	492/1623	40-07-34.94N/83-41-09.13W	3.16/096.5
2016-WTE-5722-OE	492/1620	40-07-27.80N/83-41-33.05W	2.87/099.6
2016-WTE-5723-OE	492/1629	40-07-24.94N/83-40-58.30W	3.32/099.1
2016-WTE-5726-OE	492/1624	40-07-18.58N/83-41-25.13W	3.00/102.1
2016-WTE-5728-OE	492/1619	40-07-13.58N/83-41-50.02W	2.71/105.3
2016-WTE-5729-OE	492/1620	40-07-09.05N/83-41-13.77W	3.18/104.4
2016-WTE-5731-OE	492/1619	40-07-04.85N/83-41-42.07W	2.85/107.6

2. OBSTRUCTION STANDARDS EXCEEDED

The 16 proposed turbines would exceed 14 CFR Part 77 standards as described below.

Section 77.17(a)(2): A height Above Ground Level (AGL) or airport elevation, whichever is higher, exceeding a height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 nautical miles of the established reference point of an airport, excluding heliports, with its longest Runway (RWY) more than 3,200 feet in actual length, and that height increases in the proportion of 100 feet for each additional nautical mile from the airport up to a maximum of 499 feet.

ASN	Exceeds Section 77.17(a)(2) By (feet)
-----	---------------------------------------

2016-WTE-5695-OE	169
2016-WTE-5696-OE	192
2016-WTE-5697-OE	160
2016-WTE-5698-OE	191
2016-WTE-5699-OE	189
2016-WTE-5702-OE	193
2016-WTE-5706-OE	202
2016-WTE-5710-OE	208
2016-WTE-5717-OE	292
2016-WTE-5719-OE	277
2016-WTE-5722-OE	292
2016-WTE-5723-OE	261
2016-WTE-5726-OE	292
2016-WTE-5728-OE	292
2016-WTE-5729-OE	275
2016-WTE-5731-OE	292

The turbines lie within I74 Traffic Pattern Airspace (TPA) for I74 as described in FAA JO 7400.2K, 6-3-8, Evaluating Effect on Visual Flight Rules (VFR) Operations. They would exceed the TPA Section 77.17(a)(2) surface as applied to a visual approach runway as described below.

The listed turbines below lie within the lateral boundaries and penetrate category D traffic pattern airspace for RWY 02/20 at I74. Category D aircraft are those aircraft with an approach speed of between 141-165 knots. The turbines are outside of traffic pattern airspace for all aircraft with an approach speed of less than 141 knots.

ASN	Exceeds TPA By (feet)
-----	-----------------------

2016-WTE-5695-OE	169
2016-WTE-5696-OE	192
2016-WTE-5697-OE	160
2016-WTE-5698-OE	191
2016-WTE-5699-OE	189
2016-WTE-5702-OE	193
2016-WTE-5706-OE	202
2016-WTE-5710-OE	208
2016-WTE-5717-OE	209
2016-WTE-5719-OE	205
2016-WTE-5722-OE	202
2016-WTE-5723-OE	211
2016-WTE-5726-OE	57
2016-WTE-5728-OE	201
2016-WTE-5729-OE	202
2016-WTE-5731-OE	201

3. EFFECT ON AERONAUTICAL OPERATIONS

The 16 proposed turbines would exceed 14 CFR Part 77 standards as described below.

Section 77.17(a)(2): A height Above Ground Level (AGL) or airport elevation, whichever is higher, exceeding a height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 nautical miles of the established reference point of an airport, excluding heliports, with its longest Runway (RWY) more than 3,200 feet in actual length, and that height increases in the proportion of 100 feet for each additional nautical mile from the airport up to a maximum of 499 feet.

ASN	Exceeds Section 77.17(a)(2) By (feet)
-----	---------------------------------------

2016-WTE-5695-OE	169
2016-WTE-5696-OE	192
2016-WTE-5697-OE	160
2016-WTE-5698-OE	191
2016-WTE-5699-OE	189
2016-WTE-5702-OE	193
2016-WTE-5706-OE	202
2016-WTE-5710-OE	208
2016-WTE-5717-OE	292
2016-WTE-5719-OE	277
2016-WTE-5722-OE	292
2016-WTE-5723-OE	261
2016-WTE-5726-OE	292
2016-WTE-5728-OE	292
2016-WTE-5729-OE	275
2016-WTE-5731-OE	292

Although the 16 turbines lie within the I74 VFR Category D TPA as described by FAA JO 7400.2L, I74 airport is identified as design code CII according to the current airport layout plane (ALP) for present conditions and future planning. There is little to no chance of Category D operating at this airport and therefore the proposed turbines would not have an adverse effect on the operational VFR TPA for I74.

There are no effects on any existing or proposed arrival, departure, or en route IFR minimum flight altitudes. There are no physical or electromagnetic effects on the operation of air navigation and communications facilities.

There are no effects on any airspace and routes used by the military.

b. The impact on arrival, departure, and en route procedures for aircraft operating under IFR: None.

c. The impact on all planned public-use airports and aeronautical facilities: None.

d. The cumulative impact resulting from the proposed construction or alteration of a structure when combined with the impact of other existing or proposed structures: None.

The I74 Airport Master Record can be viewed/downloaded <http://www.gcr1.com/5010web/airport.cfm?Site=I74> . It states there are 38 single-engine, 12 multi-engine, 0 jet and 1 helicopter and 4 ultra-light aircraft based there with 23,480 operations for the 12 months ending 3 September, 2016 (latest information).

4. CIRCULATION AND COMMENTS RECEIVED

The proposal was circulated for public comment based on 24 March 2017 and public comment period closed on 30 April, 2017. One comment was received 6 April, 2017.

The State of Ohio Department of Transportation advised the applicant that per ORC 4561.30-4561.39 these structures require a permit from ODOT Office of Aviation prior to construction.

FAA's response: the FAA conducts aeronautical studies as prescribed under 14 CFR Part 77, Safe, Efficient Use, and Preservation of the Navigable Airspace. The Ohio process of permitting is independent of the FAA process and subsequently is not taken into consideration in aeronautical studies.

5. DETERMINATION - NO HAZARD TO AIR NAVIGATION

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

6. BASIS FOR DECISION

Study for possible VFR effect disclosed that the proposed structures would not affect existing or proposed en route, arrival or departure VFR operations or procedures. Circularization and further aeronautical study found that the proposed structures would not conflict with airspace required to conduct normal VFR traffic pattern operations at I74 or any other known public use or military airports as there would not be a significant number (if any) Category D aircraft affected by the proposal. No other VFR issues could be identified and there are no IFR effects.

The proposed structures must be appropriately obstruction marked and/or lighted to make them more conspicuous to airmen.

NOTE: A recommendation for white paint/synchronized red lights will be made for all turbines until such time as the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height. At that time, the proponent may contact this office and request a re-evaluation of the marking and lighting recommendations for the turbines within this project and a portion of the turbines may qualify for the removal of the lighting recommendation.





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

Aeronautical Study No.
2016-WTE-5700-OE

Issued Date: 05/24/2017

Jeff McKee
Buckeye Wind
1251 Waterfront Pl
3rd Floor
Pittsburgh, PA 15222

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

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine BI - 7
Location:	Urbana, OH
Latitude:	40-09-32.72N NAD 83
Longitude:	83-37-33.49W
Heights:	1325 feet site elevation (SE) 492 feet above ground level (AGL) 1817 feet above mean sea level (AMSL)

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

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

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

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

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

See attachment for additional condition(s) or information.

This determination expires on 11/24/2018 unless:

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

- (b) extended, revised, or terminated by the issuing office.

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

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

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

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

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

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

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

If we can be of further assistance, please contact our office at (425) 227-2625. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-WTE-5700-OE.

Signature Control No: 300495882-332343048

(DNE -WT)

Paul Holmquist

Specialist

Attachment(s)

Additional Information

Map(s)

Additional information for ASN 2016-WTE-5700-OE

NOTE: A recommendation for white paint/synchronized red lights will be made for all turbines until such time as the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height. At that time, the proponent may contact this office and request a re-evaluation of the marking and lighting recommendations for the turbines within this project and a portion of the turbines may qualify for the removal of the lighting recommendation.





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

Aeronautical Study No.
2016-WTE-5701-OE

Issued Date: 05/24/2017

Jeff McKee
Buckeye Wind
1251 Waterfront Pl
3rd Floor
Pittsburgh, PA 15222

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

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine BI - 8
Location:	Urbana, OH
Latitude:	40-09-21.04N NAD 83
Longitude:	83-38-40.53W
Heights:	1302 feet site elevation (SE) 492 feet above ground level (AGL) 1794 feet above mean sea level (AMSL)

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

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

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

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

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

See attachment for additional condition(s) or information.

This determination expires on 11/24/2018 unless:

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

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

This determination is subject to review if an interested party files a petition that is received by the FAA on or before June 23, 2017. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager, Airspace Policy & Regulation, Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This determination becomes final on July 03, 2017 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Regulations & ATC Procedures Group via telephone -- 202-267-8783 - or facsimile 202-267-9328.

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

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

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

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

one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

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

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

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

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

If we can be of further assistance, please contact Paul Holmquist, at (425) 227-2625. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-WTE-5701-OE.

Signature Control No: 300495883-332373525

(DNH -WT)

Mike Helvey

Manager, Obstruction Evaluation Group

Attachment(s)

Additional Information

Map(s)

Additional information for ASN 2016-WTE-5701-OE

Abbreviations

AGL - above ground level

AMSL - above mean sea level

RWY - runway

VFR - visual flight rules

IFR - instrument flight rules

NM - nautical mile

ASN - aeronautical study number

TPA - traffic pattern airspace

Part 77 - Title 14 Code of Federal Regulations (CFR) Part 77, Safe, Efficient Use and Preservation of the Navigable Airspace

1. LOCATION OF PROPOSED CONSTRUCTION

The entire proposed Buckeye I wind turbine project near Urbana, OH consists of 52 turbines at 492 feet AGL and are assigned FAA ASNs 2016-WTE-5694-OE sequentially through 2016-WTE-5745-OE. The proposed wind turbine project lies approximately between 2.71 NM to 8.6 NM east of the Airport Reference Point (ARP) for the Grimes Field Airport (I74), Urbana, OH.

For the sake of efficiency, the narrative below describes 13 of the proposed turbines that have similar impacts, the primary difference being the amount of penetration to 14 CFR Part 77 standards. Separate determinations for each turbine will be made issued and are available on our website at <http://oeaaa.faa.gov>.

ASN (degrees)	AGL/AMSL (feet)	Latitude/Longitude	Distance From I74 (NM)/Azimuth
2016-WTE-5694-OE	492/1651	40-10-46.35N/83-40-34.70W	4.56/051.5
2016-WTE-5701-OE	492/1794	40-09-21.04N/83-38-40.53W	5.23/074.3
2016-WTE-5718-OE	492/1761	40-07-44.15N/83-37-35.34W	5.87/092.0
2016-WTE-5720-OE	492/1765	40-07-33.98N/83-39-06.37W	4.72/094.5
2016-WTE-5721-OE	492/1750	40-07-34.76N/83-37-34.27W	5.90/093.5
2016-WTE-5724-OE	492/1731	40-07-27.96N/83-39-38.28W	4.33/096.3
2016-WTE-5725-OE	492/1764	40-07-23.09N/83-39-07.68W	4.72/096.8
2016-WTE-5727-OE	492/1719	40-07-18.51N/83-39-33.27W	4.41/098.3
2016-WTE-5730-OE	492/1747	40-07-10.89N/83-39-09.40W	4.73/099.2
2016-WTE-5733-OE	492/1670	40-05-32.50N/83-39-03.80W	5.31/116.9
2016-WTE-5735-OE	492/1655	40-05-09.32N/83-38-54.80W	5.60/119.9
2016-WTE-5738-OE	492/1656	40-05-00.02N/83-38-49.03W	5.74/120.9
2016-WTE-5740-OE	492/1643	40-04-44.91N/83-39-03.10W	5.72/124.0

2. OBSTRUCTION STANDARDS EXCEEDED

The 13 proposed turbines would exceed 14 CFR Part 77 standards as described below.

Section 77.17(a)(2): A height Above Ground Level (AGL) or airport elevation, whichever is higher, exceeding a height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 nautical miles of the established reference point of an airport, excluding heliports, with its longest Runway (RWY) more than 3,200 feet in actual length, and that height increases in the proportion of 100 feet for each additional nautical mile from the airport up to a maximum of 499 feet.

ASN	Exceeds Section 77.17(a)(2) By (feet)
-----	---------------------------------------

2016-WTE-5694-OE	136
2016-WTE-5701-OE	70
2016-WTE-5718-OE	5
2016-WTE-5720-OE	120
2016-WTE-5721-OE	3
2016-WTE-5724-OE	160
2016-WTE-5725-OE	120
2016-WTE-5727-OE	152
2016-WTE-5730-OE	119
2016-WTE-5733-OE	61
2016-WTE-5735-OE	33
2016-WTE-5738-OE	18
2016-WTE-5740-OE	20

3. EFFECT ON AERONAUTICAL OPERATIONS

The 13 proposed turbines would exceed 14 CFR Part 77 standards as described below.

Section 77.17(a)(2): A height Above Ground Level (AGL) or airport elevation, whichever is higher, exceeding a height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 nautical miles of the established reference point of an airport, excluding heliports, with its longest Runway (RWY) more than 3,200 feet in actual length, and that height increases in the proportion of 100 feet for each additional nautical mile from the airport up to a maximum of 499 feet.

ASN	Exceeds Section 77.17(a)(2) By (feet)
2016-WTE-5694-OE	136
2016-WTE-5701-OE	70
2016-WTE-5718-OE	5
2016-WTE-5720-OE	120
2016-WTE-5721-OE	3
2016-WTE-5724-OE	160
2016-WTE-5725-OE	120
2016-WTE-5727-OE	152
2016-WTE-5730-OE	119
2016-WTE-5733-OE	61
2016-WTE-5735-OE	33
2016-WTE-5738-OE	18
2016-WTE-5740-OE	20

There are no effects on the VFR traffic pattern.

There are no effects on any existing or proposed arrival, departure, or en route IFR minimum flight altitudes.

There are no physical or electromagnetic effects on the operation of air navigation and communications facilities.

There are no effects on any airspace and routes used by the military.

b. The impact on arrival, departure, and en route procedures for aircraft operating under IFR: None.

c. The impact on all planned public-use airports and aeronautical facilities: None.

d. The cumulative impact resulting from the proposed construction or alteration of a structure when combined with the impact of other existing or proposed structures: None.

The I74 Airport Master Record can be viewed/downloaded <http://www.gcr1.com/5010web/airport.cfm?Site=I74> . It states there are 38 single-engine, 12 multi-engine, 0 jet and 1 helicopter and 4 ultra-light aircraft based there with 23,480 operations for the 12 months ending 3 September, 2016 (latest information).

4. CIRCULATION AND COMMENTS RECEIVED

The proposal was not circularized to the public for comments, as circularization is not required for structures that would exceed the above-cited standard and would be located outside traffic pattern airspace. The proposed turbine(s) is located outside the traffic pattern airspace for all categories of aircraft that use I74.

This policy does not affect the public's right to petition for review determinations regarding structures, which exceed the subject obstruction standards.

5. DETERMINATION - NO HAZARD TO AIR NAVIGATION

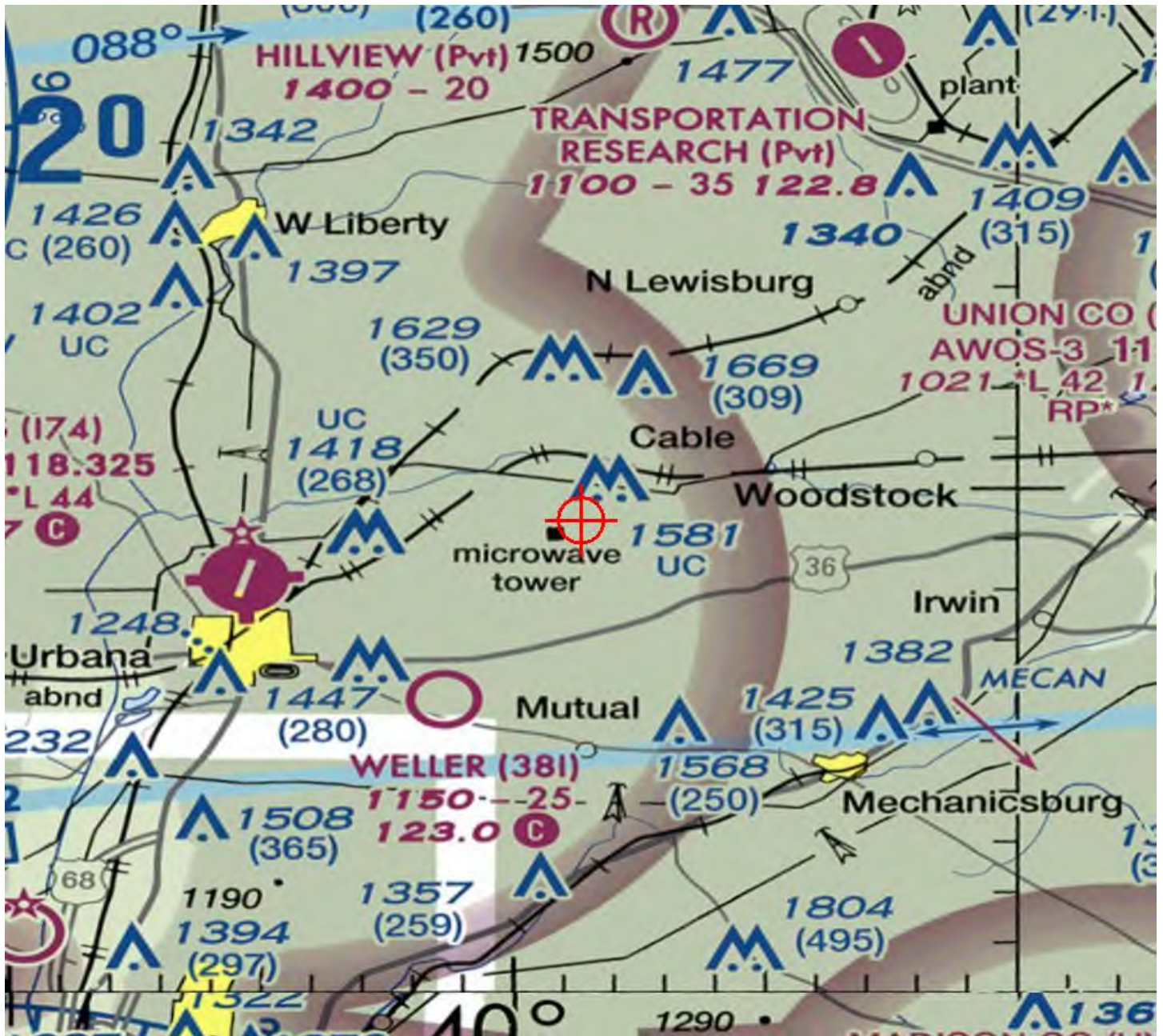
It is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation provided the conditions set forth within this determination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

6. BASIS FOR DECISION

Study for possible VFR effect disclosed that the proposed structure would have no effect on any existing or proposed arrival or departure VFR operations or procedures. At 492 feet AGL the proposed structures would not have a substantial adverse effect on VFR en route flight operations. No other VFR issues could be identified and there are no IFR effects.

The proposed structures must be appropriately obstruction marked and/or lighted to make them more conspicuous to airmen.

NOTE: A recommendation for white paint/synchronized red lights will be made for all turbines until such time as the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height. At that time, the proponent may contact this office and request a re-evaluation of the marking and lighting recommendations for the turbines within this project and a portion of the turbines may qualify for the removal of the lighting recommendation.





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

Aeronautical Study No.
2016-WTE-5702-OE

Issued Date: 05/24/2017

Jeff McKee
Buckeye Wind
1251 Waterfront Pl
3rd Floor
Pittsburgh, PA 15222

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ** (CORRECTION)**

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine BI - 9
Location:	Urbana, OH
Latitude:	40-09-08.96N NAD 83
Longitude:	83-40-16.92W
Heights:	1160 feet site elevation (SE) 492 feet above ground level (AGL) 1652 feet above mean sea level (AMSL)

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

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

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

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

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

See attachment for additional condition(s) or information.

This determination expires on 11/24/2018 unless:

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

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

This determination is subject to review if an interested party files a petition that is received by the FAA on or before June 23, 2017. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager, Airspace Policy & Regulation, Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This determination becomes final on July 03, 2017 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Regulations & ATC Procedures Group via telephone -- 202-267-8783 - or facsimile 202-267-9328.

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

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

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

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

one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

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

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

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

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

If we can be of further assistance, please contact Paul Holmquist, at (425) 227-2625. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-WTE-5702-OE.

Signature Control No: 300495884-332375237

(DNH -WT)

Mike Helvey

Manager, Obstruction Evaluation Group

Attachment(s)

Additional Information

Map(s)

Additional information for ASN 2016-WTE-5702-OE

Abbreviations

AGL - above ground level

AMSL - above mean sea level

RWY - runway

VFR - visual flight rules

IFR - instrument flight rules

NM - nautical mile

ASN - aeronautical study number

TPA - traffic pattern airspace

Part 77 - Title 14 Code of Federal Regulations (CFR) Part 77, Safe, Efficient Use and Preservation of the Navigable Airspace

1. LOCATION OF PROPOSED CONSTRUCTION

The entire proposed Buckeye I wind turbine project near Urbana, OH consists of 52 turbines at 492 feet AGL and are assigned FAA ASNs 2016-WTE-5694-OE sequentially through 2016-WTE-5745-OE. The proposed wind turbine project lies approximately between 2.71 NM to 8.6 NM east of the Airport Reference Point (ARP) for the Grimes Field Airport (I74), Urbana, OH.

For the sake of efficiency, the narrative below describes 16 of the proposed turbines that have similar impacts, the primary difference being the amount of penetration to 14 CFR Part 77 standards. Separate determinations for each turbine will be made issued and are available on our website at <http://oeaaa.faa.gov>.

ASN (degrees)	AGL/AMSL (feet)	Latitude/Longitude	Distance From I74 (NM)/Azimuth
2016-WTE-5695-OE	492/1643	40-10-27.08N/83-40-47.55W	4.23/053.4
2016-WTE-5696-OE	492/1631	40-10-02.85N/83-40-47.65W	4.01/058.2
2016-WTE-5697-OE	492/1653	40-10-02.94N/83-40-18.70W	4.33/060.8
2016-WTE-5698-OE	492/1646	40-09-51.40N/83-40-38.41W	4.02/061.4
2016-WTE-5699-OE	492/1649	40-09-40.70N/83-40-29.92W	4.03/064.4
2016-WTE-5702-OE	492/1652	40-09-08.96N/83-40-16.92W	3.99/072.3
2016-WTE-5706-OE	492/1649	40-08-54.91N/83-40-18.82W	3.90/075.5
2016-WTE-5710-OE	492/1645	40-08-23.94N/83-40-15.88W	3.85/083.1
2016-WTE-5717-OE	492/1627	40-07-43.03N/83-41-20.94W	3.00/094.3
2016-WTE-5719-OE	492/1623	40-07-34.94N/83-41-09.13W	3.16/096.5
2016-WTE-5722-OE	492/1620	40-07-27.80N/83-41-33.05W	2.87/099.6
2016-WTE-5723-OE	492/1629	40-07-24.94N/83-40-58.30W	3.32/099.1
2016-WTE-5726-OE	492/1624	40-07-18.58N/83-41-25.13W	3.00/102.1
2016-WTE-5728-OE	492/1619	40-07-13.58N/83-41-50.02W	2.71/105.3
2016-WTE-5729-OE	492/1620	40-07-09.05N/83-41-13.77W	3.18/104.4
2016-WTE-5731-OE	492/1619	40-07-04.85N/83-41-42.07W	2.85/107.6

2. OBSTRUCTION STANDARDS EXCEEDED

The 16 proposed turbines would exceed 14 CFR Part 77 standards as described below.

Section 77.17(a)(2): A height Above Ground Level (AGL) or airport elevation, whichever is higher, exceeding a height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 nautical miles of the established reference point of an airport, excluding heliports, with its longest Runway (RWY) more than 3,200 feet in actual length, and that height increases in the proportion of 100 feet for each additional nautical mile from the airport up to a maximum of 499 feet.

ASN	Exceeds Section 77.17(a)(2) By (feet)
-----	---------------------------------------

2016-WTE-5695-OE	169
2016-WTE-5696-OE	192
2016-WTE-5697-OE	160
2016-WTE-5698-OE	191
2016-WTE-5699-OE	189
2016-WTE-5702-OE	193
2016-WTE-5706-OE	202
2016-WTE-5710-OE	208
2016-WTE-5717-OE	292
2016-WTE-5719-OE	277
2016-WTE-5722-OE	292
2016-WTE-5723-OE	261
2016-WTE-5726-OE	292
2016-WTE-5728-OE	292
2016-WTE-5729-OE	275
2016-WTE-5731-OE	292

The turbines lie within I74 Traffic Pattern Airspace (TPA) for I74 as described in FAA JO 7400.2K, 6-3-8, Evaluating Effect on Visual Flight Rules (VFR) Operations. They would exceed the TPA Section 77.17(a)(2) surface as applied to a visual approach runway as described below.

The listed turbines below lie within the lateral boundaries and penetrate category D traffic pattern airspace for RWY 02/20 at I74. Category D aircraft are those aircraft with an approach speed of between 141-165 knots. The turbines are outside of traffic pattern airspace for all aircraft with an approach speed of less than 141 knots.

ASN	Exceeds TPA By (feet)
-----	-----------------------

2016-WTE-5695-OE	169
2016-WTE-5696-OE	192
2016-WTE-5697-OE	160
2016-WTE-5698-OE	191
2016-WTE-5699-OE	189
2016-WTE-5702-OE	193
2016-WTE-5706-OE	202
2016-WTE-5710-OE	208
2016-WTE-5717-OE	209
2016-WTE-5719-OE	205
2016-WTE-5722-OE	202
2016-WTE-5723-OE	211
2016-WTE-5726-OE	57
2016-WTE-5728-OE	201
2016-WTE-5729-OE	202
2016-WTE-5731-OE	201

3. EFFECT ON AERONAUTICAL OPERATIONS

The 16 proposed turbines would exceed 14 CFR Part 77 standards as described below.

Section 77.17(a)(2): A height Above Ground Level (AGL) or airport elevation, whichever is higher, exceeding a height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 nautical miles of the established reference point of an airport, excluding heliports, with its longest Runway (RWY) more than 3,200 feet in actual length, and that height increases in the proportion of 100 feet for each additional nautical mile from the airport up to a maximum of 499 feet.

ASN	Exceeds Section 77.17(a)(2) By (feet)
-----	---------------------------------------

2016-WTE-5695-OE	169
2016-WTE-5696-OE	192
2016-WTE-5697-OE	160
2016-WTE-5698-OE	191
2016-WTE-5699-OE	189
2016-WTE-5702-OE	193
2016-WTE-5706-OE	202
2016-WTE-5710-OE	208
2016-WTE-5717-OE	292
2016-WTE-5719-OE	277
2016-WTE-5722-OE	292
2016-WTE-5723-OE	261
2016-WTE-5726-OE	292
2016-WTE-5728-OE	292
2016-WTE-5729-OE	275
2016-WTE-5731-OE	292

Although the 16 turbines lie within the I74 VFR Category D TPA as described by FAA JO 7400.2L, I74 airport is identified as design code CII according to the current airport layout plane (ALP) for present conditions and future planning. There is little to no chance of Category D operating at this airport and therefore the proposed turbines would not have an adverse effect on the operational VFR TPA for I74.

There are no effects on any existing or proposed arrival, departure, or en route IFR minimum flight altitudes. There are no physical or electromagnetic effects on the operation of air navigation and communications facilities.

There are no effects on any airspace and routes used by the military.

b. The impact on arrival, departure, and en route procedures for aircraft operating under IFR: None.

c. The impact on all planned public-use airports and aeronautical facilities: None.

d. The cumulative impact resulting from the proposed construction or alteration of a structure when combined with the impact of other existing or proposed structures: None.

The I74 Airport Master Record can be viewed/downloaded <http://www.gcr1.com/5010web/airport.cfm?Site=I74> . It states there are 38 single-engine, 12 multi-engine, 0 jet and 1 helicopter and 4 ultra-light aircraft based there with 23,480 operations for the 12 months ending 3 September, 2016 (latest information).

4. CIRCULATION AND COMMENTS RECEIVED

The proposal was circulated for public comment based on 24 March 2017 and public comment period closed on 30 April, 2017. One comment was received 6 April, 2017.

The State of Ohio Department of Transportation advised the applicant that per ORC 4561.30-4561.39 these structures require a permit from ODOT Office of Aviation prior to construction.

FAA's response: the FAA conducts aeronautical studies as prescribed under 14 CFR Part 77, Safe, Efficient Use, and Preservation of the Navigable Airspace. The Ohio process of permitting is independent of the FAA process and subsequently is not taken into consideration in aeronautical studies.

5. DETERMINATION - NO HAZARD TO AIR NAVIGATION

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

6. BASIS FOR DECISION

Study for possible VFR effect disclosed that the proposed structures would not affect existing or proposed en route, arrival or departure VFR operations or procedures. Circularization and further aeronautical study found that the proposed structures would not conflict with airspace required to conduct normal VFR traffic pattern operations at I74 or any other known public use or military airports as there would not be a significant number (if any) Category D aircraft affected by the proposal. No other VFR issues could be identified and there are no IFR effects.

The proposed structures must be appropriately obstruction marked and/or lighted to make them more conspicuous to airmen.

NOTE: A recommendation for white paint/synchronized red lights will be made for all turbines until such time as the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height. At that time, the proponent may contact this office and request a re-evaluation of the marking and lighting recommendations for the turbines within this project and a portion of the turbines may qualify for the removal of the lighting recommendation.



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Aeronautical Study No.
2016-WTE-5703-OE

Issued Date: 05/24/2017

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

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine BI - 10
Location:	Urbana, OH
Latitude:	40-09-18.28N NAD 83
Longitude:	83-34-22.53W
Heights:	1132 feet site elevation (SE) 492 feet above ground level (AGL) 1624 feet above mean sea level (AMSL)

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

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

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

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

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

See attachment for additional condition(s) or information.

This determination expires on 11/24/2018 unless:

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

- (b) extended, revised, or terminated by the issuing office.

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

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

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

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

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

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

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

If we can be of further assistance, please contact our office at (425) 227-2625. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-WTE-5703-OE.

Signature Control No: 300495885-332343051

(DNE -WT)

Paul Holmquist

Specialist

Attachment(s)

Additional Information

Map(s)

Additional information for ASN 2016-WTE-5703-OE

NOTE: A recommendation for white paint/synchronized red lights will be made for all turbines until such time as the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height. At that time, the proponent may contact this office and request a re-evaluation of the marking and lighting recommendations for the turbines within this project and a portion of the turbines may qualify for the removal of the lighting recommendation.



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Aeronautical Study No.
2016-WTE-5704-OE

Issued Date: 05/24/2017

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

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine BI - 11
Location:	Urbana, OH
Latitude:	40-09-13.04N NAD 83
Longitude:	83-35-47.20W
Heights:	1238 feet site elevation (SE) 492 feet above ground level (AGL) 1730 feet above mean sea level (AMSL)

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

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

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

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

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

See attachment for additional condition(s) or information.

This determination expires on 11/24/2018 unless:

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

- (b) extended, revised, or terminated by the issuing office.

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

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

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

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

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

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

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

If we can be of further assistance, please contact our office at (425) 227-2625. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-WTE-5704-OE.

Signature Control No: 300495886-332343061

(DNE -WT)

Paul Holmquist

Specialist

Attachment(s)

Additional Information

Map(s)

Additional information for ASN 2016-WTE-5704-OE

NOTE: A recommendation for white paint/synchronized red lights will be made for all turbines until such time as the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height. At that time, the proponent may contact this office and request a re-evaluation of the marking and lighting recommendations for the turbines within this project and a portion of the turbines may qualify for the removal of the lighting recommendation.



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Aeronautical Study No.
2016-WTE-5705-OE

Issued Date: 05/24/2017

Jeff McKee
Buckeye Wind
1251 Waterfront Pl
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Pittsburgh, PA 15222

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

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine BI - 12
Location:	Urbana, OH
Latitude:	40-09-09.55N NAD 83
Longitude:	83-34-15.27W
Heights:	1138 feet site elevation (SE) 492 feet above ground level (AGL) 1630 feet above mean sea level (AMSL)

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

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

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

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

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

See attachment for additional condition(s) or information.

This determination expires on 11/24/2018 unless:

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

- (b) extended, revised, or terminated by the issuing office.

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

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

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

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

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

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

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

If we can be of further assistance, please contact our office at (425) 227-2625. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-WTE-5705-OE.

Signature Control No: 300495888-332343050

(DNE -WT)

Paul Holmquist
Specialist

Attachment(s)

Additional Information

Map(s)

Additional information for ASN 2016-WTE-5705-OE

NOTE: A recommendation for white paint/synchronized red lights will be made for all turbines until such time as the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height. At that time, the proponent may contact this office and request a re-evaluation of the marking and lighting recommendations for the turbines within this project and a portion of the turbines may qualify for the removal of the lighting recommendation.



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Aeronautical Study No.
2016-WTE-5706-OE

Issued Date: 05/24/2017

Jeff McKee
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**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ** (CORRECTION)**

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine BI - 13
Location:	Urbana, OH
Latitude:	40-08-54.91N NAD 83
Longitude:	83-40-18.82W
Heights:	1157 feet site elevation (SE) 492 feet above ground level (AGL) 1649 feet above mean sea level (AMSL)

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

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

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

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

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

See attachment for additional condition(s) or information.

This determination expires on 11/24/2018 unless:

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

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

This determination is subject to review if an interested party files a petition that is received by the FAA on or before June 23, 2017. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager, Airspace Policy & Regulation, Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This determination becomes final on July 03, 2017 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Regulations & ATC Procedures Group via telephone -- 202-267-8783 - or facsimile 202-267-9328.

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

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

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

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

one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

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

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

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

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

If we can be of further assistance, please contact Paul Holmquist, at (425) 227-2625. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-WTE-5706-OE.

Signature Control No: 300495889-332375240

(DNH -WT)

Mike Helvey

Manager, Obstruction Evaluation Group

Attachment(s)

Additional Information

Map(s)

Additional information for ASN 2016-WTE-5706-OE

Abbreviations

AGL - above ground level

AMSL - above mean sea level

RWY - runway

VFR - visual flight rules

IFR - instrument flight rules

NM - nautical mile

ASN - aeronautical study number

TPA - traffic pattern airspace

Part 77 - Title 14 Code of Federal Regulations (CFR) Part 77, Safe, Efficient Use and Preservation of the Navigable Airspace

1. LOCATION OF PROPOSED CONSTRUCTION

The entire proposed Buckeye I wind turbine project near Urbana, OH consists of 52 turbines at 492 feet AGL and are assigned FAA ASNs 2016-WTE-5694-OE sequentially through 2016-WTE-5745-OE. The proposed wind turbine project lies approximately between 2.71 NM to 8.6 NM east of the Airport Reference Point (ARP) for the Grimes Field Airport (I74), Urbana, OH.

For the sake of efficiency, the narrative below describes 16 of the proposed turbines that have similar impacts, the primary difference being the amount of penetration to 14 CFR Part 77 standards. Separate determinations for each turbine will be made issued and are available on our website at <http://oeaaa.faa.gov>.

ASN (degrees)	AGL/AMSL (feet)	Latitude/Longitude	Distance From I74 (NM)/Azimuth
2016-WTE-5695-OE	492/1643	40-10-27.08N/83-40-47.55W	4.23/053.4
2016-WTE-5696-OE	492/1631	40-10-02.85N/83-40-47.65W	4.01/058.2
2016-WTE-5697-OE	492/1653	40-10-02.94N/83-40-18.70W	4.33/060.8
2016-WTE-5698-OE	492/1646	40-09-51.40N/83-40-38.41W	4.02/061.4
2016-WTE-5699-OE	492/1649	40-09-40.70N/83-40-29.92W	4.03/064.4
2016-WTE-5702-OE	492/1652	40-09-08.96N/83-40-16.92W	3.99/072.3
2016-WTE-5706-OE	492/1649	40-08-54.91N/83-40-18.82W	3.90/075.5
2016-WTE-5710-OE	492/1645	40-08-23.94N/83-40-15.88W	3.85/083.1
2016-WTE-5717-OE	492/1627	40-07-43.03N/83-41-20.94W	3.00/094.3
2016-WTE-5719-OE	492/1623	40-07-34.94N/83-41-09.13W	3.16/096.5
2016-WTE-5722-OE	492/1620	40-07-27.80N/83-41-33.05W	2.87/099.6
2016-WTE-5723-OE	492/1629	40-07-24.94N/83-40-58.30W	3.32/099.1
2016-WTE-5726-OE	492/1624	40-07-18.58N/83-41-25.13W	3.00/102.1
2016-WTE-5728-OE	492/1619	40-07-13.58N/83-41-50.02W	2.71/105.3
2016-WTE-5729-OE	492/1620	40-07-09.05N/83-41-13.77W	3.18/104.4
2016-WTE-5731-OE	492/1619	40-07-04.85N/83-41-42.07W	2.85/107.6

2. OBSTRUCTION STANDARDS EXCEEDED

The 16 proposed turbines would exceed 14 CFR Part 77 standards as described below.

Section 77.17(a)(2): A height Above Ground Level (AGL) or airport elevation, whichever is higher, exceeding a height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 nautical miles of the established reference point of an airport, excluding heliports, with its longest Runway (RWY) more than 3,200 feet in actual length, and that height increases in the proportion of 100 feet for each additional nautical mile from the airport up to a maximum of 499 feet.

ASN	Exceeds Section 77.17(a)(2) By (feet)
-----	---------------------------------------

2016-WTE-5695-OE	169
2016-WTE-5696-OE	192
2016-WTE-5697-OE	160
2016-WTE-5698-OE	191
2016-WTE-5699-OE	189
2016-WTE-5702-OE	193
2016-WTE-5706-OE	202
2016-WTE-5710-OE	208
2016-WTE-5717-OE	292
2016-WTE-5719-OE	277
2016-WTE-5722-OE	292
2016-WTE-5723-OE	261
2016-WTE-5726-OE	292
2016-WTE-5728-OE	292
2016-WTE-5729-OE	275
2016-WTE-5731-OE	292

The turbines lie within I74 Traffic Pattern Airspace (TPA) for I74 as described in FAA JO 7400.2K, 6-3-8, Evaluating Effect on Visual Flight Rules (VFR) Operations. They would exceed the TPA Section 77.17(a)(2) surface as applied to a visual approach runway as described below.

The listed turbines below lie within the lateral boundaries and penetrate category D traffic pattern airspace for RWY 02/20 at I74. Category D aircraft are those aircraft with an approach speed of between 141-165 knots. The turbines are outside of traffic pattern airspace for all aircraft with an approach speed of less than 141 knots.

ASN	Exceeds TPA By (feet)
-----	-----------------------

2016-WTE-5695-OE	169
2016-WTE-5696-OE	192
2016-WTE-5697-OE	160
2016-WTE-5698-OE	191
2016-WTE-5699-OE	189
2016-WTE-5702-OE	193
2016-WTE-5706-OE	202
2016-WTE-5710-OE	208
2016-WTE-5717-OE	209
2016-WTE-5719-OE	205
2016-WTE-5722-OE	202
2016-WTE-5723-OE	211
2016-WTE-5726-OE	57
2016-WTE-5728-OE	201
2016-WTE-5729-OE	202
2016-WTE-5731-OE	201

3. EFFECT ON AERONAUTICAL OPERATIONS

The 16 proposed turbines would exceed 14 CFR Part 77 standards as described below.

Section 77.17(a)(2): A height Above Ground Level (AGL) or airport elevation, whichever is higher, exceeding a height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 nautical miles of the established reference point of an airport, excluding heliports, with its longest Runway (RWY) more than 3,200 feet in actual length, and that height increases in the proportion of 100 feet for each additional nautical mile from the airport up to a maximum of 499 feet.

ASN	Exceeds Section 77.17(a)(2) By (feet)
-----	---------------------------------------

2016-WTE-5695-OE	169
2016-WTE-5696-OE	192
2016-WTE-5697-OE	160
2016-WTE-5698-OE	191
2016-WTE-5699-OE	189
2016-WTE-5702-OE	193
2016-WTE-5706-OE	202
2016-WTE-5710-OE	208
2016-WTE-5717-OE	292
2016-WTE-5719-OE	277
2016-WTE-5722-OE	292
2016-WTE-5723-OE	261
2016-WTE-5726-OE	292
2016-WTE-5728-OE	292
2016-WTE-5729-OE	275
2016-WTE-5731-OE	292

Although the 16 turbines lie within the I74 VFR Category D TPA as described by FAA JO 7400.2L, I74 airport is identified as design code CII according to the current airport layout plane (ALP) for present conditions and future planning. There is little to no chance of Category D operating at this airport and therefore the proposed turbines would not have an adverse effect on the operational VFR TPA for I74.

There are no effects on any existing or proposed arrival, departure, or en route IFR minimum flight altitudes. There are no physical or electromagnetic effects on the operation of air navigation and communications facilities.

There are no effects on any airspace and routes used by the military.

b. The impact on arrival, departure, and en route procedures for aircraft operating under IFR: None.

c. The impact on all planned public-use airports and aeronautical facilities: None.

d. The cumulative impact resulting from the proposed construction or alteration of a structure when combined with the impact of other existing or proposed structures: None.

The I74 Airport Master Record can be viewed/downloaded <http://www.gcr1.com/5010web/airport.cfm?Site=I74> . It states there are 38 single-engine, 12 multi-engine, 0 jet and 1 helicopter and 4 ultra-light aircraft based there with 23,480 operations for the 12 months ending 3 September, 2016 (latest information).

4. CIRCULATION AND COMMENTS RECEIVED

The proposal was circulated for public comment based on 24 March 2017 and public comment period closed on 30 April, 2017. One comment was received 6 April, 2017.

The State of Ohio Department of Transportation advised the applicant that per ORC 4561.30-4561.39 these structures require a permit from ODOT Office of Aviation prior to construction.

FAA's response: the FAA conducts aeronautical studies as prescribed under 14 CFR Part 77, Safe, Efficient Use, and Preservation of the Navigable Airspace. The Ohio process of permitting is independent of the FAA process and subsequently is not taken into consideration in aeronautical studies.

5. DETERMINATION - NO HAZARD TO AIR NAVIGATION

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

6. BASIS FOR DECISION

Study for possible VFR effect disclosed that the proposed structures would not affect existing or proposed en route, arrival or departure VFR operations or procedures. Circularization and further aeronautical study found that the proposed structures would not conflict with airspace required to conduct normal VFR traffic pattern operations at I74 or any other known public use or military airports as there would not be a significant number (if any) Category D aircraft affected by the proposal. No other VFR issues could be identified and there are no IFR effects.

The proposed structures must be appropriately obstruction marked and/or lighted to make them more conspicuous to airmen.

NOTE: A recommendation for white paint/synchronized red lights will be made for all turbines until such time as the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height. At that time, the proponent may contact this office and request a re-evaluation of the marking and lighting recommendations for the turbines within this project and a portion of the turbines may qualify for the removal of the lighting recommendation.





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Aeronautical Study No.
2016-WTE-5707-OE

Issued Date: 05/24/2017

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

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine BI - 14
Location:	Urbana, OH
Latitude:	40-09-00.91N NAD 83
Longitude:	83-34-07.09W
Heights:	1135 feet site elevation (SE) 492 feet above ground level (AGL) 1627 feet above mean sea level (AMSL)

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

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

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

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

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

See attachment for additional condition(s) or information.

This determination expires on 11/24/2018 unless:

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

- (b) extended, revised, or terminated by the issuing office.

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

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

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

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

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

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

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

If we can be of further assistance, please contact our office at (425) 227-2625. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-WTE-5707-OE.

Signature Control No: 300495890-332343055

(DNE -WT)

Paul Holmquist

Specialist

Attachment(s)

Additional Information

Map(s)

Additional information for ASN 2016-WTE-5707-OE

NOTE: A recommendation for white paint/synchronized red lights will be made for all turbines until such time as the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height. At that time, the proponent may contact this office and request a re-evaluation of the marking and lighting recommendations for the turbines within this project and a portion of the turbines may qualify for the removal of the lighting recommendation.





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10101 Hillwood Parkway
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Aeronautical Study No.
2016-WTE-5708-OE

Issued Date: 05/24/2017

Jeff McKee
Buckeye Wind
1251 Waterfront Pl
3rd Floor
Pittsburgh, PA 15222

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

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine BI - 15
Location:	Urbana, OH
Latitude:	40-08-59.93N NAD 83
Longitude:	83-34-41.24W
Heights:	1166 feet site elevation (SE) 492 feet above ground level (AGL) 1658 feet above mean sea level (AMSL)

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

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

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

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

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

See attachment for additional condition(s) or information.

This determination expires on 11/24/2018 unless:

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

- (b) extended, revised, or terminated by the issuing office.

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

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

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

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

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

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

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

If we can be of further assistance, please contact our office at (425) 227-2625. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-WTE-5708-OE.

Signature Control No: 300495891-332343060

(DNE -WT)

Paul Holmquist

Specialist

Attachment(s)

Additional Information

Map(s)

Additional information for ASN 2016-WTE-5708-OE

NOTE: A recommendation for white paint/synchronized red lights will be made for all turbines until such time as the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height. At that time, the proponent may contact this office and request a re-evaluation of the marking and lighting recommendations for the turbines within this project and a portion of the turbines may qualify for the removal of the lighting recommendation.



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Aeronautical Study No.
2016-WTE-5709-OE

Issued Date: 05/24/2017

Jeff McKee
Buckeye Wind
1251 Waterfront Pl
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Pittsburgh, PA 15222

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

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine BI - 16
Location:	Urbana, OH
Latitude:	40-08-54.59N NAD 83
Longitude:	83-35-41.30W
Heights:	1223 feet site elevation (SE) 492 feet above ground level (AGL) 1715 feet above mean sea level (AMSL)

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

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

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

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

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

See attachment for additional condition(s) or information.

This determination expires on 11/24/2018 unless:

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

- (b) extended, revised, or terminated by the issuing office.

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

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

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

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

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

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

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

If we can be of further assistance, please contact our office at (425) 227-2625. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-WTE-5709-OE.

Signature Control No: 300495892-332343057

(DNE -WT)

Paul Holmquist
Specialist

Attachment(s)

Additional Information

Map(s)

Additional information for ASN 2016-WTE-5709-OE

NOTE: A recommendation for white paint/synchronized red lights will be made for all turbines until such time as the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height. At that time, the proponent may contact this office and request a re-evaluation of the marking and lighting recommendations for the turbines within this project and a portion of the turbines may qualify for the removal of the lighting recommendation.



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Aeronautical Study No.
2016-WTE-5710-OE

Issued Date: 05/24/2017

Jeff McKee
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**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ** (CORRECTION)**

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine BI - 17
Location:	Urbana, OH
Latitude:	40-08-23.94N NAD 83
Longitude:	83-40-15.88W
Heights:	1153 feet site elevation (SE) 492 feet above ground level (AGL) 1645 feet above mean sea level (AMSL)

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

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

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

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

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

See attachment for additional condition(s) or information.

This determination expires on 11/24/2018 unless:

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

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

This determination is subject to review if an interested party files a petition that is received by the FAA on or before June 23, 2017. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager, Airspace Policy & Regulation, Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This determination becomes final on July 03, 2017 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Regulations & ATC Procedures Group via telephone -- 202-267-8783 - or facsimile 202-267-9328.

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

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

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

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

one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

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

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

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

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

If we can be of further assistance, please contact Paul Holmquist, at (425) 227-2625. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-WTE-5710-OE.

Signature Control No: 300495893-332375236

(DNH -WT)

Mike Helvey

Manager, Obstruction Evaluation Group

Attachment(s)

Additional Information

Map(s)

Additional information for ASN 2016-WTE-5710-OE

Abbreviations

AGL - above ground level

AMSL - above mean sea level

RWY - runway

VFR - visual flight rules

IFR - instrument flight rules

NM - nautical mile

ASN - aeronautical study number

TPA - traffic pattern airspace

Part 77 - Title 14 Code of Federal Regulations (CFR) Part 77, Safe, Efficient Use and Preservation of the Navigable Airspace

1. LOCATION OF PROPOSED CONSTRUCTION

The entire proposed Buckeye I wind turbine project near Urbana, OH consists of 52 turbines at 492 feet AGL and are assigned FAA ASNs 2016-WTE-5694-OE sequentially through 2016-WTE-5745-OE. The proposed wind turbine project lies approximately between 2.71 NM to 8.6 NM east of the Airport Reference Point (ARP) for the Grimes Field Airport (I74), Urbana, OH.

For the sake of efficiency, the narrative below describes 16 of the proposed turbines that have similar impacts, the primary difference being the amount of penetration to 14 CFR Part 77 standards. Separate determinations for each turbine will be made issued and are available on our website at <http://oeaaa.faa.gov>.

ASN (degrees)	AGL/AMSL (feet)	Latitude/Longitude	Distance From I74 (NM)/Azimuth
2016-WTE-5695-OE	492/1643	40-10-27.08N/83-40-47.55W	4.23/053.4
2016-WTE-5696-OE	492/1631	40-10-02.85N/83-40-47.65W	4.01/058.2
2016-WTE-5697-OE	492/1653	40-10-02.94N/83-40-18.70W	4.33/060.8
2016-WTE-5698-OE	492/1646	40-09-51.40N/83-40-38.41W	4.02/061.4
2016-WTE-5699-OE	492/1649	40-09-40.70N/83-40-29.92W	4.03/064.4
2016-WTE-5702-OE	492/1652	40-09-08.96N/83-40-16.92W	3.99/072.3
2016-WTE-5706-OE	492/1649	40-08-54.91N/83-40-18.82W	3.90/075.5
2016-WTE-5710-OE	492/1645	40-08-23.94N/83-40-15.88W	3.85/083.1
2016-WTE-5717-OE	492/1627	40-07-43.03N/83-41-20.94W	3.00/094.3
2016-WTE-5719-OE	492/1623	40-07-34.94N/83-41-09.13W	3.16/096.5
2016-WTE-5722-OE	492/1620	40-07-27.80N/83-41-33.05W	2.87/099.6
2016-WTE-5723-OE	492/1629	40-07-24.94N/83-40-58.30W	3.32/099.1
2016-WTE-5726-OE	492/1624	40-07-18.58N/83-41-25.13W	3.00/102.1
2016-WTE-5728-OE	492/1619	40-07-13.58N/83-41-50.02W	2.71/105.3
2016-WTE-5729-OE	492/1620	40-07-09.05N/83-41-13.77W	3.18/104.4
2016-WTE-5731-OE	492/1619	40-07-04.85N/83-41-42.07W	2.85/107.6

2. OBSTRUCTION STANDARDS EXCEEDED

The 16 proposed turbines would exceed 14 CFR Part 77 standards as described below.

Section 77.17(a)(2): A height Above Ground Level (AGL) or airport elevation, whichever is higher, exceeding a height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 nautical miles of the established reference point of an airport, excluding heliports, with its longest Runway (RWY) more than 3,200 feet in actual length, and that height increases in the proportion of 100 feet for each additional nautical mile from the airport up to a maximum of 499 feet.

ASN	Exceeds Section 77.17(a)(2) By (feet)
-----	---------------------------------------

2016-WTE-5695-OE	169
2016-WTE-5696-OE	192
2016-WTE-5697-OE	160
2016-WTE-5698-OE	191
2016-WTE-5699-OE	189
2016-WTE-5702-OE	193
2016-WTE-5706-OE	202
2016-WTE-5710-OE	208
2016-WTE-5717-OE	292
2016-WTE-5719-OE	277
2016-WTE-5722-OE	292
2016-WTE-5723-OE	261
2016-WTE-5726-OE	292
2016-WTE-5728-OE	292
2016-WTE-5729-OE	275
2016-WTE-5731-OE	292

The turbines lie within I74 Traffic Pattern Airspace (TPA) for I74 as described in FAA JO 7400.2K, 6-3-8, Evaluating Effect on Visual Flight Rules (VFR) Operations. They would exceed the TPA Section 77.17(a)(2) surface as applied to a visual approach runway as described below.

The listed turbines below lie within the lateral boundaries and penetrate category D traffic pattern airspace for RWY 02/20 at I74. Category D aircraft are those aircraft with an approach speed of between 141-165 knots. The turbines are outside of traffic pattern airspace for all aircraft with an approach speed of less than 141 knots.

ASN	Exceeds TPA By (feet)
-----	-----------------------

2016-WTE-5695-OE	169
2016-WTE-5696-OE	192
2016-WTE-5697-OE	160
2016-WTE-5698-OE	191
2016-WTE-5699-OE	189
2016-WTE-5702-OE	193
2016-WTE-5706-OE	202
2016-WTE-5710-OE	208
2016-WTE-5717-OE	209
2016-WTE-5719-OE	205
2016-WTE-5722-OE	202
2016-WTE-5723-OE	211
2016-WTE-5726-OE	57
2016-WTE-5728-OE	201
2016-WTE-5729-OE	202
2016-WTE-5731-OE	201

3. EFFECT ON AERONAUTICAL OPERATIONS

The 16 proposed turbines would exceed 14 CFR Part 77 standards as described below.

Section 77.17(a)(2): A height Above Ground Level (AGL) or airport elevation, whichever is higher, exceeding a height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 nautical miles of the established reference point of an airport, excluding heliports, with its longest Runway (RWY) more than 3,200 feet in actual length, and that height increases in the proportion of 100 feet for each additional nautical mile from the airport up to a maximum of 499 feet.

ASN	Exceeds Section 77.17(a)(2) By (feet)
-----	---------------------------------------

2016-WTE-5695-OE	169
2016-WTE-5696-OE	192
2016-WTE-5697-OE	160
2016-WTE-5698-OE	191
2016-WTE-5699-OE	189
2016-WTE-5702-OE	193
2016-WTE-5706-OE	202
2016-WTE-5710-OE	208
2016-WTE-5717-OE	292
2016-WTE-5719-OE	277
2016-WTE-5722-OE	292
2016-WTE-5723-OE	261
2016-WTE-5726-OE	292
2016-WTE-5728-OE	292
2016-WTE-5729-OE	275
2016-WTE-5731-OE	292

Although the 16 turbines lie within the I74 VFR Category D TPA as described by FAA JO 7400.2L, I74 airport is identified as design code CII according to the current airport layout plane (ALP) for present conditions and future planning. There is little to no chance of Category D operating at this airport and therefore the proposed turbines would not have an adverse effect on the operational VFR TPA for I74.

There are no effects on any existing or proposed arrival, departure, or en route IFR minimum flight altitudes. There are no physical or electromagnetic effects on the operation of air navigation and communications facilities.

There are no effects on any airspace and routes used by the military.

b. The impact on arrival, departure, and en route procedures for aircraft operating under IFR: None.

c. The impact on all planned public-use airports and aeronautical facilities: None.

d. The cumulative impact resulting from the proposed construction or alteration of a structure when combined with the impact of other existing or proposed structures: None.

The I74 Airport Master Record can be viewed/downloaded <http://www.gcr1.com/5010web/airport.cfm?Site=I74> . It states there are 38 single-engine, 12 multi-engine, 0 jet and 1 helicopter and 4 ultra-light aircraft based there with 23,480 operations for the 12 months ending 3 September, 2016 (latest information).

4. CIRCULATION AND COMMENTS RECEIVED

The proposal was circulated for public comment based on 24 March 2017 and public comment period closed on 30 April, 2017. One comment was received 6 April, 2017.

The State of Ohio Department of Transportation advised the applicant that per ORC 4561.30-4561.39 these structures require a permit from ODOT Office of Aviation prior to construction.

FAA's response: the FAA conducts aeronautical studies as prescribed under 14 CFR Part 77, Safe, Efficient Use, and Preservation of the Navigable Airspace. The Ohio process of permitting is independent of the FAA process and subsequently is not taken into consideration in aeronautical studies.

5. DETERMINATION - NO HAZARD TO AIR NAVIGATION

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

6. BASIS FOR DECISION

Study for possible VFR effect disclosed that the proposed structures would not affect existing or proposed en route, arrival or departure VFR operations or procedures. Circularization and further aeronautical study found that the proposed structures would not conflict with airspace required to conduct normal VFR traffic pattern operations at I74 or any other known public use or military airports as there would not be a significant number (if any) Category D aircraft affected by the proposal. No other VFR issues could be identified and there are no IFR effects.

The proposed structures must be appropriately obstruction marked and/or lighted to make them more conspicuous to airmen.

NOTE: A recommendation for white paint/synchronized red lights will be made for all turbines until such time as the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height. At that time, the proponent may contact this office and request a re-evaluation of the marking and lighting recommendations for the turbines within this project and a portion of the turbines may qualify for the removal of the lighting recommendation.





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10101 Hillwood Parkway
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Aeronautical Study No.
2016-WTE-5711-OE

Issued Date: 05/24/2017

Jeff McKee
Buckeye Wind
1251 Waterfront Pl
3rd Floor
Pittsburgh, PA 15222

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

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine BI - 18
Location:	Urbana, OH
Latitude:	40-08-27.74N NAD 83
Longitude:	83-35-41.37W
Heights:	1216 feet site elevation (SE) 492 feet above ground level (AGL) 1708 feet above mean sea level (AMSL)

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

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

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

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

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

See attachment for additional condition(s) or information.

This determination expires on 11/24/2018 unless:

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

- (b) extended, revised, or terminated by the issuing office.

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

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

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

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

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

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

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

If we can be of further assistance, please contact our office at (425) 227-2625. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-WTE-5711-OE.

Signature Control No: 300495894-332343049

(DNE -WT)

Paul Holmquist

Specialist

Attachment(s)

Additional Information

Map(s)

Additional information for ASN 2016-WTE-5711-OE

NOTE: A recommendation for white paint/synchronized red lights will be made for all turbines until such time as the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height. At that time, the proponent may contact this office and request a re-evaluation of the marking and lighting recommendations for the turbines within this project and a portion of the turbines may qualify for the removal of the lighting recommendation.



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Aeronautical Study No.
2016-WTE-5712-OE

Issued Date: 05/24/2017

Jeff McKee
Buckeye Wind
1251 Waterfront Pl
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Pittsburgh, PA 15222

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

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine BI - 20
Location:	Urbana, OH
Latitude:	40-08-11.49N NAD 83
Longitude:	83-36-23.09W
Heights:	1237 feet site elevation (SE) 492 feet above ground level (AGL) 1729 feet above mean sea level (AMSL)

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

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

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

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

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

See attachment for additional condition(s) or information.

This determination expires on 11/24/2018 unless:

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

- (b) extended, revised, or terminated by the issuing office.

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

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

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

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

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

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

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

If we can be of further assistance, please contact our office at (425) 227-2625. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-WTE-5712-OE.

Signature Control No: 300495895-332343054

(DNE -WT)

Paul Holmquist

Specialist

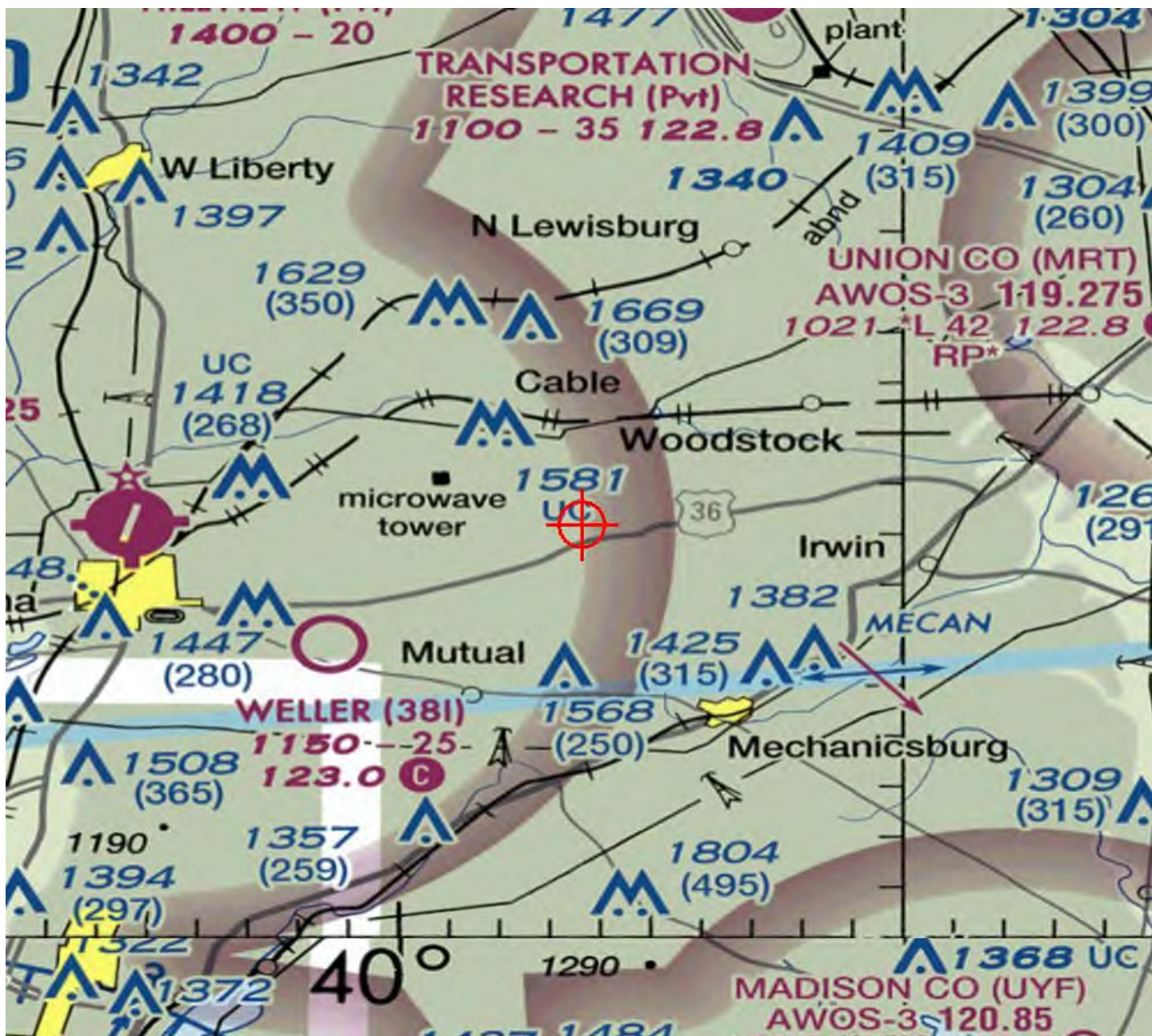
Attachment(s)

Additional Information

Map(s)

Additional information for ASN 2016-WTE-5712-OE

NOTE: A recommendation for white paint/synchronized red lights will be made for all turbines until such time as the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height. At that time, the proponent may contact this office and request a re-evaluation of the marking and lighting recommendations for the turbines within this project and a portion of the turbines may qualify for the removal of the lighting recommendation.





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Aeronautical Study No.
2016-WTE-5713-OE

Issued Date: 05/24/2017

Jeff McKee
Buckeye Wind
1251 Waterfront Pl
3rd Floor
Pittsburgh, PA 15222

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

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine BI - 21
Location:	Urbana, OH
Latitude:	40-08-08.11N NAD 83
Longitude:	83-35-43.37W
Heights:	1218 feet site elevation (SE) 492 feet above ground level (AGL) 1710 feet above mean sea level (AMSL)

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

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

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

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

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

See attachment for additional condition(s) or information.

This determination expires on 11/24/2018 unless:

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

- (b) extended, revised, or terminated by the issuing office.

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

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

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

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

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

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

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

If we can be of further assistance, please contact our office at (425) 227-2625. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-WTE-5713-OE.

Signature Control No: 300495896-332343046

(DNE -WT)

Paul Holmquist

Specialist

Attachment(s)

Additional Information

Map(s)

Additional information for ASN 2016-WTE-5713-OE

NOTE: A recommendation for white paint/synchronized red lights will be made for all turbines until such time as the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height. At that time, the proponent may contact this office and request a re-evaluation of the marking and lighting recommendations for the turbines within this project and a portion of the turbines may qualify for the removal of the lighting recommendation.





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Aeronautical Study No.
2016-WTE-5714-OE

Issued Date: 05/24/2017

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

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine BI - 22
Location:	Urbana, OH
Latitude:	40-08-08.01N NAD 83
Longitude:	83-34-42.40W
Heights:	1171 feet site elevation (SE) 492 feet above ground level (AGL) 1663 feet above mean sea level (AMSL)

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

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

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

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

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

See attachment for additional condition(s) or information.

This determination expires on 11/24/2018 unless:

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

- (b) extended, revised, or terminated by the issuing office.

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

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

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

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

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

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

If we can be of further assistance, please contact our office at (425) 227-2625. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-WTE-5714-OE.

Signature Control No: 300495897-332343063

(DNE -WT)

Paul Holmquist

Specialist

Attachment(s)

Additional Information

Map(s)

Additional information for ASN 2016-WTE-5714-OE

NOTE: A recommendation for white paint/synchronized red lights will be made for all turbines until such time as the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height. At that time, the proponent may contact this office and request a re-evaluation of the marking and lighting recommendations for the turbines within this project and a portion of the turbines may qualify for the removal of the lighting recommendation.



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Aeronautical Study No.
2016-WTE-5715-OE

Issued Date: 05/24/2017

Jeff McKee
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1251 Waterfront Pl
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Pittsburgh, PA 15222

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

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine BI - 23
Location:	Urbana, OH
Latitude:	40-08-01.94N NAD 83
Longitude:	83-36-13.81W
Heights:	1226 feet site elevation (SE) 492 feet above ground level (AGL) 1718 feet above mean sea level (AMSL)

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

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

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

____ At least 10 days prior to start of construction (7460-2, Part 1)
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See attachment for additional condition(s) or information.

This determination expires on 11/24/2018 unless:

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

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

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

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

If we can be of further assistance, please contact our office at (425) 227-2625. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-WTE-5715-OE.

Signature Control No: 300495898-332343047

(DNE -WT)

Paul Holmquist

Specialist

Attachment(s)

Additional Information

Map(s)

Additional information for ASN 2016-WTE-5715-OE

NOTE: A recommendation for white paint/synchronized red lights will be made for all turbines until such time as the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height. At that time, the proponent may contact this office and request a re-evaluation of the marking and lighting recommendations for the turbines within this project and a portion of the turbines may qualify for the removal of the lighting recommendation.





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Aeronautical Study No.
2016-WTE-5716-OE

Issued Date: 05/24/2017

Jeff McKee
Buckeye Wind
1251 Waterfront Pl
3rd Floor
Pittsburgh, PA 15222

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

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine BI - 25
Location:	Urbana, OH
Latitude:	40-07-55.43N NAD 83
Longitude:	83-36-37.98W
Heights:	1236 feet site elevation (SE) 492 feet above ground level (AGL) 1728 feet above mean sea level (AMSL)

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

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

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

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

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

See attachment for additional condition(s) or information.

This determination expires on 11/24/2018 unless:

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

- (b) extended, revised, or terminated by the issuing office.

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

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

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

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

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

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

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

If we can be of further assistance, please contact our office at (425) 227-2625. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-WTE-5716-OE.

Signature Control No: 300495899-332343064

(DNE -WT)

Paul Holmquist

Specialist

Attachment(s)

Additional Information

Map(s)

Additional information for ASN 2016-WTE-5716-OE

NOTE: A recommendation for white paint/synchronized red lights will be made for all turbines until such time as the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height. At that time, the proponent may contact this office and request a re-evaluation of the marking and lighting recommendations for the turbines within this project and a portion of the turbines may qualify for the removal of the lighting recommendation.



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Aeronautical Study No.
2016-WTE-5717-OE

Issued Date: 05/24/2017

Jeff McKee
Buckeye Wind
1251 Waterfront Pl
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Pittsburgh, PA 15222

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ** (CORRECTION)**

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine BI - 27
Location:	Urbana, OH
Latitude:	40-07-43.03N NAD 83
Longitude:	83-41-20.94W
Heights:	1135 feet site elevation (SE) 492 feet above ground level (AGL) 1627 feet above mean sea level (AMSL)

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

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

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

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

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

See attachment for additional condition(s) or information.

This determination expires on 11/24/2018 unless:

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

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

This determination is subject to review if an interested party files a petition that is received by the FAA on or before June 23, 2017. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager, Airspace Policy & Regulation, Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This determination becomes final on July 03, 2017 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Regulations & ATC Procedures Group via telephone -- 202-267-8783 - or facsimile 202-267-9328.

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

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

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

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

one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

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

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

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

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

If we can be of further assistance, please contact Paul Holmquist, at (425) 227-2625. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-WTE-5717-OE.

Signature Control No: 300495900-332375230

(DNH -WT)

Mike Helvey

Manager, Obstruction Evaluation Group

Attachment(s)

Additional Information

Map(s)

Additional information for ASN 2016-WTE-5717-OE

Abbreviations

AGL - above ground level

AMSL - above mean sea level

RWY - runway

VFR - visual flight rules

IFR - instrument flight rules

NM - nautical mile

ASN - aeronautical study number

TPA - traffic pattern airspace

Part 77 - Title 14 Code of Federal Regulations (CFR) Part 77, Safe, Efficient Use and Preservation of the Navigable Airspace

1. LOCATION OF PROPOSED CONSTRUCTION

The entire proposed Buckeye I wind turbine project near Urbana, OH consists of 52 turbines at 492 feet AGL and are assigned FAA ASNs 2016-WTE-5694-OE sequentially through 2016-WTE-5745-OE. The proposed wind turbine project lies approximately between 2.71 NM to 8.6 NM east of the Airport Reference Point (ARP) for the Grimes Field Airport (I74), Urbana, OH.

For the sake of efficiency, the narrative below describes 16 of the proposed turbines that have similar impacts, the primary difference being the amount of penetration to 14 CFR Part 77 standards. Separate determinations for each turbine will be made issued and are available on our website at <http://oeaaa.faa.gov>.

ASN (degrees)	AGL/AMSL (feet)	Latitude/Longitude	Distance From I74 (NM)/Azimuth
2016-WTE-5695-OE	492/1643	40-10-27.08N/83-40-47.55W	4.23/053.4
2016-WTE-5696-OE	492/1631	40-10-02.85N/83-40-47.65W	4.01/058.2
2016-WTE-5697-OE	492/1653	40-10-02.94N/83-40-18.70W	4.33/060.8
2016-WTE-5698-OE	492/1646	40-09-51.40N/83-40-38.41W	4.02/061.4
2016-WTE-5699-OE	492/1649	40-09-40.70N/83-40-29.92W	4.03/064.4
2016-WTE-5702-OE	492/1652	40-09-08.96N/83-40-16.92W	3.99/072.3
2016-WTE-5706-OE	492/1649	40-08-54.91N/83-40-18.82W	3.90/075.5
2016-WTE-5710-OE	492/1645	40-08-23.94N/83-40-15.88W	3.85/083.1
2016-WTE-5717-OE	492/1627	40-07-43.03N/83-41-20.94W	3.00/094.3
2016-WTE-5719-OE	492/1623	40-07-34.94N/83-41-09.13W	3.16/096.5
2016-WTE-5722-OE	492/1620	40-07-27.80N/83-41-33.05W	2.87/099.6
2016-WTE-5723-OE	492/1629	40-07-24.94N/83-40-58.30W	3.32/099.1
2016-WTE-5726-OE	492/1624	40-07-18.58N/83-41-25.13W	3.00/102.1
2016-WTE-5728-OE	492/1619	40-07-13.58N/83-41-50.02W	2.71/105.3
2016-WTE-5729-OE	492/1620	40-07-09.05N/83-41-13.77W	3.18/104.4
2016-WTE-5731-OE	492/1619	40-07-04.85N/83-41-42.07W	2.85/107.6

2. OBSTRUCTION STANDARDS EXCEEDED

The 16 proposed turbines would exceed 14 CFR Part 77 standards as described below.

Section 77.17(a)(2): A height Above Ground Level (AGL) or airport elevation, whichever is higher, exceeding a height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 nautical miles of the established reference point of an airport, excluding heliports, with its longest Runway (RWY) more than 3,200 feet in actual length, and that height increases in the proportion of 100 feet for each additional nautical mile from the airport up to a maximum of 499 feet.

ASN	Exceeds Section 77.17(a)(2) By (feet)
-----	---------------------------------------

2016-WTE-5695-OE	169
2016-WTE-5696-OE	192
2016-WTE-5697-OE	160
2016-WTE-5698-OE	191
2016-WTE-5699-OE	189
2016-WTE-5702-OE	193
2016-WTE-5706-OE	202
2016-WTE-5710-OE	208
2016-WTE-5717-OE	292
2016-WTE-5719-OE	277
2016-WTE-5722-OE	292
2016-WTE-5723-OE	261
2016-WTE-5726-OE	292
2016-WTE-5728-OE	292
2016-WTE-5729-OE	275
2016-WTE-5731-OE	292

The turbines lie within I74 Traffic Pattern Airspace (TPA) for I74 as described in FAA JO 7400.2K, 6-3-8, Evaluating Effect on Visual Flight Rules (VFR) Operations. They would exceed the TPA Section 77.17(a)(2) surface as applied to a visual approach runway as described below.

The listed turbines below lie within the lateral boundaries and penetrate category D traffic pattern airspace for RWY 02/20 at I74. Category D aircraft are those aircraft with an approach speed of between 141-165 knots. The turbines are outside of traffic pattern airspace for all aircraft with an approach speed of less than 141 knots.

ASN	Exceeds TPA By (feet)
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2016-WTE-5695-OE	169
2016-WTE-5696-OE	192
2016-WTE-5697-OE	160
2016-WTE-5698-OE	191
2016-WTE-5699-OE	189
2016-WTE-5702-OE	193
2016-WTE-5706-OE	202
2016-WTE-5710-OE	208
2016-WTE-5717-OE	209
2016-WTE-5719-OE	205
2016-WTE-5722-OE	202
2016-WTE-5723-OE	211
2016-WTE-5726-OE	57
2016-WTE-5728-OE	201
2016-WTE-5729-OE	202
2016-WTE-5731-OE	201

3. EFFECT ON AERONAUTICAL OPERATIONS

The 16 proposed turbines would exceed 14 CFR Part 77 standards as described below.

Section 77.17(a)(2): A height Above Ground Level (AGL) or airport elevation, whichever is higher, exceeding a height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 nautical miles of the established reference point of an airport, excluding heliports, with its longest Runway (RWY) more than 3,200 feet in actual length, and that height increases in the proportion of 100 feet for each additional nautical mile from the airport up to a maximum of 499 feet.

ASN	Exceeds Section 77.17(a)(2) By (feet)
-----	---------------------------------------

2016-WTE-5695-OE	169
2016-WTE-5696-OE	192
2016-WTE-5697-OE	160
2016-WTE-5698-OE	191
2016-WTE-5699-OE	189
2016-WTE-5702-OE	193
2016-WTE-5706-OE	202
2016-WTE-5710-OE	208
2016-WTE-5717-OE	292
2016-WTE-5719-OE	277
2016-WTE-5722-OE	292
2016-WTE-5723-OE	261
2016-WTE-5726-OE	292
2016-WTE-5728-OE	292
2016-WTE-5729-OE	275
2016-WTE-5731-OE	292

Although the 16 turbines lie within the I74 VFR Category D TPA as described by FAA JO 7400.2L, I74 airport is identified as design code CII according to the current airport layout plane (ALP) for present conditions and future planning. There is little to no chance of Category D operating at this airport and therefore the proposed turbines would not have an adverse effect on the operational VFR TPA for I74.

There are no effects on any existing or proposed arrival, departure, or en route IFR minimum flight altitudes. There are no physical or electromagnetic effects on the operation of air navigation and communications facilities.

There are no effects on any airspace and routes used by the military.

b. The impact on arrival, departure, and en route procedures for aircraft operating under IFR: None.

c. The impact on all planned public-use airports and aeronautical facilities: None.

d. The cumulative impact resulting from the proposed construction or alteration of a structure when combined with the impact of other existing or proposed structures: None.

The I74 Airport Master Record can be viewed/downloaded <http://www.gcr1.com/5010web/airport.cfm?Site=I74> . It states there are 38 single-engine, 12 multi-engine, 0 jet and 1 helicopter and 4 ultra-light aircraft based there with 23,480 operations for the 12 months ending 3 September, 2016 (latest information).

4. CIRCULATION AND COMMENTS RECEIVED

The proposal was circulated for public comment based on 24 March 2017 and public comment period closed on 30 April, 2017. One comment was received 6 April, 2017.

The State of Ohio Department of Transportation advised the applicant that per ORC 4561.30-4561.39 these structures require a permit from ODOT Office of Aviation prior to construction.

FAA's response: the FAA conducts aeronautical studies as prescribed under 14 CFR Part 77, Safe, Efficient Use, and Preservation of the Navigable Airspace. The Ohio process of permitting is independent of the FAA process and subsequently is not taken into consideration in aeronautical studies.

5. DETERMINATION - NO HAZARD TO AIR NAVIGATION

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

6. BASIS FOR DECISION

Study for possible VFR effect disclosed that the proposed structures would not affect existing or proposed en route, arrival or departure VFR operations or procedures. Circularization and further aeronautical study found that the proposed structures would not conflict with airspace required to conduct normal VFR traffic pattern operations at I74 or any other known public use or military airports as there would not be a significant number (if any) Category D aircraft affected by the proposal. No other VFR issues could be identified and there are no IFR effects.

The proposed structures must be appropriately obstruction marked and/or lighted to make them more conspicuous to airmen.

NOTE: A recommendation for white paint/synchronized red lights will be made for all turbines until such time as the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height. At that time, the proponent may contact this office and request a re-evaluation of the marking and lighting recommendations for the turbines within this project and a portion of the turbines may qualify for the removal of the lighting recommendation.





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Aeronautical Study No.
2016-WTE-5719-OE

Issued Date: 05/24/2017

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**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ** (CORRECTION)**

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine BI - 31
Location:	Urbana, OH
Latitude:	40-07-34.94N NAD 83
Longitude:	83-41-09.13W
Heights:	1131 feet site elevation (SE) 492 feet above ground level (AGL) 1623 feet above mean sea level (AMSL)

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

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

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

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

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

See attachment for additional condition(s) or information.

This determination expires on 11/24/2018 unless:

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

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

This determination is subject to review if an interested party files a petition that is received by the FAA on or before June 23, 2017. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager, Airspace Policy & Regulation, Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This determination becomes final on July 03, 2017 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Regulations & ATC Procedures Group via telephone -- 202-267-8783 - or facsimile 202-267-9328.

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

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

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

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

one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

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

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

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

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

If we can be of further assistance, please contact Paul Holmquist, at (425) 227-2625. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-WTE-5719-OE.

Signature Control No: 300495902-332375226

(DNH -WT)

Mike Helvey

Manager, Obstruction Evaluation Group

Attachment(s)

Additional Information

Map(s)

Additional information for ASN 2016-WTE-5719-OE

Abbreviations

AGL - above ground level

AMSL - above mean sea level

RWY - runway

VFR - visual flight rules

IFR - instrument flight rules

NM - nautical mile

ASN - aeronautical study number

TPA - traffic pattern airspace

Part 77 - Title 14 Code of Federal Regulations (CFR) Part 77, Safe, Efficient Use and Preservation of the Navigable Airspace

1. LOCATION OF PROPOSED CONSTRUCTION

The entire proposed Buckeye I wind turbine project near Urbana, OH consists of 52 turbines at 492 feet AGL and are assigned FAA ASNs 2016-WTE-5694-OE sequentially through 2016-WTE-5745-OE. The proposed wind turbine project lies approximately between 2.71 NM to 8.6 NM east of the Airport Reference Point (ARP) for the Grimes Field Airport (I74), Urbana, OH.

For the sake of efficiency, the narrative below describes 16 of the proposed turbines that have similar impacts, the primary difference being the amount of penetration to 14 CFR Part 77 standards. Separate determinations for each turbine will be made issued and are available on our website at <http://oeaaa.faa.gov>.

ASN (degrees)	AGL/AMSL (feet)	Latitude/Longitude	Distance From I74 (NM)/Azimuth
2016-WTE-5695-OE	492/1643	40-10-27.08N/83-40-47.55W	4.23/053.4
2016-WTE-5696-OE	492/1631	40-10-02.85N/83-40-47.65W	4.01/058.2
2016-WTE-5697-OE	492/1653	40-10-02.94N/83-40-18.70W	4.33/060.8
2016-WTE-5698-OE	492/1646	40-09-51.40N/83-40-38.41W	4.02/061.4
2016-WTE-5699-OE	492/1649	40-09-40.70N/83-40-29.92W	4.03/064.4
2016-WTE-5702-OE	492/1652	40-09-08.96N/83-40-16.92W	3.99/072.3
2016-WTE-5706-OE	492/1649	40-08-54.91N/83-40-18.82W	3.90/075.5
2016-WTE-5710-OE	492/1645	40-08-23.94N/83-40-15.88W	3.85/083.1
2016-WTE-5717-OE	492/1627	40-07-43.03N/83-41-20.94W	3.00/094.3
2016-WTE-5719-OE	492/1623	40-07-34.94N/83-41-09.13W	3.16/096.5
2016-WTE-5722-OE	492/1620	40-07-27.80N/83-41-33.05W	2.87/099.6
2016-WTE-5723-OE	492/1629	40-07-24.94N/83-40-58.30W	3.32/099.1
2016-WTE-5726-OE	492/1624	40-07-18.58N/83-41-25.13W	3.00/102.1
2016-WTE-5728-OE	492/1619	40-07-13.58N/83-41-50.02W	2.71/105.3
2016-WTE-5729-OE	492/1620	40-07-09.05N/83-41-13.77W	3.18/104.4
2016-WTE-5731-OE	492/1619	40-07-04.85N/83-41-42.07W	2.85/107.6

2. OBSTRUCTION STANDARDS EXCEEDED

The 16 proposed turbines would exceed 14 CFR Part 77 standards as described below.

Section 77.17(a)(2): A height Above Ground Level (AGL) or airport elevation, whichever is higher, exceeding a height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 nautical miles of the established reference point of an airport, excluding heliports, with its longest Runway (RWY) more than 3,200 feet in actual length, and that height increases in the proportion of 100 feet for each additional nautical mile from the airport up to a maximum of 499 feet.

ASN	Exceeds Section 77.17(a)(2) By (feet)
-----	---------------------------------------

2016-WTE-5695-OE	169
2016-WTE-5696-OE	192
2016-WTE-5697-OE	160
2016-WTE-5698-OE	191
2016-WTE-5699-OE	189
2016-WTE-5702-OE	193
2016-WTE-5706-OE	202
2016-WTE-5710-OE	208
2016-WTE-5717-OE	292
2016-WTE-5719-OE	277
2016-WTE-5722-OE	292
2016-WTE-5723-OE	261
2016-WTE-5726-OE	292
2016-WTE-5728-OE	292
2016-WTE-5729-OE	275
2016-WTE-5731-OE	292

The turbines lie within I74 Traffic Pattern Airspace (TPA) for I74 as described in FAA JO 7400.2K, 6-3-8, Evaluating Effect on Visual Flight Rules (VFR) Operations. They would exceed the TPA Section 77.17(a)(2) surface as applied to a visual approach runway as described below.

The listed turbines below lie within the lateral boundaries and penetrate category D traffic pattern airspace for RWY 02/20 at I74. Category D aircraft are those aircraft with an approach speed of between 141-165 knots. The turbines are outside of traffic pattern airspace for all aircraft with an approach speed of less than 141 knots.

ASN	Exceeds TPA By (feet)
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2016-WTE-5695-OE	169
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2016-WTE-5722-OE	202
2016-WTE-5723-OE	211
2016-WTE-5726-OE	57
2016-WTE-5728-OE	201
2016-WTE-5729-OE	202
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3. EFFECT ON AERONAUTICAL OPERATIONS

The 16 proposed turbines would exceed 14 CFR Part 77 standards as described below.

Section 77.17(a)(2): A height Above Ground Level (AGL) or airport elevation, whichever is higher, exceeding a height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 nautical miles of the established reference point of an airport, excluding heliports, with its longest Runway (RWY) more than 3,200 feet in actual length, and that height increases in the proportion of 100 feet for each additional nautical mile from the airport up to a maximum of 499 feet.

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2016-WTE-5723-OE	261
2016-WTE-5726-OE	292
2016-WTE-5728-OE	292
2016-WTE-5729-OE	275
2016-WTE-5731-OE	292

Although the 16 turbines lie within the I74 VFR Category D TPA as described by FAA JO 7400.2L, I74 airport is identified as design code CII according to the current airport layout plane (ALP) for present conditions and future planning. There is little to no chance of Category D operating at this airport and therefore the proposed turbines would not have an adverse effect on the operational VFR TPA for I74.

There are no effects on any existing or proposed arrival, departure, or en route IFR minimum flight altitudes. There are no physical or electromagnetic effects on the operation of air navigation and communications facilities.

There are no effects on any airspace and routes used by the military.

b. The impact on arrival, departure, and en route procedures for aircraft operating under IFR: None.

c. The impact on all planned public-use airports and aeronautical facilities: None.

d. The cumulative impact resulting from the proposed construction or alteration of a structure when combined with the impact of other existing or proposed structures: None.

The I74 Airport Master Record can be viewed/downloaded <http://www.gcr1.com/5010web/airport.cfm?Site=I74> . It states there are 38 single-engine, 12 multi-engine, 0 jet and 1 helicopter and 4 ultra-light aircraft based there with 23,480 operations for the 12 months ending 3 September, 2016 (latest information).

4. CIRCULATION AND COMMENTS RECEIVED

The proposal was circulated for public comment based on 24 March 2017 and public comment period closed on 30 April, 2017. One comment was received 6 April, 2017.

The State of Ohio Department of Transportation advised the applicant that per ORC 4561.30-4561.39 these structures require a permit from ODOT Office of Aviation prior to construction.

FAA's response: the FAA conducts aeronautical studies as prescribed under 14 CFR Part 77, Safe, Efficient Use, and Preservation of the Navigable Airspace. The Ohio process of permitting is independent of the FAA process and subsequently is not taken into consideration in aeronautical studies.

5. DETERMINATION - NO HAZARD TO AIR NAVIGATION

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

6. BASIS FOR DECISION

Study for possible VFR effect disclosed that the proposed structures would not affect existing or proposed en route, arrival or departure VFR operations or procedures. Circularization and further aeronautical study found that the proposed structures would not conflict with airspace required to conduct normal VFR traffic pattern operations at I74 or any other known public use or military airports as there would not be a significant number (if any) Category D aircraft affected by the proposal. No other VFR issues could be identified and there are no IFR effects.

The proposed structures must be appropriately obstruction marked and/or lighted to make them more conspicuous to airmen.

NOTE: A recommendation for white paint/synchronized red lights will be made for all turbines until such time as the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height. At that time, the proponent may contact this office and request a re-evaluation of the marking and lighting recommendations for the turbines within this project and a portion of the turbines may qualify for the removal of the lighting recommendation.





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

Aeronautical Study No.
2016-WTE-5722-OE

Issued Date: 05/24/2017

Jeff McKee
Buckeye Wind
1251 Waterfront Pl
3rd Floor
Pittsburgh, PA 15222

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ** (CORRECTION)**

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine BI - 35
Location:	Urbana, OH
Latitude:	40-07-27.80N NAD 83
Longitude:	83-41-33.05W
Heights:	1128 feet site elevation (SE) 492 feet above ground level (AGL) 1620 feet above mean sea level (AMSL)

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

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

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

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

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

See attachment for additional condition(s) or information.

This determination expires on 11/24/2018 unless:

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

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

This determination is subject to review if an interested party files a petition that is received by the FAA on or before June 23, 2017. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager, Airspace Policy & Regulation, Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This determination becomes final on July 03, 2017 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Regulations & ATC Procedures Group via telephone -- 202-267-8783 - or facsimile 202-267-9328.

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

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

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

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one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

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

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

If we can be of further assistance, please contact Paul Holmquist, at (425) 227-2625. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-WTE-5722-OE.

Signature Control No: 300495908-332375234

(DNH -WT)

Mike Helvey

Manager, Obstruction Evaluation Group

Attachment(s)

Additional Information

Map(s)

Additional information for ASN 2016-WTE-5722-OE

Abbreviations

AGL - above ground level

AMSL - above mean sea level

RWY - runway

VFR - visual flight rules

IFR - instrument flight rules

NM - nautical mile

ASN - aeronautical study number

TPA - traffic pattern airspace

Part 77 - Title 14 Code of Federal Regulations (CFR) Part 77, Safe, Efficient Use and Preservation of the Navigable Airspace

1. LOCATION OF PROPOSED CONSTRUCTION

The entire proposed Buckeye I wind turbine project near Urbana, OH consists of 52 turbines at 492 feet AGL and are assigned FAA ASNs 2016-WTE-5694-OE sequentially through 2016-WTE-5745-OE. The proposed wind turbine project lies approximately between 2.71 NM to 8.6 NM east of the Airport Reference Point (ARP) for the Grimes Field Airport (I74), Urbana, OH.

For the sake of efficiency, the narrative below describes 16 of the proposed turbines that have similar impacts, the primary difference being the amount of penetration to 14 CFR Part 77 standards. Separate determinations for each turbine will be made issued and are available on our website at <http://oeaaa.faa.gov>.

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2. OBSTRUCTION STANDARDS EXCEEDED

The 16 proposed turbines would exceed 14 CFR Part 77 standards as described below.

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The turbines lie within I74 Traffic Pattern Airspace (TPA) for I74 as described in FAA JO 7400.2K, 6-3-8, Evaluating Effect on Visual Flight Rules (VFR) Operations. They would exceed the TPA Section 77.17(a)(2) surface as applied to a visual approach runway as described below.

The listed turbines below lie within the lateral boundaries and penetrate category D traffic pattern airspace for RWY 02/20 at I74. Category D aircraft are those aircraft with an approach speed of between 141-165 knots. The turbines are outside of traffic pattern airspace for all aircraft with an approach speed of less than 141 knots.

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Although the 16 turbines lie within the I74 VFR Category D TPA as described by FAA JO 7400.2L, I74 airport is identified as design code CII according to the current airport layout plane (ALP) for present conditions and future planning. There is little to no chance of Category D operating at this airport and therefore the proposed turbines would not have an adverse effect on the operational VFR TPA for I74.

There are no effects on any existing or proposed arrival, departure, or en route IFR minimum flight altitudes. There are no physical or electromagnetic effects on the operation of air navigation and communications facilities.

There are no effects on any airspace and routes used by the military.

b. The impact on arrival, departure, and en route procedures for aircraft operating under IFR: None.

c. The impact on all planned public-use airports and aeronautical facilities: None.

d. The cumulative impact resulting from the proposed construction or alteration of a structure when combined with the impact of other existing or proposed structures: None.

The I74 Airport Master Record can be viewed/downloaded <http://www.gcr1.com/5010web/airport.cfm?Site=I74> . It states there are 38 single-engine, 12 multi-engine, 0 jet and 1 helicopter and 4 ultra-light aircraft based there with 23,480 operations for the 12 months ending 3 September, 2016 (latest information).

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FAA's response: the FAA conducts aeronautical studies as prescribed under 14 CFR Part 77, Safe, Efficient Use, and Preservation of the Navigable Airspace. The Ohio process of permitting is independent of the FAA process and subsequently is not taken into consideration in aeronautical studies.

5. DETERMINATION - NO HAZARD TO AIR NAVIGATION

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

6. BASIS FOR DECISION

Study for possible VFR effect disclosed that the proposed structures would not affect existing or proposed en route, arrival or departure VFR operations or procedures. Circularization and further aeronautical study found that the proposed structures would not conflict with airspace required to conduct normal VFR traffic pattern operations at I74 or any other known public use or military airports as there would not be a significant number (if any) Category D aircraft affected by the proposal. No other VFR issues could be identified and there are no IFR effects.

The proposed structures must be appropriately obstruction marked and/or lighted to make them more conspicuous to airmen.

NOTE: A recommendation for white paint/synchronized red lights will be made for all turbines until such time as the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height. At that time, the proponent may contact this office and request a re-evaluation of the marking and lighting recommendations for the turbines within this project and a portion of the turbines may qualify for the removal of the lighting recommendation.





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

Aeronautical Study No.
2016-WTE-5723-OE

Issued Date: 05/24/2017

Jeff McKee
Buckeye Wind
1251 Waterfront Pl
3rd Floor
Pittsburgh, PA 15222

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ** (CORRECTION)**

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine BI - 36
Location:	Urbana, OH
Latitude:	40-07-24.94N NAD 83
Longitude:	83-40-58.30W
Heights:	1137 feet site elevation (SE) 492 feet above ground level (AGL) 1629 feet above mean sea level (AMSL)

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

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

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

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

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

See attachment for additional condition(s) or information.

This determination expires on 11/24/2018 unless:

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

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

This determination is subject to review if an interested party files a petition that is received by the FAA on or before June 23, 2017. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager, Airspace Policy & Regulation, Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This determination becomes final on July 03, 2017 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Regulations & ATC Procedures Group via telephone -- 202-267-8783 - or facsimile 202-267-9328.

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

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

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

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

one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

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

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

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

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

If we can be of further assistance, please contact Paul Holmquist, at (425) 227-2625. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2016-WTE-5723-OE.

Signature Control No: 300495909-332375229

(DNH -WT)

Mike Helvey

Manager, Obstruction Evaluation Group

Attachment(s)

Additional Information

Map(s)

Additional information for ASN 2016-WTE-5723-OE

Abbreviations

AGL - above ground level

AMSL - above mean sea level

RWY - runway

VFR - visual flight rules

IFR - instrument flight rules

NM - nautical mile

ASN - aeronautical study number

TPA - traffic pattern airspace

Part 77 - Title 14 Code of Federal Regulations (CFR) Part 77, Safe, Efficient Use and Preservation of the Navigable Airspace

1. LOCATION OF PROPOSED CONSTRUCTION

The entire proposed Buckeye I wind turbine project near Urbana, OH consists of 52 turbines at 492 feet AGL and are assigned FAA ASNs 2016-WTE-5694-OE sequentially through 2016-WTE-5745-OE. The proposed wind turbine project lies approximately between 2.71 NM to 8.6 NM east of the Airport Reference Point (ARP) for the Grimes Field Airport (I74), Urbana, OH.

For the sake of efficiency, the narrative below describes 16 of the proposed turbines that have similar impacts, the primary difference being the amount of penetration to 14 CFR Part 77 standards. Separate determinations for each turbine will be made issued and are available on our website at <http://oeaaa.faa.gov>.

ASN (degrees)	AGL/AMSL (feet)	Latitude/Longitude	Distance From I74 (NM)/Azimuth
2016-WTE-5695-OE	492/1643	40-10-27.08N/83-40-47.55W	4.23/053.4
2016-WTE-5696-OE	492/1631	40-10-02.85N/83-40-47.65W	4.01/058.2
2016-WTE-5697-OE	492/1653	40-10-02.94N/83-40-18.70W	4.33/060.8
2016-WTE-5698-OE	492/1646	40-09-51.40N/83-40-38.41W	4.02/061.4
2016-WTE-5699-OE	492/1649	40-09-40.70N/83-40-29.92W	4.03/064.4
2016-WTE-5702-OE	492/1652	40-09-08.96N/83-40-16.92W	3.99/072.3
2016-WTE-5706-OE	492/1649	40-08-54.91N/83-40-18.82W	3.90/075.5
2016-WTE-5710-OE	492/1645	40-08-23.94N/83-40-15.88W	3.85/083.1
2016-WTE-5717-OE	492/1627	40-07-43.03N/83-41-20.94W	3.00/094.3
2016-WTE-5719-OE	492/1623	40-07-34.94N/83-41-09.13W	3.16/096.5
2016-WTE-5722-OE	492/1620	40-07-27.80N/83-41-33.05W	2.87/099.6
2016-WTE-5723-OE	492/1629	40-07-24.94N/83-40-58.30W	3.32/099.1
2016-WTE-5726-OE	492/1624	40-07-18.58N/83-41-25.13W	3.00/102.1
2016-WTE-5728-OE	492/1619	40-07-13.58N/83-41-50.02W	2.71/105.3
2016-WTE-5729-OE	492/1620	40-07-09.05N/83-41-13.77W	3.18/104.4
2016-WTE-5731-OE	492/1619	40-07-04.85N/83-41-42.07W	2.85/107.6

2. OBSTRUCTION STANDARDS EXCEEDED

The 16 proposed turbines would exceed 14 CFR Part 77 standards as described below.

Section 77.17(a)(2): A height Above Ground Level (AGL) or airport elevation, whichever is higher, exceeding a height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 nautical miles of the established reference point of an airport, excluding heliports, with its longest Runway (RWY) more than 3,200 feet in actual length, and that height increases in the proportion of 100 feet for each additional nautical mile from the airport up to a maximum of 499 feet.

ASN	Exceeds Section 77.17(a)(2) By (feet)
-----	---------------------------------------

2016-WTE-5695-OE	169
2016-WTE-5696-OE	192
2016-WTE-5697-OE	160
2016-WTE-5698-OE	191
2016-WTE-5699-OE	189
2016-WTE-5702-OE	193
2016-WTE-5706-OE	202
2016-WTE-5710-OE	208
2016-WTE-5717-OE	292
2016-WTE-5719-OE	277
2016-WTE-5722-OE	292
2016-WTE-5723-OE	261
2016-WTE-5726-OE	292
2016-WTE-5728-OE	292
2016-WTE-5729-OE	275
2016-WTE-5731-OE	292

The turbines lie within I74 Traffic Pattern Airspace (TPA) for I74 as described in FAA JO 7400.2K, 6-3-8, Evaluating Effect on Visual Flight Rules (VFR) Operations. They would exceed the TPA Section 77.17(a)(2) surface as applied to a visual approach runway as described below.

The listed turbines below lie within the lateral boundaries and penetrate category D traffic pattern airspace for RWY 02/20 at I74. Category D aircraft are those aircraft with an approach speed of between 141-165 knots. The turbines are outside of traffic pattern airspace for all aircraft with an approach speed of less than 141 knots.

ASN	Exceeds TPA By (feet)
-----	-----------------------

2016-WTE-5695-OE	169
2016-WTE-5696-OE	192
2016-WTE-5697-OE	160
2016-WTE-5698-OE	191
2016-WTE-5699-OE	189
2016-WTE-5702-OE	193
2016-WTE-5706-OE	202
2016-WTE-5710-OE	208
2016-WTE-5717-OE	209
2016-WTE-5719-OE	205
2016-WTE-5722-OE	202
2016-WTE-5723-OE	211
2016-WTE-5726-OE	57
2016-WTE-5728-OE	201
2016-WTE-5729-OE	202
2016-WTE-5731-OE	201

3. EFFECT ON AERONAUTICAL OPERATIONS

The 16 proposed turbines would exceed 14 CFR Part 77 standards as described below.

Section 77.17(a)(2): A height Above Ground Level (AGL) or airport elevation, whichever is higher, exceeding a height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 nautical miles of the established reference point of an airport, excluding heliports, with its longest Runway (RWY) more than 3,200 feet in actual length, and that height increases in the proportion of 100 feet for each additional nautical mile from the airport up to a maximum of 499 feet.

ASN	Exceeds Section 77.17(a)(2) By (feet)
-----	---------------------------------------

2016-WTE-5695-OE	169
2016-WTE-5696-OE	192
2016-WTE-5697-OE	160
2016-WTE-5698-OE	191
2016-WTE-5699-OE	189
2016-WTE-5702-OE	193
2016-WTE-5706-OE	202
2016-WTE-5710-OE	208
2016-WTE-5717-OE	292
2016-WTE-5719-OE	277
2016-WTE-5722-OE	292
2016-WTE-5723-OE	261
2016-WTE-5726-OE	292
2016-WTE-5728-OE	292
2016-WTE-5729-OE	275
2016-WTE-5731-OE	292

Although the 16 turbines lie within the I74 VFR Category D TPA as described by FAA JO 7400.2L, I74 airport is identified as design code CII according to the current airport layout plane (ALP) for present conditions and future planning. There is little to no chance of Category D operating at this airport and therefore the proposed turbines would not have an adverse effect on the operational VFR TPA for I74.

There are no effects on any existing or proposed arrival, departure, or en route IFR minimum flight altitudes. There are no physical or electromagnetic effects on the operation of air navigation and communications facilities.

There are no effects on any airspace and routes used by the military.

b. The impact on arrival, departure, and en route procedures for aircraft operating under IFR: None.

c. The impact on all planned public-use airports and aeronautical facilities: None.

d. The cumulative impact resulting from the proposed construction or alteration of a structure when combined with the impact of other existing or proposed structures: None.

The I74 Airport Master Record can be viewed/downloaded <http://www.gcr1.com/5010web/airport.cfm?Site=I74> . It states there are 38 single-engine, 12 multi-engine, 0 jet and 1 helicopter and 4 ultra-light aircraft based there with 23,480 operations for the 12 months ending 3 September, 2016 (latest information).

4. CIRCULATION AND COMMENTS RECEIVED

The proposal was circulated for public comment based on 24 March 2017 and public comment period closed on 30 April, 2017. One comment was received 6 April, 2017.

The State of Ohio Department of Transportation advised the applicant that per ORC 4561.30-4561.39 these structures require a permit from ODOT Office of Aviation prior to construction.

FAA's response: the FAA conducts aeronautical studies as prescribed under 14 CFR Part 77, Safe, Efficient Use, and Preservation of the Navigable Airspace. The Ohio process of permitting is independent of the FAA process and subsequently is not taken into consideration in aeronautical studies.

5. DETERMINATION - NO HAZARD TO AIR NAVIGATION

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

6. BASIS FOR DECISION

Study for possible VFR effect disclosed that the proposed structures would not affect existing or proposed en route, arrival or departure VFR operations or procedures. Circularization and further aeronautical study found that the proposed structures would not conflict with airspace required to conduct normal VFR traffic pattern operations at I74 or any other known public use or military airports as there would not be a significant number (if any) Category D aircraft affected by the proposal. No other VFR issues could be identified and there are no IFR effects.

The proposed structures must be appropriately obstruction marked and/or lighted to make them more conspicuous to airmen.

NOTE: A recommendation for white paint/synchronized red lights will be made for all turbines until such time as the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height. At that time, the proponent may contact this office and request a re-evaluation of the marking and lighting recommendations for the turbines within this project and a portion of the turbines may qualify for the removal of the lighting recommendation.





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

Aeronautical Study No.
2014-WTE-7125-OE

Issued Date: 01/06/2017

Jeff McKee
Buckeye Wind
1251 Waterfront Pl
3rd Floor
Pittsburgh, PA 15222

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine BII - 72
Location:	Urbana, OH
Latitude:	40-08-29.83N NAD 83
Longitude:	83-36-22.23W
Heights:	1236 feet site elevation (SE) 492 feet above ground level (AGL) 1728 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 07/06/2018 unless otherwise extended, revised, or terminated by this office. You must adhere to all conditions identified in the original determination.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (816) 329-2528. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-WTE-7125-OE.

Signature Control No: 238180060-314320899

(EXT -WT)

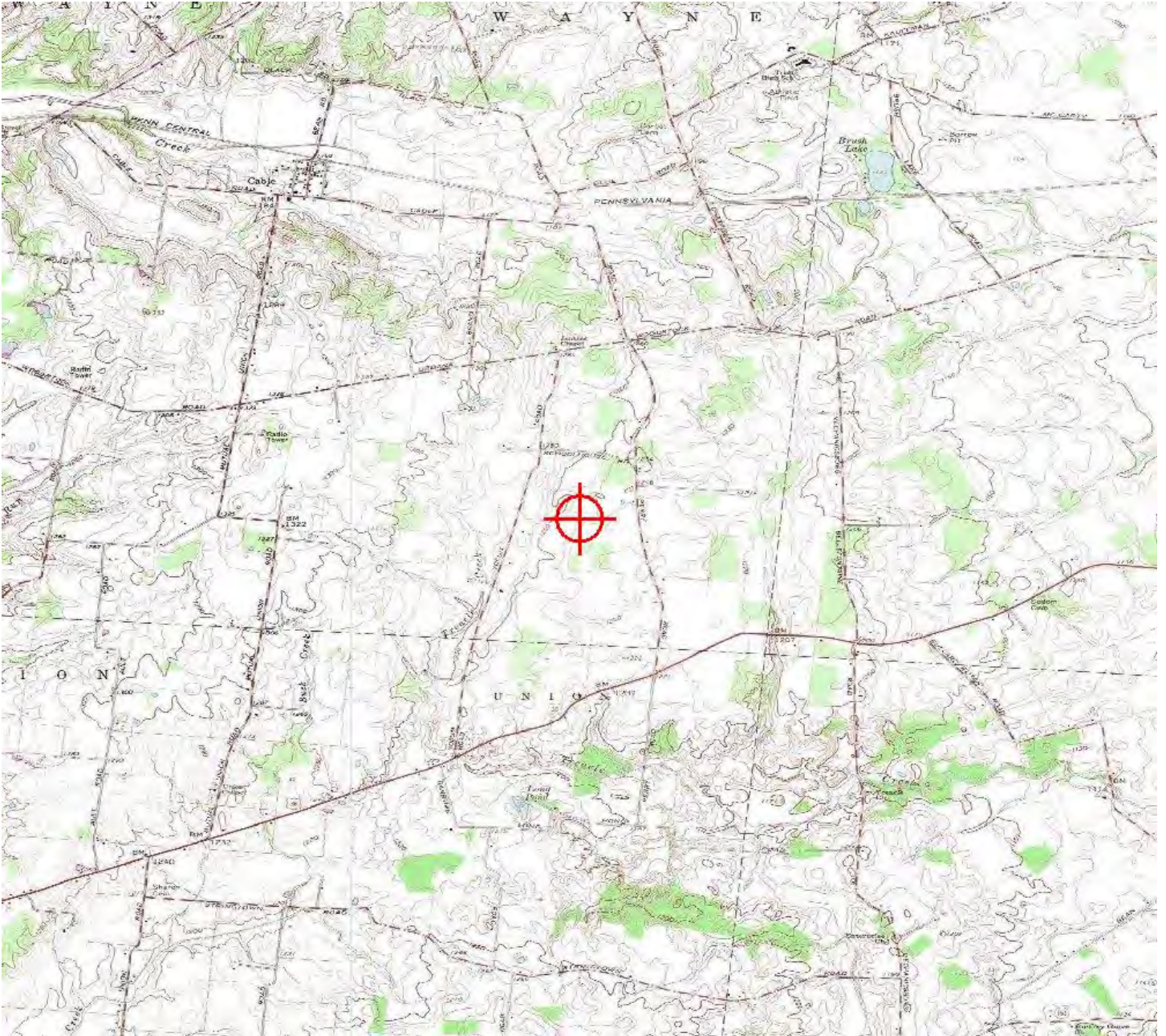
Cindy Whitten
Specialist

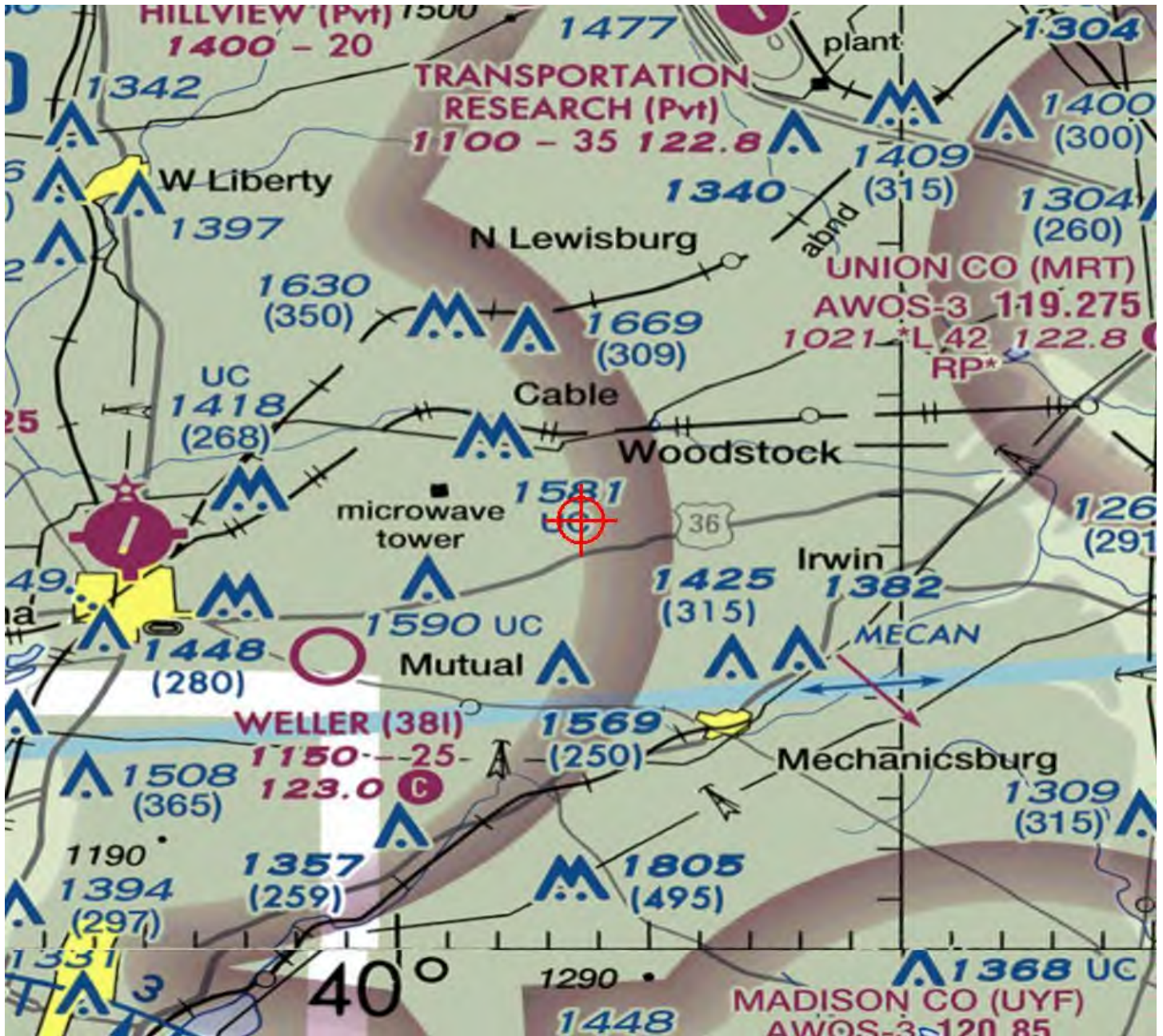
Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2014-WTE-7125-OE

Your extension is approved; all provisions from the original determination still apply.

Note: Primary Radar effects were found for this project, but those impacts were coordinated and approved by the affected air traffic control facilities at this time.







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

Aeronautical Study No.
2014-WTE-7126-OE

Issued Date: 01/06/2017

Jeff McKee
Buckeye Wind
1251 Waterfront Pl
3rd Floor
Pittsburgh, PA 15222

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine BII - 73
Location:	Urbana, OH
Latitude:	40-08-56.79N NAD 83
Longitude:	83-37-14.73W
Heights:	1303 feet site elevation (SE) 492 feet above ground level (AGL) 1795 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 07/06/2018 unless otherwise extended, revised, or terminated by this office. You must adhere to all conditions identified in the original determination.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (816) 329-2528. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-WTE-7126-OE.

Signature Control No: 238180062-314320894

Cindy Whitten
Specialist

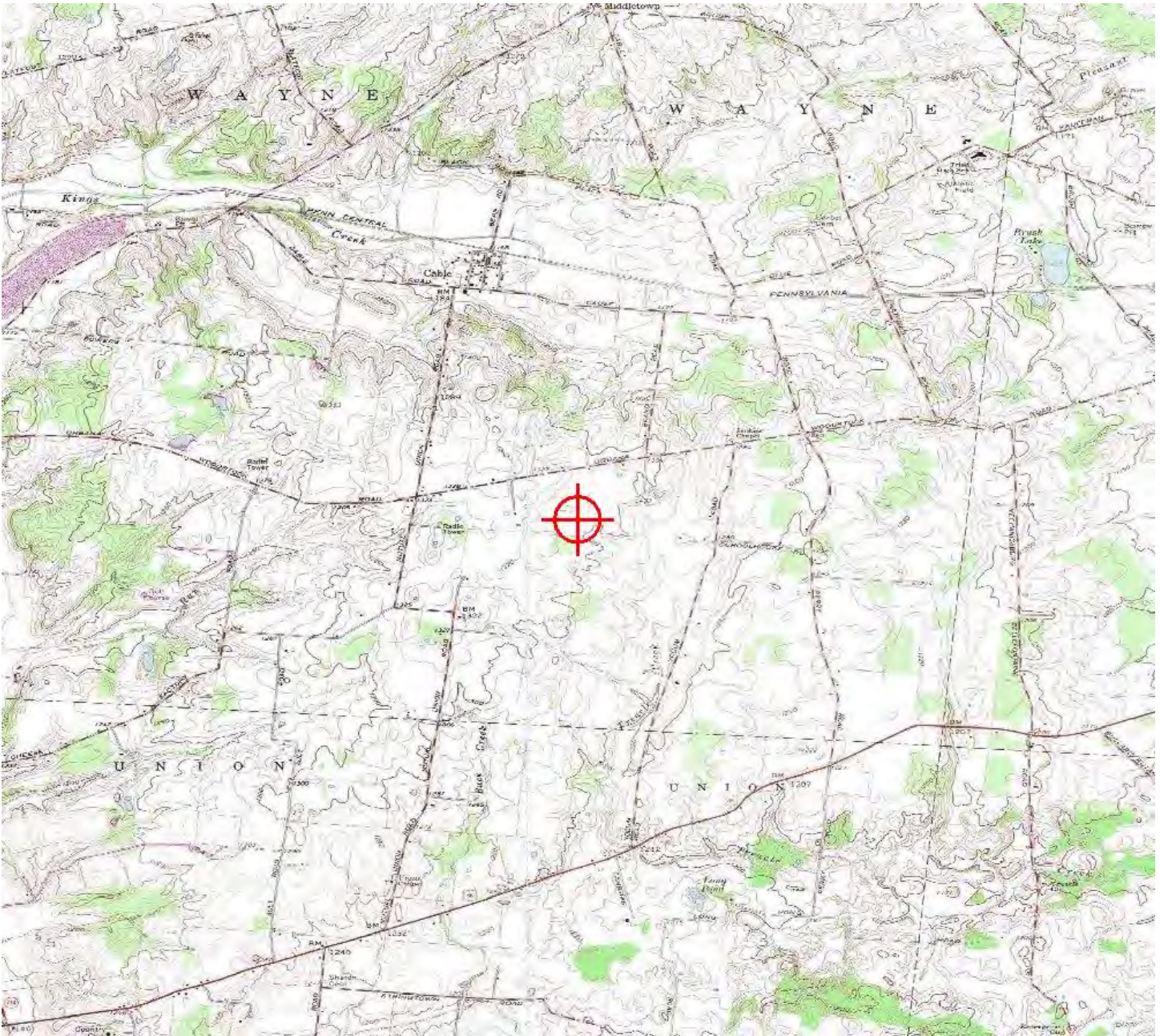
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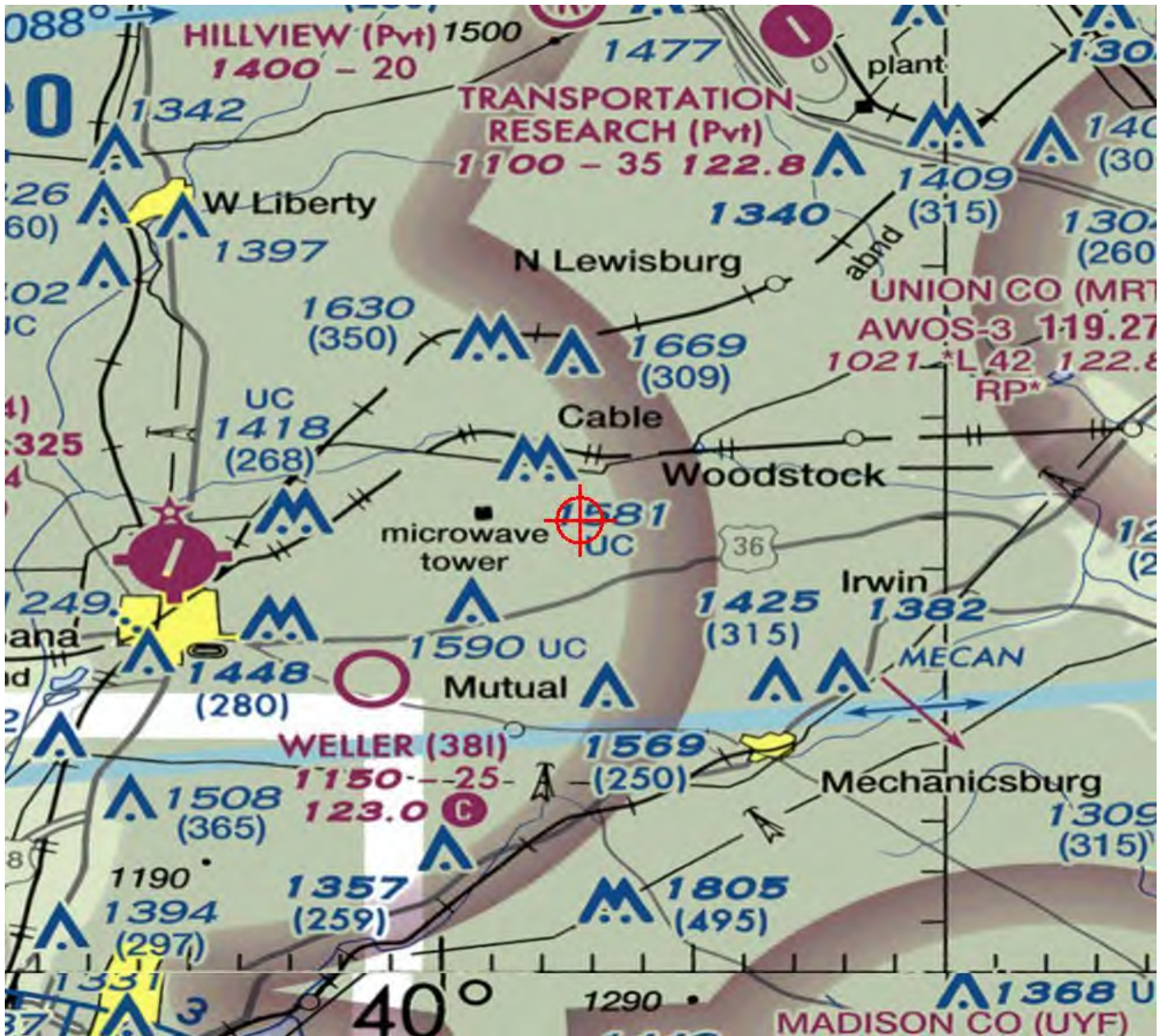
Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2014-WTE-7126-OE

Your extension is approved; all provisions from the original determination still apply.

Note: Primary Radar effects were found for this project, but those impacts were coordinated and approved by the affected air traffic control facilities at this time.







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

Aeronautical Study No.
2014-WTE-7127-OE

Issued Date: 01/06/2017

Jeff McKee
Buckeye Wind
1251 Waterfront Pl
3rd Floor
Pittsburgh, PA 15222

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine BII - 74
Location:	Urbana, OH
Latitude:	40-08-47.38N NAD 83
Longitude:	83-37-07.95W
Heights:	1291 feet site elevation (SE) 492 feet above ground level (AGL) 1783 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 07/06/2018 unless otherwise extended, revised, or terminated by this office. You must adhere to all conditions identified in the original determination.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (816) 329-2528. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-WTE-7127-OE.

Signature Control No: 238180063-314320903

(EXT -WT)

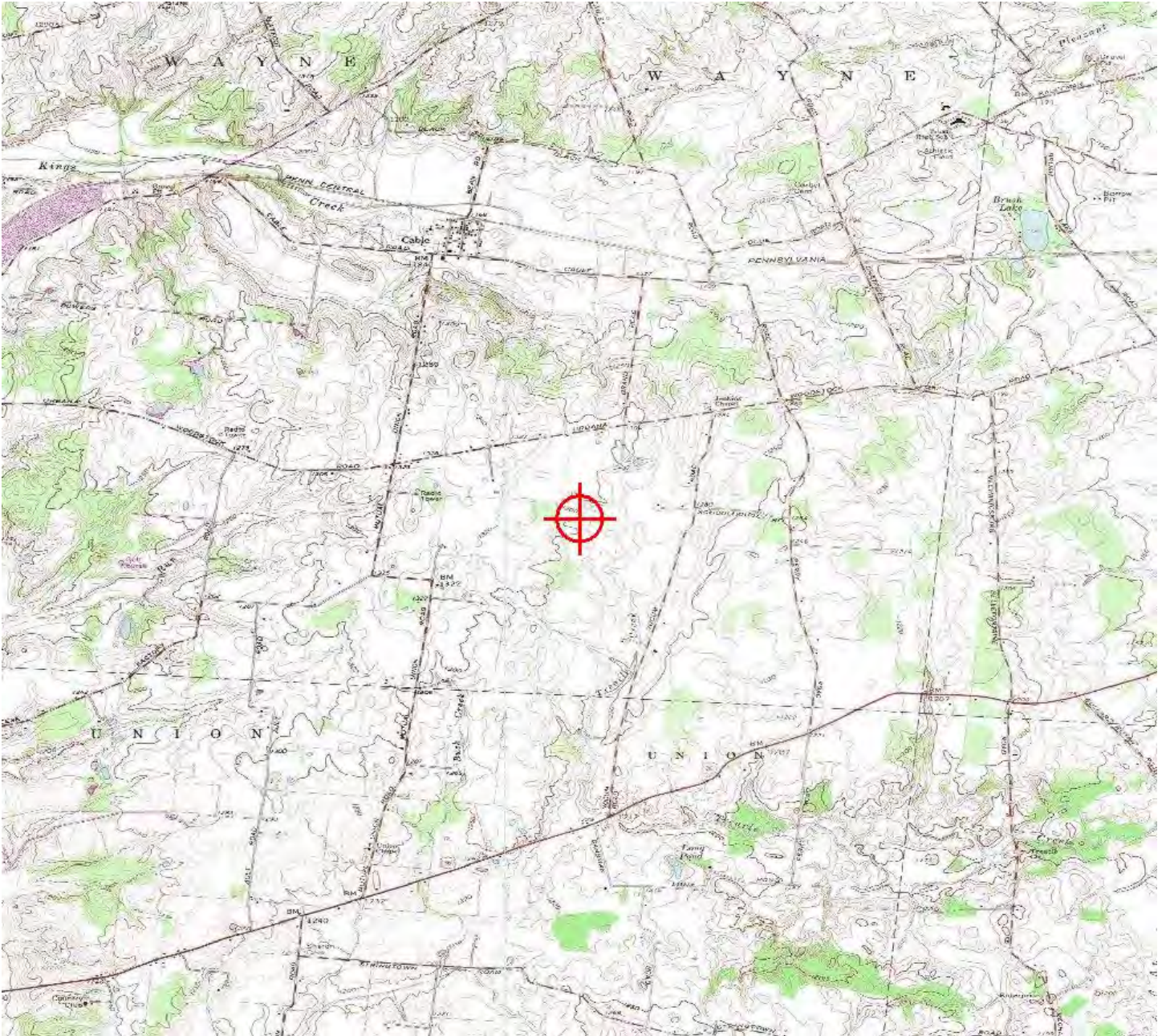
Cindy Whitten
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2014-WTE-7127-OE

Your extension is approved; all provisions from the original determination still apply.

Note: Primary Radar effects were found for this project, but those impacts were coordinated and approved by the affected air traffic control facilities at this time.





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

Aeronautical Study No.
2017-WTE-3778-OE
Prior Study No.
2014-WTE-7128-OE

Issued Date: 10/20/2017

Jeff McKee
Buckeye Wind
1251 Waterfront Pl
3rd Floor
Pittsburgh, PA 15222

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

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine BII-75
Location:	Urbana, OH
Latitude:	40-08-44.36N NAD 83
Longitude:	83-37-35.17W
Heights:	1314 feet site elevation (SE) 499 feet above ground level (AGL) 1813 feet above mean sea level (AMSL)

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

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

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

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

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

See attachment for additional condition(s) or information.

This determination expires on 04/20/2019 unless:

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

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

This determination is subject to review if an interested party files a petition that is received by the FAA on or before November 19, 2017. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager, Airspace Policy & Regulation, Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This determination becomes final on November 29, 2017 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Regulations & ATC Procedures Group via telephone -- 202-267-8783 - or facsimile 202-267-9328.

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

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

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

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

one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

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

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

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

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

If we can be of further assistance, please contact Paul Holmquist, at (425) 227-2625, or paul.holmquist@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2017-WTE-3778-OE.

Signature Control No: 333959485-347022311

(DNH -WT)

Mike Helvey

Manager, Obstruction Evaluation Group

Attachment(s)

Additional Information

Map(s)

Additional information for ASN 2017-WTE-3778-OE

Abbreviations

AGL - above ground level

AMSL - above mean sea level

RWY - runway

VFR - visual flight rules

IFR - instrument flight rules

NM - nautical mile

ASN - aeronautical study number

TPA - traffic pattern airspace

Part 77 - Title 14 Code of Federal Regulations (CFR) Part 77, Safe, Efficient Use and Preservation of the Navigable Airspace

1. LOCATION OF PROPOSED CONSTRUCTION

The entire proposed Buckeye Wind 2 wind turbine project near Urbana, OH consists of 42 turbines at 492 and 499 feet AGL. The proposed wind turbine project lies approximately between 4.0 NM to 9.4 NM east of the Airport Reference Point (ARP) for the Grimes Field Airport (I74), Urbana, OH.

For the sake of efficiency, the narrative below describes 7 of the proposed turbines that have similar impacts, the primary difference being the amount of penetration to 14 CFR Part 77 standards. Separate determinations for each turbine will be made issued and are available on our website at <http://oeaaa.faa.gov>.

ASN (degrees)	AGL/AMSL (feet)	Latitude/Longitude	Distance From I74 (NM)/Azimuth
2017-WTE-3778-OE	499/1813	40-08-44.36N/83-37-35.17W	5.93/082.2
2017-WTE-3779-OE	499/1781	40-08-04.24N/83-38-31.04W	5.16/088.5
2017-WTE-3780-OE	499/1693	40-08-12.19N/83-39-46.81W	4.20/086.4
2017-WTE-3781-OE	499/1808	40-08-17.25N/83-38-13.51W	5.39/086.3
2017-WTE-3782-OE	499/1814	40-08-08.59N/83-38-03.83W	5.51/087.9
2017-WTE-3783-OE	499/1766	40-07-58.19N/83-39-05.66W	4.72/089.6
2017-WTE-3784-OE	499/1658	40-08-46.57N/83-40-07.85W	4.01/077.9

2. OBSTRUCTION STANDARDS EXCEEDED

The 7 proposed turbines would exceed 14 CFR Part 77 standards as described below.

Section 77.17(a)(2): A height Above Ground Level (AGL) or airport elevation, whichever is higher, exceeding a height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 nautical miles of the established reference point of an airport, excluding heliports, with its longest Runway (RWY) more than 3,200 feet in actual length, and that height increases in the proportion of 100 feet for each additional nautical mile from the airport up to a maximum of 499 feet.

ASN	Exceeds I74 Section 77.17(a)(2) By (feet)
2017-WTE-3778-OE	7
2017-WTE-3779-OE	83
2017-WTE-3780-OE	180
2017-WTE-3781-OE	60
2017-WTE-3782-OE	48
2017-WTE-3783-OE	128
2017-WTE-3784-OE	199

3. EFFECT ON AERONAUTICAL OPERATIONS

a. The impact on arrival, departure, and en route procedures for aircraft operating under VFR: The structures would exceed 14 CFR Part 77 standards described in Part 77 Section 77.17(a)(2) for I74 by the following values:

ASN	Exceeds Section 77.17(a)(2) By (feet)
2017-WTE-3778-OE	7
2017-WTE-3779-OE	83
2017-WTE-3780-OE	180
2017-WTE-3781-OE	60
2017-WTE-3782-OE	48
2017-WTE-3783-OE	128
2017-WTE-3784-OE	199

There are no effects on the VFR traffic pattern. The proposed 7 turbines lie within the lateral boundaries and penetrate category D traffic pattern airspace for RWY 09/27 at Weller Airport (38I). Two turbines, studied under ASNs 2017-WTE-3780-OE and 2017-WTE-3784-OE, also penetrate the category D traffic pattern airspace for RWYs 02/20 and 01/19 at I74. Category D aircraft are those aircraft with an approach speed of between 141-165 knots. Internal FAA evaluation found the proposed turbine(s) are located outside the VFR traffic pattern airspace for all categories of aircraft that use I74 and 38I.

There are no effects on any existing or proposed arrival, departure, or en route IFR minimum flight altitudes. There are no physical or electromagnetic effects on the operation of air navigation and communications facilities.

There are no effects on any airspace and routes used by the military.

b. The impact on arrival, departure, and en route procedures for aircraft operating under IFR: None.

c. The impact on all planned public-use airports and aeronautical facilities: None.

d. The cumulative impact resulting from the proposed construction or alteration of a structure when combined with the impact of other existing or proposed structures: None.

The I74 Airport Master Record can be viewed/downloaded <http://www.gcr1.com/5010web/airport.cfm?Site=I74> . It states there are 33 single-engine, 10 multi-engine, 0 jet and 1 helicopter and 4 ultra-light aircraft based there with 23,480 operations for the 12 months ending 3 September, 2016 (latest information).

The Weller Airport (38I) Airport Master Record can be viewed/downloaded <http://www.gcr1.com/5010web/airport.cfm?Site=38I> . It states there are 0 single-engine, 0 multi-engine, 0 jet and 0 helicopter and 0 ultra-light aircraft based there with 300 operations for the 12 months ending 3 September, 2016 (latest information).

4. CIRCULATION AND COMMENTS RECEIVED

The proposal was not circularized to the public for comments, as circularization is not required for structures that would exceed the above-cited standard and would be located outside traffic pattern airspace. The proposed turbine(s) are located outside the VFR traffic pattern airspace for all categories of aircraft that use I74 and 38I.

This policy does not affect the public's right to petition for review determinations regarding structures, which exceed the subject obstruction standards.

5. DETERMINATION - NO HAZARD TO AIR NAVIGATION

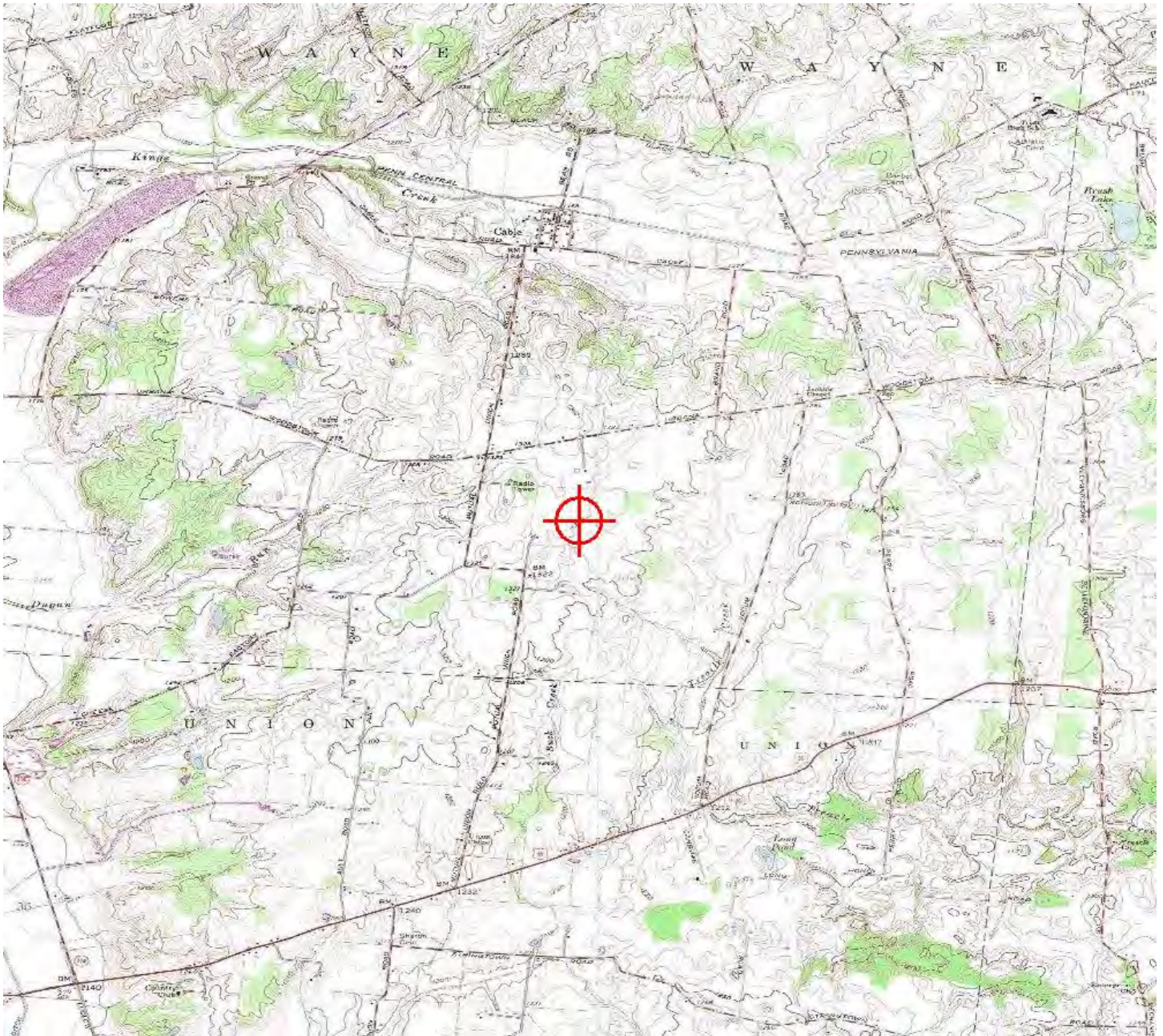
It is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation provided the conditions set forth within this determination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

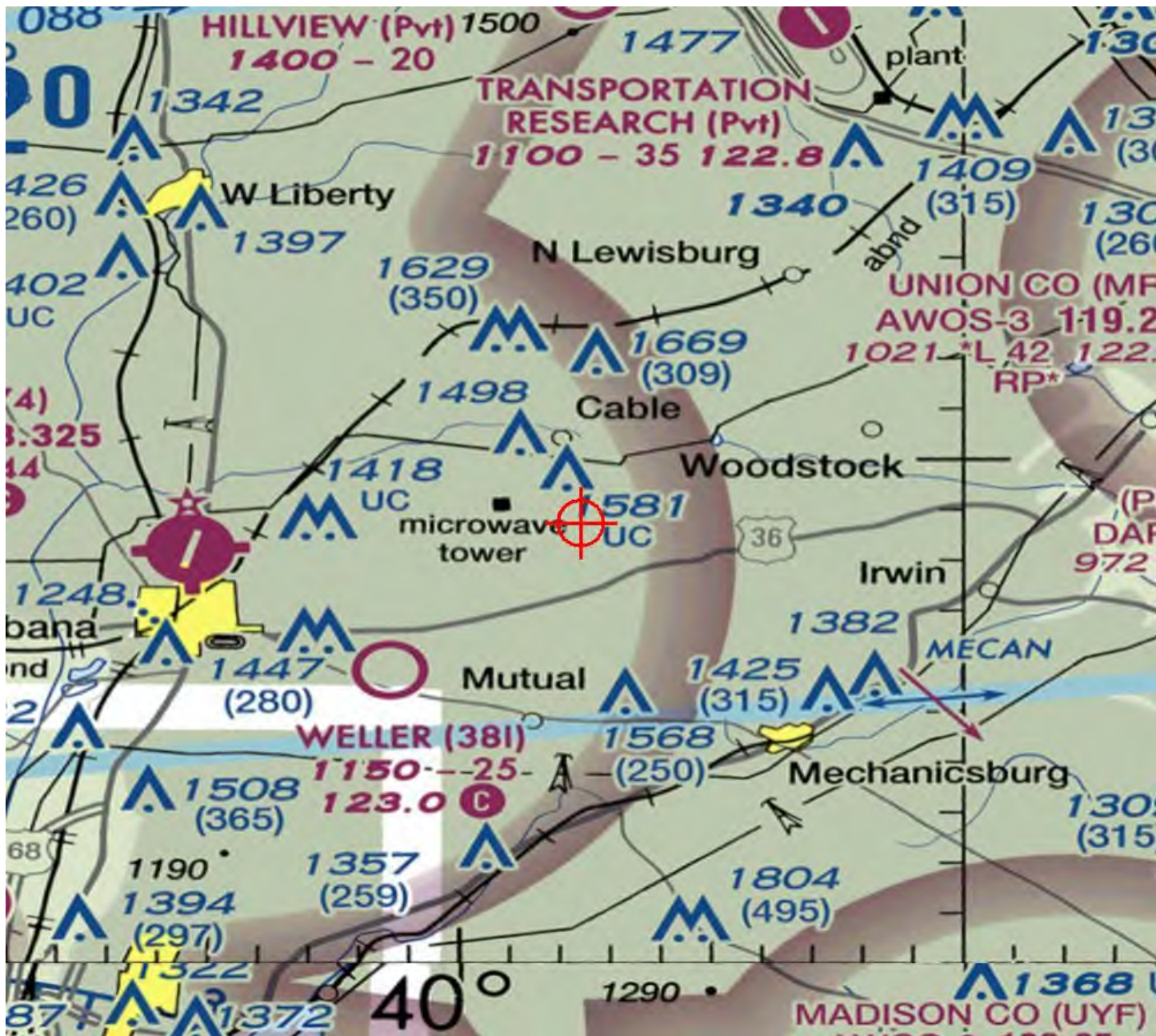
6. BASIS FOR DECISION

Study for possible VFR effect disclosed that the proposed structure would have no effect on any existing or proposed arrival or departure VFR operations or procedures. At 499 feet AGL, the proposed structures would not have a substantial adverse effect on VFR en route flight operations. FAA evaluation found the proposed turbine(s) are located outside the VFR traffic pattern airspace for all categories of aircraft that use I74 and 38I. No other VFR issues could be identified and there are no IFR effects.

The proposed structures must be appropriately obstruction marked and/or lighted to make them more conspicuous to airmen.

NOTE: A recommendation for white paint/synchronized red lights will be made for all turbines until such time as the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height. At that time, the proponent may contact this office and request a re-evaluation of the marking and lighting recommendations for the turbines within this project and a portion of the turbines may qualify for the removal of the lighting recommendation.







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

Aeronautical Study No.
2014-WTE-7129-OE

Issued Date: 01/06/2017

Jeff McKee
Buckeye Wind
1251 Waterfront Pl
3rd Floor
Pittsburgh, PA 15222

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine BII - 76
Location:	Urbana, OH
Latitude:	40-08-35.24N NAD 83
Longitude:	83-37-29.75W
Heights:	1306 feet site elevation (SE) 492 feet above ground level (AGL) 1798 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 07/06/2018 unless otherwise extended, revised, or terminated by this office. You must adhere to all conditions identified in the original determination.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (816) 329-2528. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-WTE-7129-OE.

Signature Control No: 238180065-314320898

(EXT -WT)

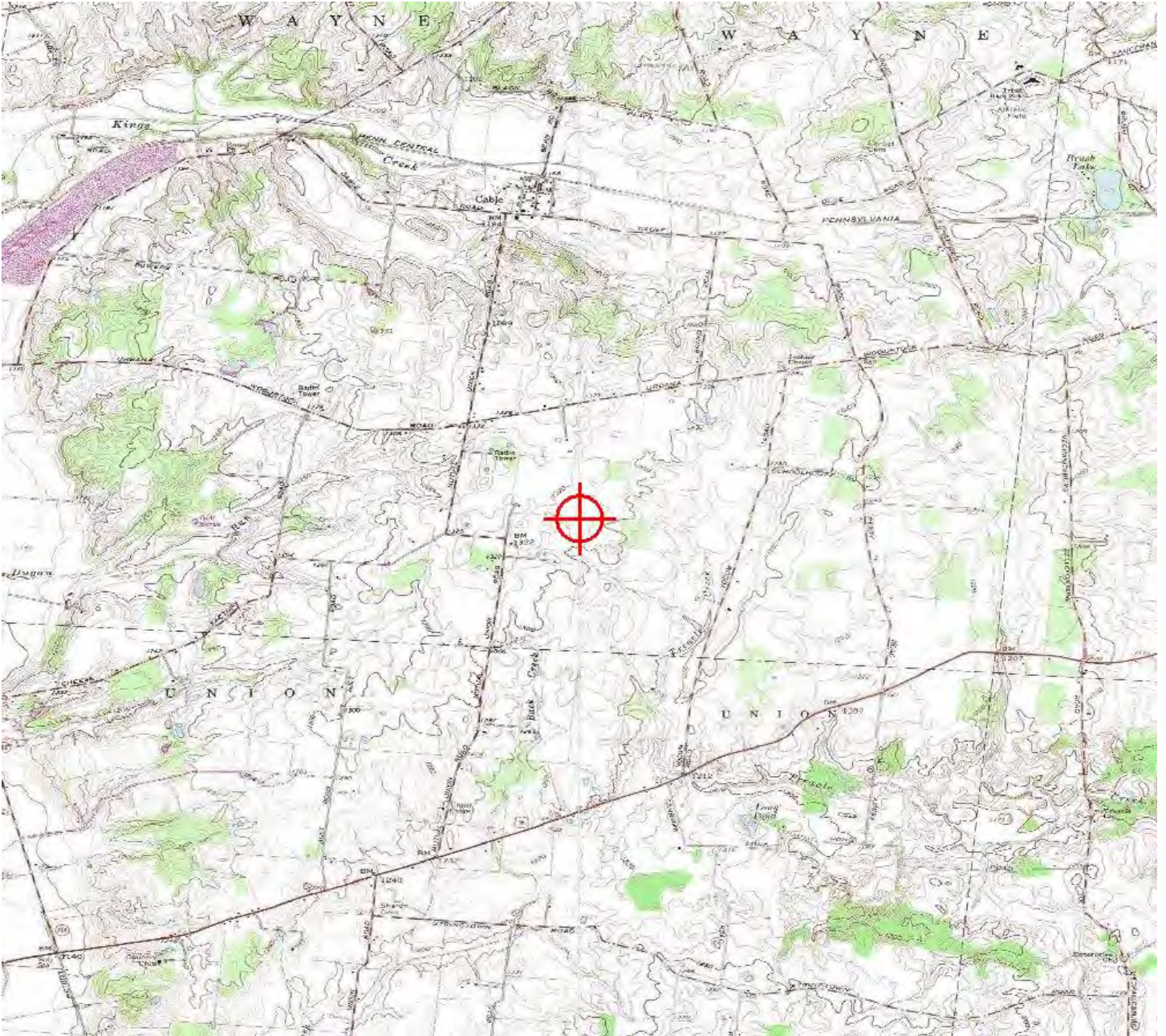
Cindy Whitten
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2014-WTE-7129-OE

Your extension is approved; all provisions from the original determination still apply.

Note: Primary Radar effects were found for this project, but those impacts were coordinated and approved by the affected air traffic control facilities at this time.







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

Aeronautical Study No.
2014-WTE-7130-OE

Issued Date: 01/06/2017

Jeff McKee
Buckeye Wind
1251 Waterfront Pl
3rd Floor
Pittsburgh, PA 15222

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine BII - 77
Location:	Urbana, OH
Latitude:	40-08-26.17N NAD 83
Longitude:	83-37-22.39W
Heights:	1306 feet site elevation (SE) 492 feet above ground level (AGL) 1798 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 07/06/2018 unless otherwise extended, revised, or terminated by this office. You must adhere to all conditions identified in the original determination.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (816) 329-2528. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-WTE-7130-OE.

Signature Control No: 238180068-314320906
Cindy Whitten
Specialist

(EXT -WT)

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2014-WTE-7130-OE

Your extension is approved; all provisions from the original determination still apply.

Note: Primary Radar effects were found for this project, but those impacts were coordinated and approved by the affected air traffic control facilities at this time.







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

Aeronautical Study No.
2017-WTE-3779-OE
Prior Study No.
2014-WTE-7134-OE

Issued Date: 10/20/2017

Jeff McKee
Buckeye Wind
1251 Waterfront Pl
3rd Floor
Pittsburgh, PA 15222

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

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine BII-81
Location:	Urbana, OH
Latitude:	40-08-04.24N NAD 83
Longitude:	83-38-31.04W
Heights:	1282 feet site elevation (SE) 499 feet above ground level (AGL) 1781 feet above mean sea level (AMSL)

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

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

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

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

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

See attachment for additional condition(s) or information.

This determination expires on 04/20/2019 unless:

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

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

This determination is subject to review if an interested party files a petition that is received by the FAA on or before November 19, 2017. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager, Airspace Policy & Regulation, Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This determination becomes final on November 29, 2017 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Regulations & ATC Procedures Group via telephone -- 202-267-8783 - or facsimile 202-267-9328.

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

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

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

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

one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

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

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

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

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

If we can be of further assistance, please contact Paul Holmquist, at (425) 227-2625, or paul.holmquist@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2017-WTE-3779-OE.

Signature Control No: 333959486-347022307

(DNH -WT)

Mike Helvey

Manager, Obstruction Evaluation Group

Attachment(s)

Additional Information

Map(s)

Additional information for ASN 2017-WTE-3779-OE

Abbreviations

AGL - above ground level

AMSL - above mean sea level

RWY - runway

VFR - visual flight rules

IFR - instrument flight rules

NM - nautical mile

ASN - aeronautical study number

TPA - traffic pattern airspace

Part 77 - Title 14 Code of Federal Regulations (CFR) Part 77, Safe, Efficient Use and Preservation of the Navigable Airspace

1. LOCATION OF PROPOSED CONSTRUCTION

The entire proposed Buckeye Wind 2 wind turbine project near Urbana, OH consists of 42 turbines at 492 and 499 feet AGL. The proposed wind turbine project lies approximately between 4.0 NM to 9.4 NM east of the Airport Reference Point (ARP) for the Grimes Field Airport (I74), Urbana, OH.

For the sake of efficiency, the narrative below describes 7 of the proposed turbines that have similar impacts, the primary difference being the amount of penetration to 14 CFR Part 77 standards. Separate determinations for each turbine will be made issued and are available on our website at <http://oeaaa.faa.gov>.

ASN (degrees)	AGL/AMSL (feet)	Latitude/Longitude	Distance From I74 (NM)/Azimuth
2017-WTE-3778-OE	499/1813	40-08-44.36N/83-37-35.17W	5.93/082.2
2017-WTE-3779-OE	499/1781	40-08-04.24N/83-38-31.04W	5.16/088.5
2017-WTE-3780-OE	499/1693	40-08-12.19N/83-39-46.81W	4.20/086.4
2017-WTE-3781-OE	499/1808	40-08-17.25N/83-38-13.51W	5.39/086.3
2017-WTE-3782-OE	499/1814	40-08-08.59N/83-38-03.83W	5.51/087.9
2017-WTE-3783-OE	499/1766	40-07-58.19N/83-39-05.66W	4.72/089.6
2017-WTE-3784-OE	499/1658	40-08-46.57N/83-40-07.85W	4.01/077.9

2. OBSTRUCTION STANDARDS EXCEEDED

The 7 proposed turbines would exceed 14 CFR Part 77 standards as described below.

Section 77.17(a)(2): A height Above Ground Level (AGL) or airport elevation, whichever is higher, exceeding a height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 nautical miles of the established reference point of an airport, excluding heliports, with its longest Runway (RWY) more than 3,200 feet in actual length, and that height increases in the proportion of 100 feet for each additional nautical mile from the airport up to a maximum of 499 feet.

ASN	Exceeds I74 Section 77.17(a)(2) By (feet)
2017-WTE-3778-OE	7
2017-WTE-3779-OE	83
2017-WTE-3780-OE	180
2017-WTE-3781-OE	60
2017-WTE-3782-OE	48
2017-WTE-3783-OE	128
2017-WTE-3784-OE	199

3. EFFECT ON AERONAUTICAL OPERATIONS

a. The impact on arrival, departure, and en route procedures for aircraft operating under VFR: The structures would exceed 14 CFR Part 77 standards described in Part 77 Section 77.17(a)(2) for I74 by the following values:

ASN	Exceeds Section 77.17(a)(2) By (feet)
2017-WTE-3778-OE	7
2017-WTE-3779-OE	83
2017-WTE-3780-OE	180
2017-WTE-3781-OE	60
2017-WTE-3782-OE	48
2017-WTE-3783-OE	128
2017-WTE-3784-OE	199

There are no effects on the VFR traffic pattern. The proposed 7 turbines lie within the lateral boundaries and penetrate category D traffic pattern airspace for RWY 09/27 at Weller Airport (38I). Two turbines, studied under ASNs 2017-WTE-3780-OE and 2017-WTE-3784-OE, also penetrate the category D traffic pattern airspace for RWYs 02/20 and 01/19 at I74. Category D aircraft are those aircraft with an approach speed of between 141-165 knots. Internal FAA evaluation found the proposed turbine(s) are located outside the VFR traffic pattern airspace for all categories of aircraft that use I74 and 38I.

There are no effects on any existing or proposed arrival, departure, or en route IFR minimum flight altitudes. There are no physical or electromagnetic effects on the operation of air navigation and communications facilities.

There are no effects on any airspace and routes used by the military.

b. The impact on arrival, departure, and en route procedures for aircraft operating under IFR: None.

c. The impact on all planned public-use airports and aeronautical facilities: None.

d. The cumulative impact resulting from the proposed construction or alteration of a structure when combined with the impact of other existing or proposed structures: None.

The I74 Airport Master Record can be viewed/downloaded <http://www.gcr1.com/5010web/airport.cfm?Site=I74> . It states there are 33 single-engine, 10 multi-engine, 0 jet and 1 helicopter and 4 ultra-light aircraft based there with 23,480 operations for the 12 months ending 3 September, 2016 (latest information).

The Weller Airport (38I) Airport Master Record can be viewed/downloaded <http://www.gcr1.com/5010web/airport.cfm?Site=38I> . It states there are 0 single-engine, 0 multi-engine, 0 jet and 0 helicopter and 0 ultra-light aircraft based there with 300 operations for the 12 months ending 3 September, 2016 (latest information).

4. CIRCULATION AND COMMENTS RECEIVED

The proposal was not circularized to the public for comments, as circularization is not required for structures that would exceed the above-cited standard and would be located outside traffic pattern airspace. The proposed turbine(s) are located outside the VFR traffic pattern airspace for all categories of aircraft that use I74 and 38I.

This policy does not affect the public's right to petition for review determinations regarding structures, which exceed the subject obstruction standards.

5. DETERMINATION - NO HAZARD TO AIR NAVIGATION

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

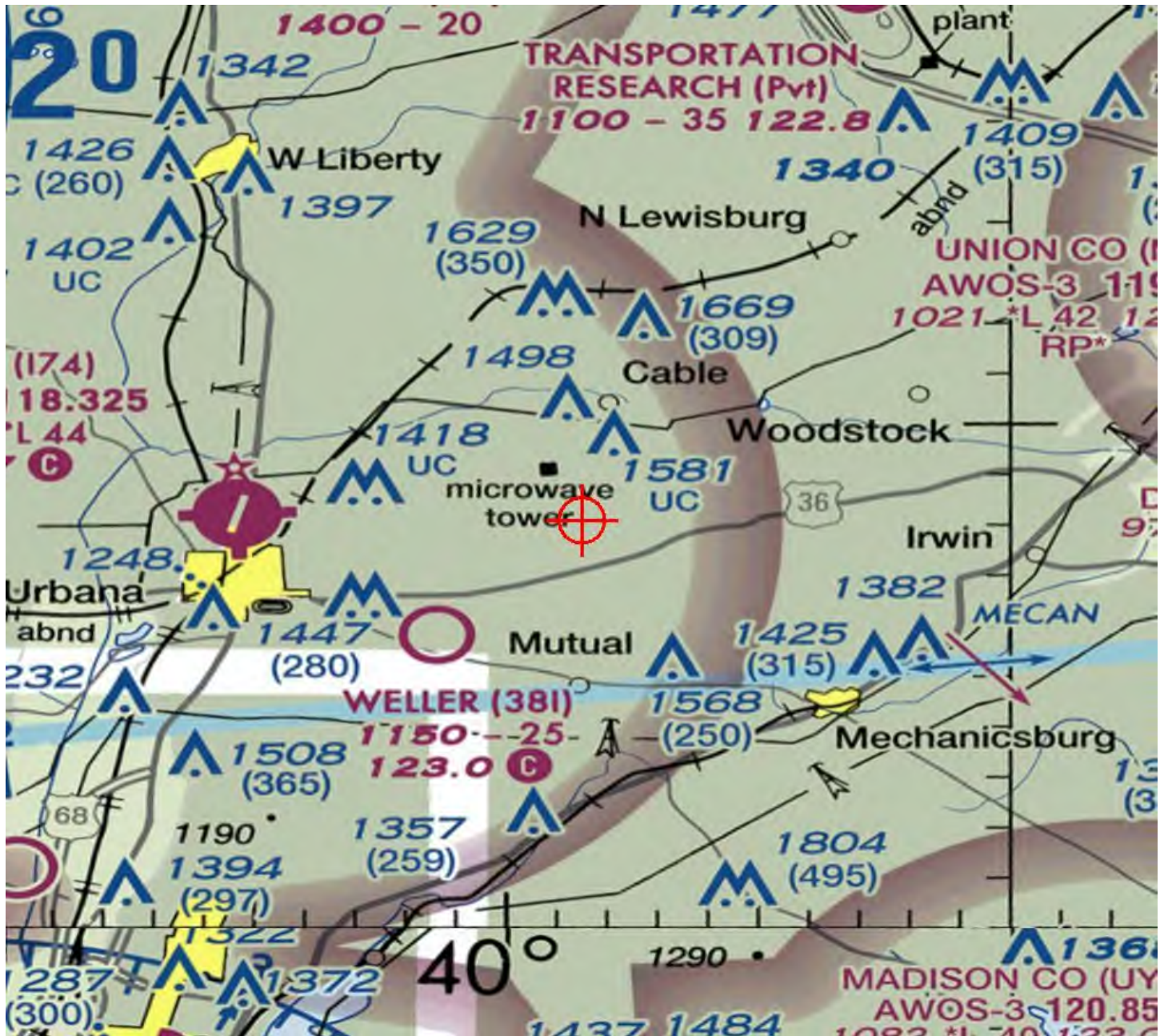
6. BASIS FOR DECISION

Study for possible VFR effect disclosed that the proposed structure would have no effect on any existing or proposed arrival or departure VFR operations or procedures. At 499 feet AGL, the proposed structures would not have a substantial adverse effect on VFR en route flight operations. FAA evaluation found the proposed turbine(s) are located outside the VFR traffic pattern airspace for all categories of aircraft that use I74 and 38I. No other VFR issues could be identified and there are no IFR effects.

The proposed structures must be appropriately obstruction marked and/or lighted to make them more conspicuous to airmen.

NOTE: A recommendation for white paint/synchronized red lights will be made for all turbines until such time as the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height. At that time, the proponent may contact this office and request a re-evaluation of the marking and lighting recommendations for the turbines within this project and a portion of the turbines may qualify for the removal of the lighting recommendation.







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

Aeronautical Study No.
2017-WTE-3780-OE
Prior Study No.
2014-WTE-7140-OE

Issued Date: 10/20/2017

Jeff McKee
Buckeye Wind
1251 Waterfront Pl
3rd Floor
Pittsburgh, PA 15222

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

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine BII-87
Location:	Urbana, OH
Latitude:	40-08-12.19N NAD 83
Longitude:	83-39-46.81W
Heights:	1194 feet site elevation (SE) 499 feet above ground level (AGL) 1693 feet above mean sea level (AMSL)

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

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

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

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

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

See attachment for additional condition(s) or information.

This determination expires on 04/20/2019 unless:

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

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

This determination is subject to review if an interested party files a petition that is received by the FAA on or before November 19, 2017. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager, Airspace Policy & Regulation, Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This determination becomes final on November 29, 2017 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Regulations & ATC Procedures Group via telephone -- 202-267-8783 - or facsimile 202-267-9328.

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

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

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

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

one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

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

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

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

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

If we can be of further assistance, please contact Paul Holmquist, at (425) 227-2625, or paul.holmquist@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2017-WTE-3780-OE.

Signature Control No: 333959487-347022312

(DNH -WT)

Mike Helvey

Manager, Obstruction Evaluation Group

Attachment(s)

Additional Information

Map(s)

Additional information for ASN 2017-WTE-3780-OE

Abbreviations

AGL - above ground level

AMSL - above mean sea level

RWY - runway

VFR - visual flight rules

IFR - instrument flight rules

NM - nautical mile

ASN - aeronautical study number

TPA - traffic pattern airspace

Part 77 - Title 14 Code of Federal Regulations (CFR) Part 77, Safe, Efficient Use and Preservation of the Navigable Airspace

1. LOCATION OF PROPOSED CONSTRUCTION

The entire proposed Buckeye Wind 2 wind turbine project near Urbana, OH consists of 42 turbines at 492 and 499 feet AGL. The proposed wind turbine project lies approximately between 4.0 NM to 9.4 NM east of the Airport Reference Point (ARP) for the Grimes Field Airport (I74), Urbana, OH.

For the sake of efficiency, the narrative below describes 7 of the proposed turbines that have similar impacts, the primary difference being the amount of penetration to 14 CFR Part 77 standards. Separate determinations for each turbine will be made issued and are available on our website at <http://oeaaa.faa.gov>.

ASN (degrees)	AGL/AMSL (feet)	Latitude/Longitude	Distance From I74 (NM)/Azimuth
2017-WTE-3778-OE	499/1813	40-08-44.36N/83-37-35.17W	5.93/082.2
2017-WTE-3779-OE	499/1781	40-08-04.24N/83-38-31.04W	5.16/088.5
2017-WTE-3780-OE	499/1693	40-08-12.19N/83-39-46.81W	4.20/086.4
2017-WTE-3781-OE	499/1808	40-08-17.25N/83-38-13.51W	5.39/086.3
2017-WTE-3782-OE	499/1814	40-08-08.59N/83-38-03.83W	5.51/087.9
2017-WTE-3783-OE	499/1766	40-07-58.19N/83-39-05.66W	4.72/089.6
2017-WTE-3784-OE	499/1658	40-08-46.57N/83-40-07.85W	4.01/077.9

2. OBSTRUCTION STANDARDS EXCEEDED

The 7 proposed turbines would exceed 14 CFR Part 77 standards as described below.

Section 77.17(a)(2): A height Above Ground Level (AGL) or airport elevation, whichever is higher, exceeding a height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 nautical miles of the established reference point of an airport, excluding heliports, with its longest Runway (RWY) more than 3,200 feet in actual length, and that height increases in the proportion of 100 feet for each additional nautical mile from the airport up to a maximum of 499 feet.

ASN	Exceeds I74 Section 77.17(a)(2) By (feet)
2017-WTE-3778-OE	7
2017-WTE-3779-OE	83
2017-WTE-3780-OE	180
2017-WTE-3781-OE	60
2017-WTE-3782-OE	48
2017-WTE-3783-OE	128
2017-WTE-3784-OE	199

3. EFFECT ON AERONAUTICAL OPERATIONS

a. The impact on arrival, departure, and en route procedures for aircraft operating under VFR: The structures would exceed 14 CFR Part 77 standards described in Part 77 Section 77.17(a)(2) for I74 by the following values:

ASN	Exceeds Section 77.17(a)(2) By (feet)
2017-WTE-3778-OE	7
2017-WTE-3779-OE	83
2017-WTE-3780-OE	180
2017-WTE-3781-OE	60
2017-WTE-3782-OE	48
2017-WTE-3783-OE	128
2017-WTE-3784-OE	199

There are no effects on the VFR traffic pattern. The proposed 7 turbines lie within the lateral boundaries and penetrate category D traffic pattern airspace for RWY 09/27 at Weller Airport (38I). Two turbines, studied under ASNs 2017-WTE-3780-OE and 2017-WTE-3784-OE, also penetrate the category D traffic pattern airspace for RWYs 02/20 and 01/19 at I74. Category D aircraft are those aircraft with an approach speed of between 141-165 knots. Internal FAA evaluation found the proposed turbine(s) are located outside the VFR traffic pattern airspace for all categories of aircraft that use I74 and 38I.

There are no effects on any existing or proposed arrival, departure, or en route IFR minimum flight altitudes. There are no physical or electromagnetic effects on the operation of air navigation and communications facilities.

There are no effects on any airspace and routes used by the military.

b. The impact on arrival, departure, and en route procedures for aircraft operating under IFR: None.

c. The impact on all planned public-use airports and aeronautical facilities: None.

d. The cumulative impact resulting from the proposed construction or alteration of a structure when combined with the impact of other existing or proposed structures: None.

The I74 Airport Master Record can be viewed/downloaded <http://www.gcr1.com/5010web/airport.cfm?Site=I74> . It states there are 33 single-engine, 10 multi-engine, 0 jet and 1 helicopter and 4 ultra-light aircraft based there with 23,480 operations for the 12 months ending 3 September, 2016 (latest information).

The Weller Airport (38I) Airport Master Record can be viewed/downloaded <http://www.gcr1.com/5010web/airport.cfm?Site=38I> . It states there are 0 single-engine, 0 multi-engine, 0 jet and 0 helicopter and 0 ultra-light aircraft based there with 300 operations for the 12 months ending 3 September, 2016 (latest information).

4. CIRCULATION AND COMMENTS RECEIVED

The proposal was not circularized to the public for comments, as circularization is not required for structures that would exceed the above-cited standard and would be located outside traffic pattern airspace. The proposed turbine(s) are located outside the VFR traffic pattern airspace for all categories of aircraft that use I74 and 38I.

This policy does not affect the public's right to petition for review determinations regarding structures, which exceed the subject obstruction standards.

5. DETERMINATION - NO HAZARD TO AIR NAVIGATION

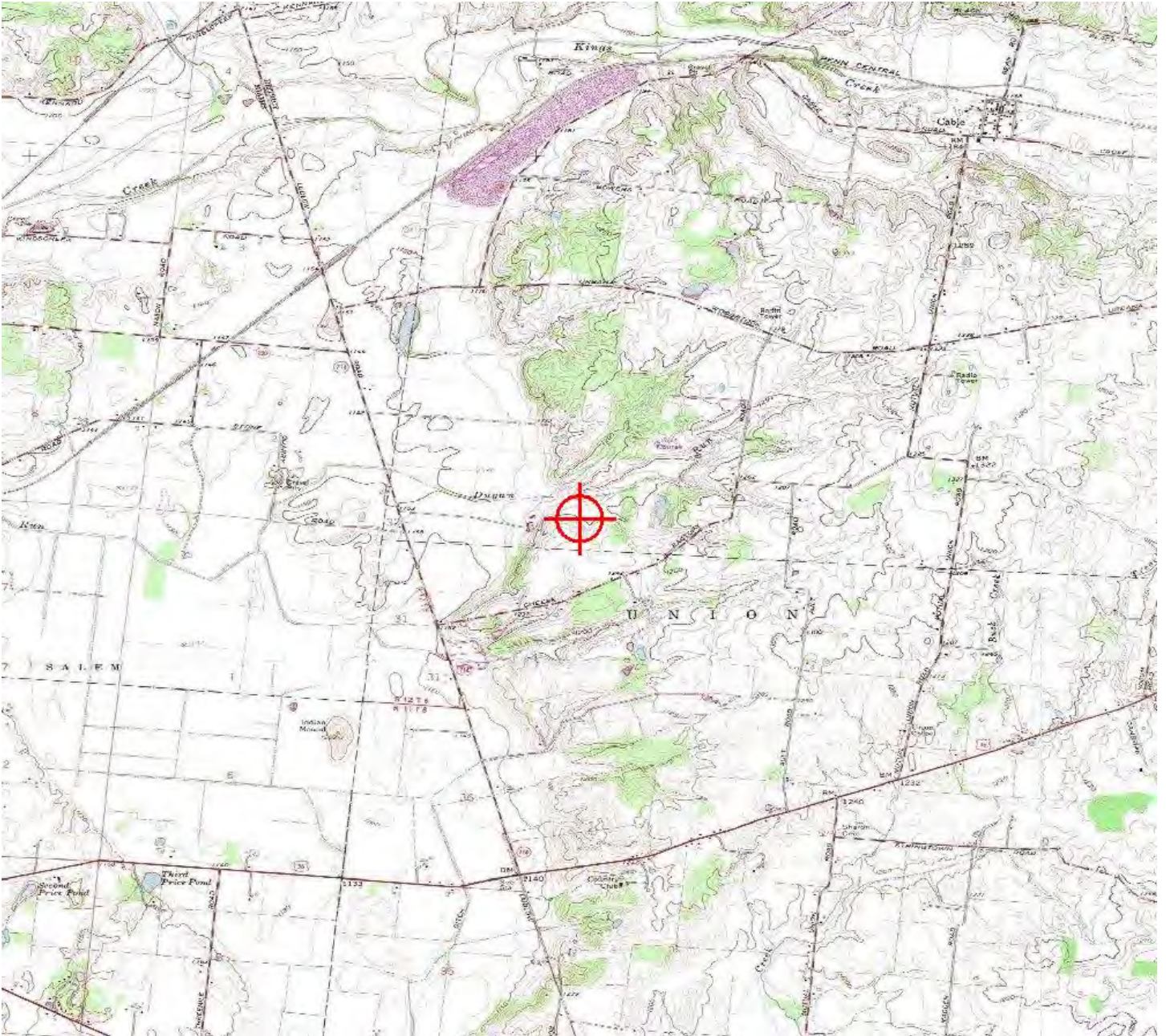
It is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation provided the conditions set forth within this determination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

6. BASIS FOR DECISION

Study for possible VFR effect disclosed that the proposed structure would have no effect on any existing or proposed arrival or departure VFR operations or procedures. At 499 feet AGL, the proposed structures would not have a substantial adverse effect on VFR en route flight operations. FAA evaluation found the proposed turbine(s) are located outside the VFR traffic pattern airspace for all categories of aircraft that use I74 and 38I. No other VFR issues could be identified and there are no IFR effects.

The proposed structures must be appropriately obstruction marked and/or lighted to make them more conspicuous to airmen.

NOTE: A recommendation for white paint/synchronized red lights will be made for all turbines until such time as the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height. At that time, the proponent may contact this office and request a re-evaluation of the marking and lighting recommendations for the turbines within this project and a portion of the turbines may qualify for the removal of the lighting recommendation.





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

Aeronautical Study No.
2014-WTE-7144-OE

Issued Date: 01/06/2017

Jeff McKee
Buckeye Wind
1251 Waterfront Pl
3rd Floor
Pittsburgh, PA 15222

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine BII - 91
Location:	Urbana, OH
Latitude:	40-06-47.68N NAD 83
Longitude:	83-33-35.71W
Heights:	1120 feet site elevation (SE) 492 feet above ground level (AGL) 1612 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 07/06/2018 unless otherwise extended, revised, or terminated by this office. You must adhere to all conditions identified in the original determination.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (816) 329-2528. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-WTE-7144-OE.

Signature Control No: 238180090-314320901
Cindy Whitten
Specialist

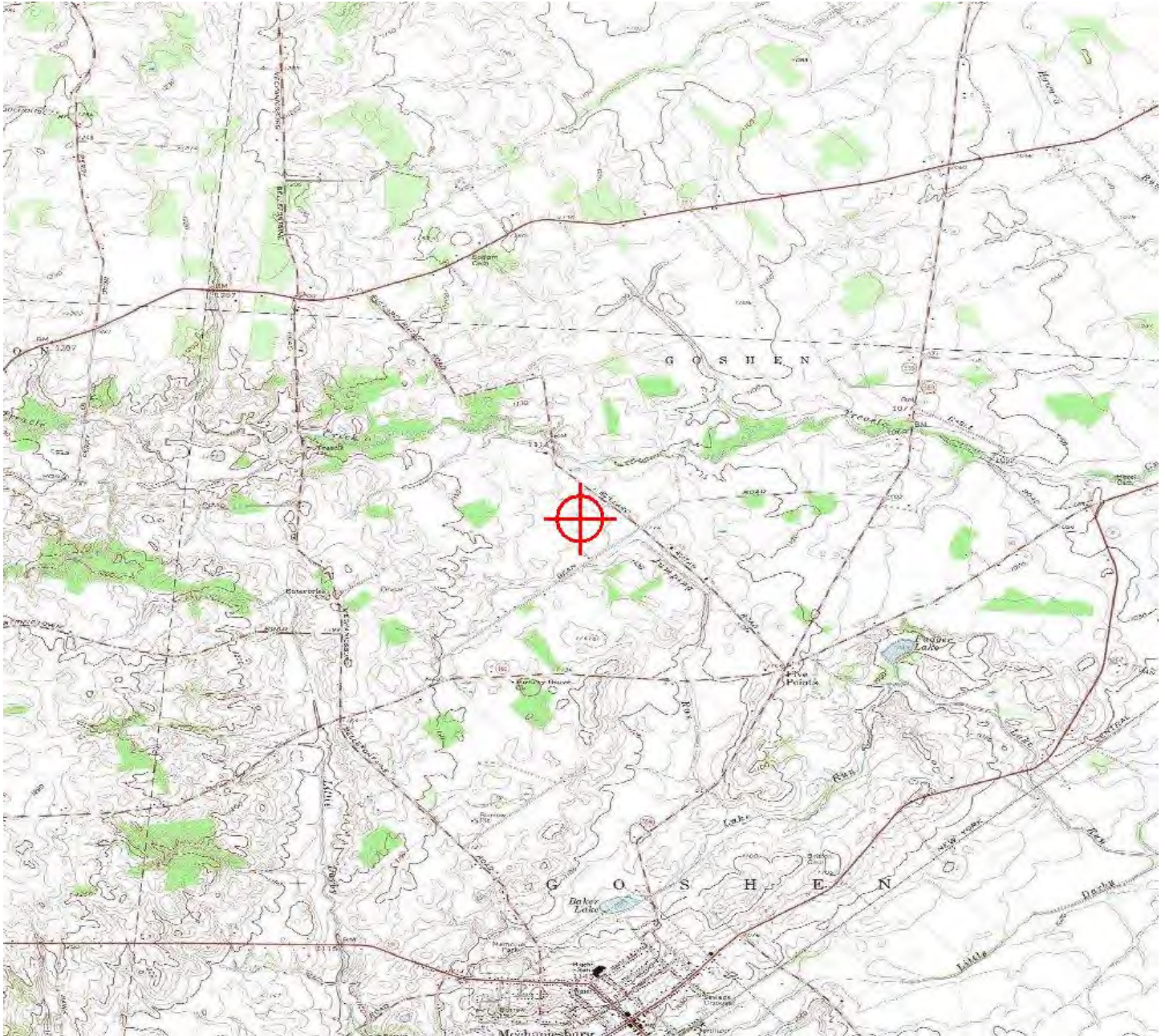
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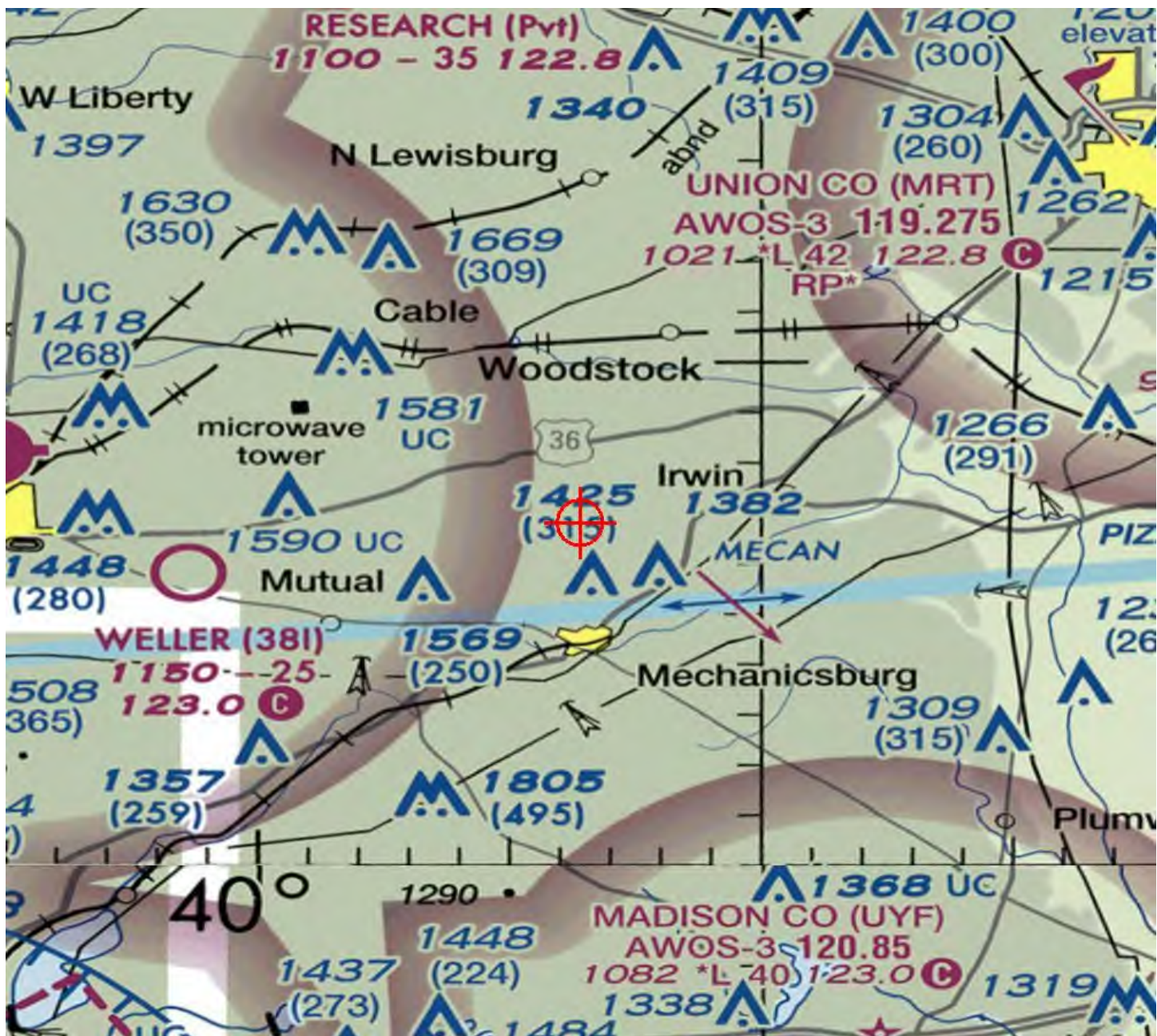
Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2014-WTE-7144-OE

Your extension is approved; all provisions from the original determination still apply.

Note: Primary Radar effects were found for this project, but those impacts were coordinated and approved by the affected air traffic control facilities at this time.







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10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2014-WTE-7145-OE

Issued Date: 01/06/2017

Jeff McKee
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1251 Waterfront Pl
3rd Floor
Pittsburgh, PA 15222

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine BII - 92
Location:	Urbana, OH
Latitude:	40-07-00.34N NAD 83
Longitude:	83-34-05.67W
Heights:	1138 feet site elevation (SE) 492 feet above ground level (AGL) 1630 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 07/06/2018 unless otherwise extended, revised, or terminated by this office. You must adhere to all conditions identified in the original determination.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (816) 329-2528. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-WTE-7145-OE.

Signature Control No: 238180091-314320909

(EXT -WT)

Cindy Whitten
Specialist

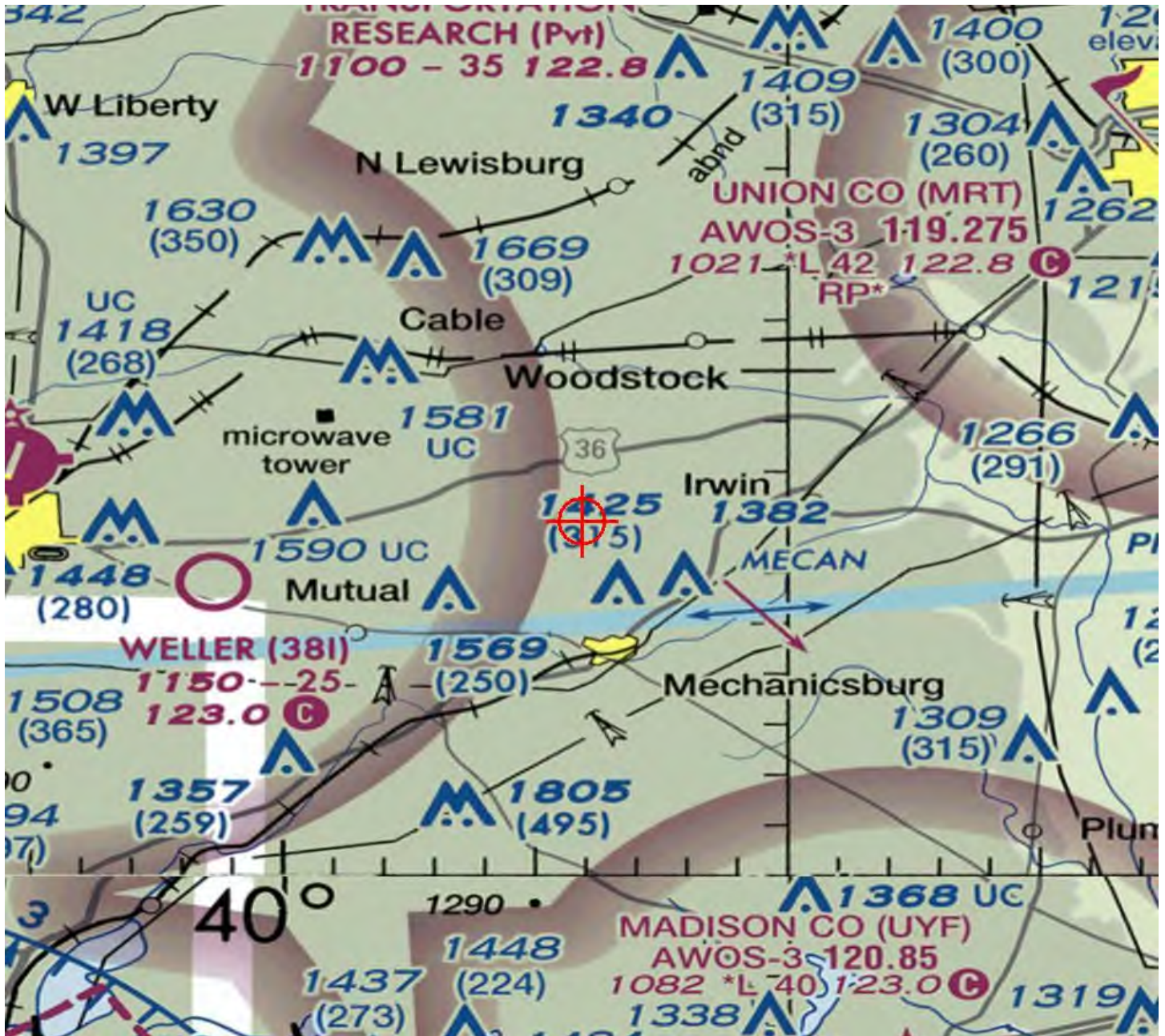
Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2014-WTE-7145-OE

Your extension is approved; all provisions from the original determination still apply.

Note: Primary Radar effects were found for this project, but those impacts were coordinated and approved by the affected air traffic control facilities at this time.

A detailed topographic map of the Goshien area. The map features contour lines indicating elevation, with green shading representing forested or wooded areas. A prominent red target symbol, consisting of a circle with a crosshair, is centered on the map. The map includes labels for various geographical features such as 'Goshien', 'Darker Lake', 'Parker Lake', and 'Parker Point'. A network of roads and trails is visible, along with a grid system. The map is oriented with North at the top.





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10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2014-WTE-7146-OE

Issued Date: 01/06/2017

Jeff McKee
Buckeye Wind
1251 Waterfront Pl
3rd Floor
Pittsburgh, PA 15222

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine BII - 93
Location:	Urbana, OH
Latitude:	40-07-11.95N NAD 83
Longitude:	83-34-20.18W
Heights:	1136 feet site elevation (SE) 492 feet above ground level (AGL) 1628 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 07/06/2018 unless otherwise extended, revised, or terminated by this office. You must adhere to all conditions identified in the original determination.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (816) 329-2528. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-WTE-7146-OE.

Signature Control No: 238180094-314320905

Cindy Whitten
Specialist

(EXT -WT)

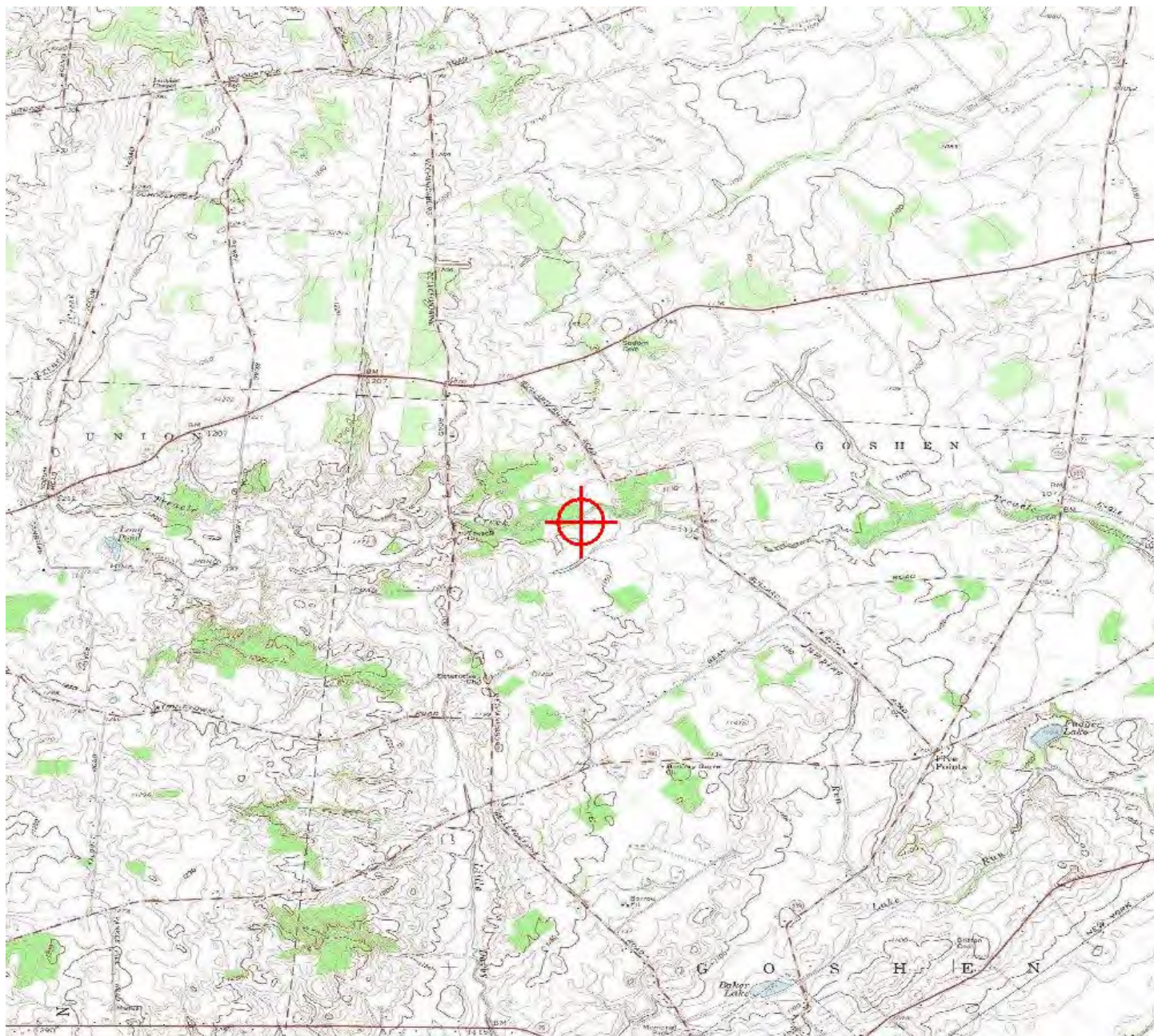
Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2014-WTE-7146-OE

Your extension is approved; all provisions from the original determination still apply.

Note: Primary Radar effects were found for this project, but those impacts were coordinated and approved by the affected air traffic control facilities at this time.

TOPO Map for ASN 2014-WTE-7146-OE





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Aeronautical Study No.
2014-WTE-7147-OE

Issued Date: 01/06/2017

Jeff McKee
Buckeye Wind
1251 Waterfront Pl
3rd Floor
Pittsburgh, PA 15222

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine BII - 94
Location:	Urbana, OH
Latitude:	40-05-40.55N NAD 83
Longitude:	83-34-01.87W
Heights:	1137 feet site elevation (SE) 492 feet above ground level (AGL) 1629 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 07/06/2018 unless otherwise extended, revised, or terminated by this office. You must adhere to all conditions identified in the original determination.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (816) 329-2528. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-WTE-7147-OE.

Signature Control No: 238180095-314320913

(EXT -WT)

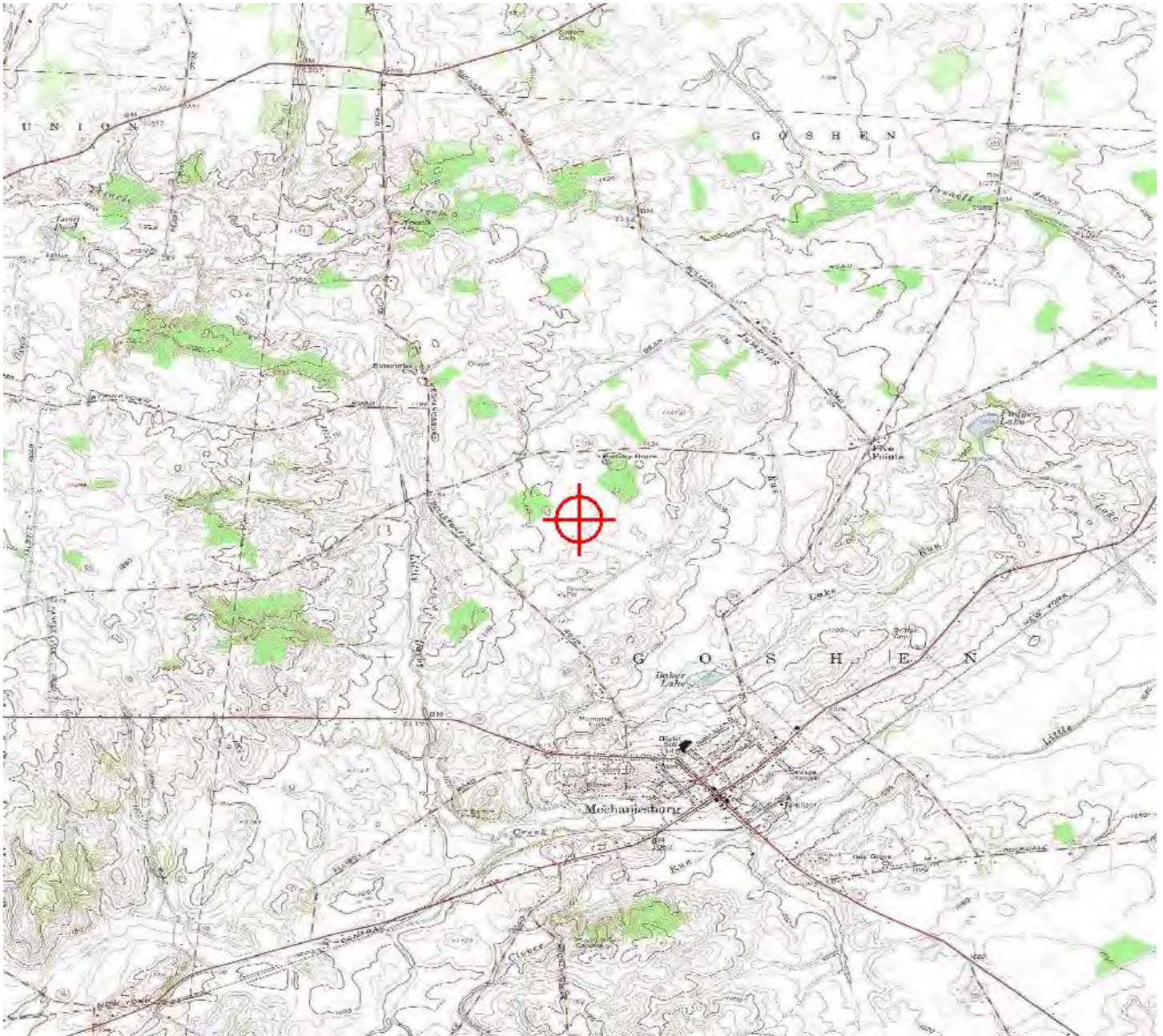
Cindy Whitten
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2014-WTE-7147-OE

Your extension is approved; all provisions from the original determination still apply.

Note: Primary Radar effects were found for this project, but those impacts were coordinated and approved by the affected air traffic control facilities at this time.





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Fort Worth, TX 76177

Aeronautical Study No.
2014-WTE-7148-OE

Issued Date: 01/06/2017

Jeff McKee
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1251 Waterfront Pl
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Pittsburgh, PA 15222

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine BII - 95
Location:	Urbana, OH
Latitude:	40-05-46.75N NAD 83
Longitude:	83-33-18.10W
Heights:	1084 feet site elevation (SE) 492 feet above ground level (AGL) 1576 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 07/06/2018 unless otherwise extended, revised, or terminated by this office. You must adhere to all conditions identified in the original determination.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (816) 329-2528. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-WTE-7148-OE.

Signature Control No: 238180096-314320911
Cindy Whitten
Specialist

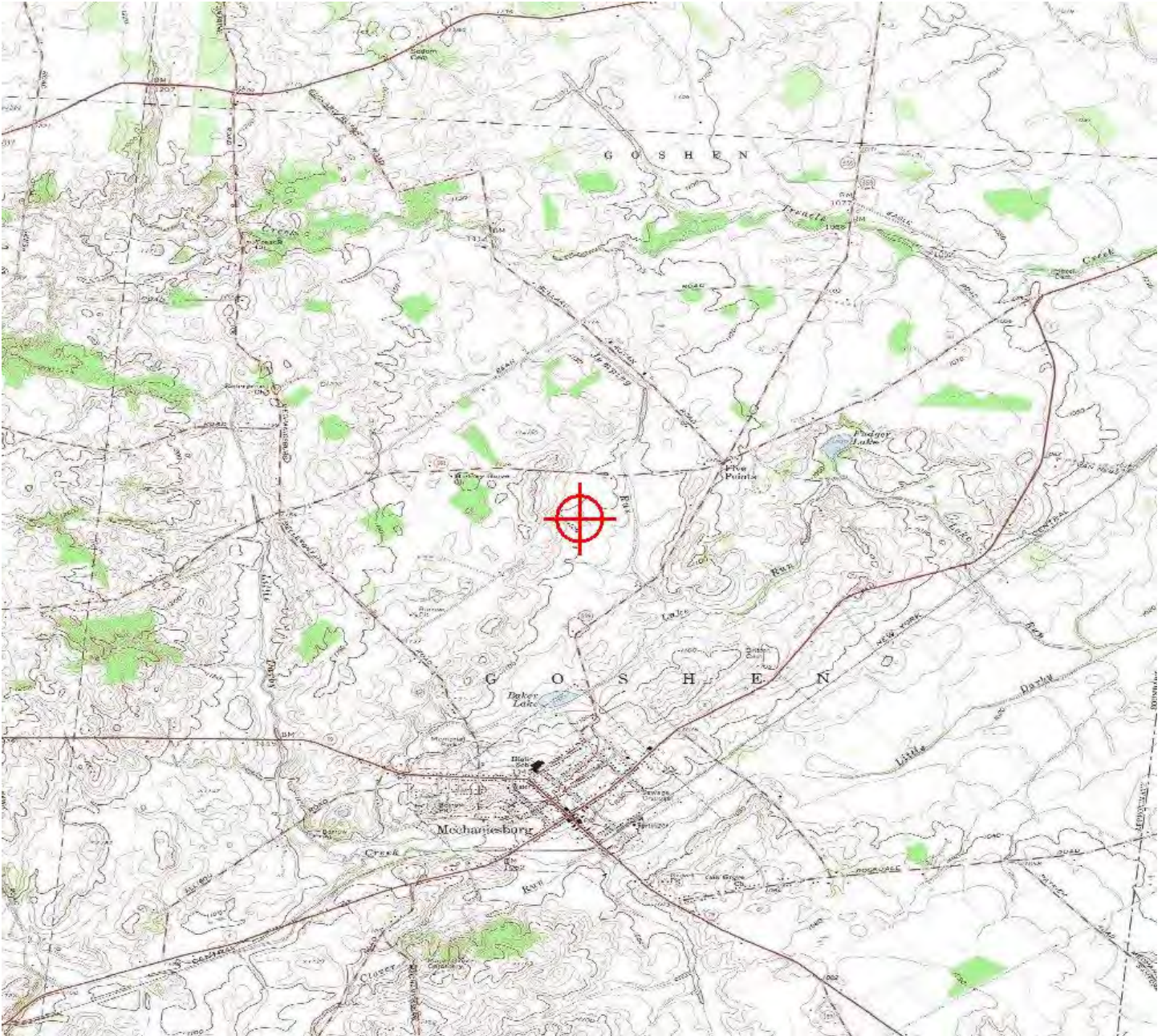
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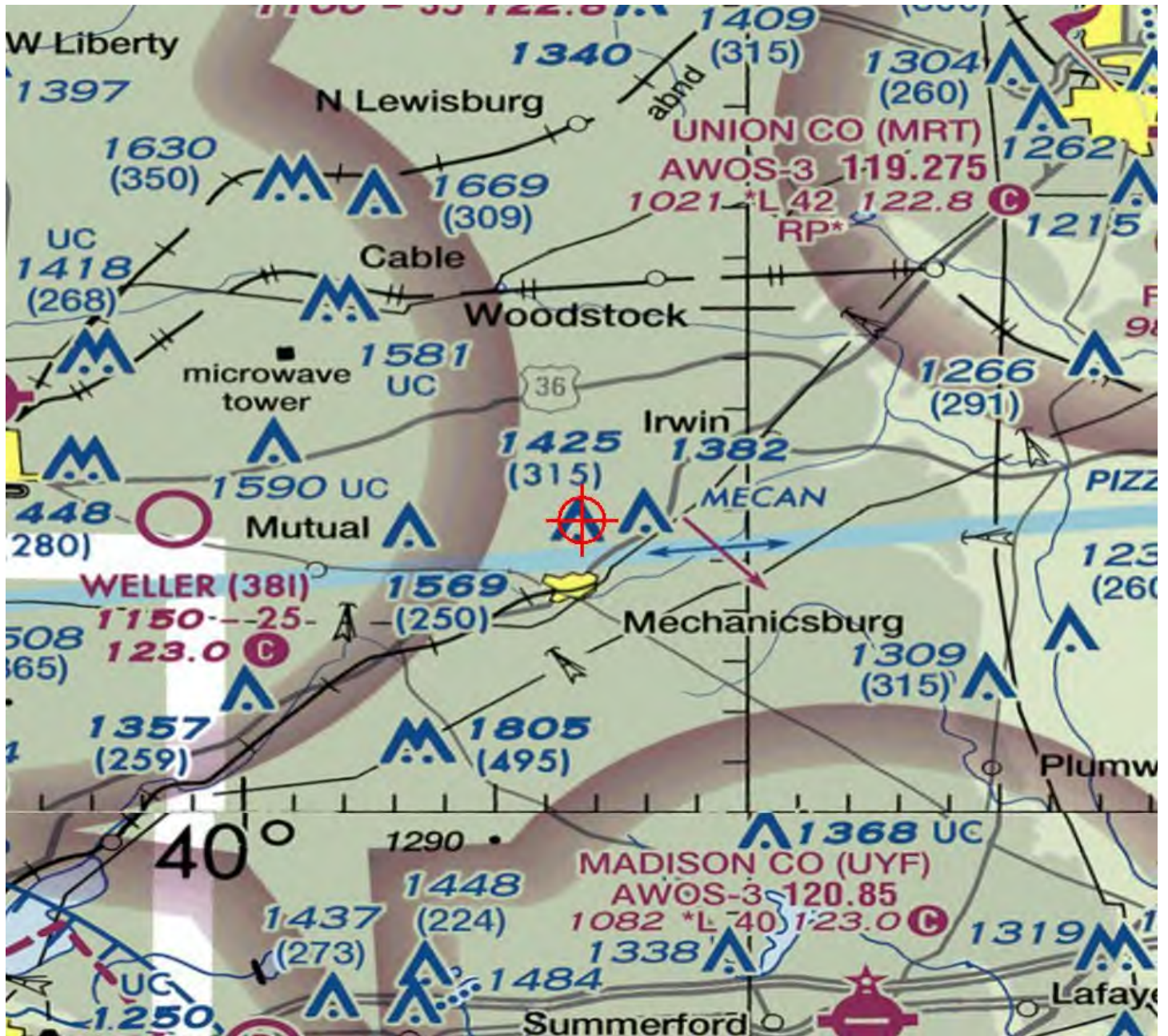
Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2014-WTE-7148-OE

Your extension is approved; all provisions from the original determination still apply.

Note: Primary Radar effects were found for this project, but those impacts were coordinated and approved by the affected air traffic control facilities at this time.







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

Aeronautical Study No.
2014-WTE-7149-OE

Issued Date: 01/06/2017

Jeff McKee
Buckeye Wind
1251 Waterfront Pl
3rd Floor
Pittsburgh, PA 15222

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine BII - 96
Location:	Urbana, OH
Latitude:	40-06-24.14N NAD 83
Longitude:	83-33-25.12W
Heights:	1121 feet site elevation (SE) 492 feet above ground level (AGL) 1613 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 07/06/2018 unless otherwise extended, revised, or terminated by this office. You must adhere to all conditions identified in the original determination.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (816) 329-2528. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-WTE-7149-OE.

Signature Control No: 238180097-314320915

Cindy Whitten
Specialist

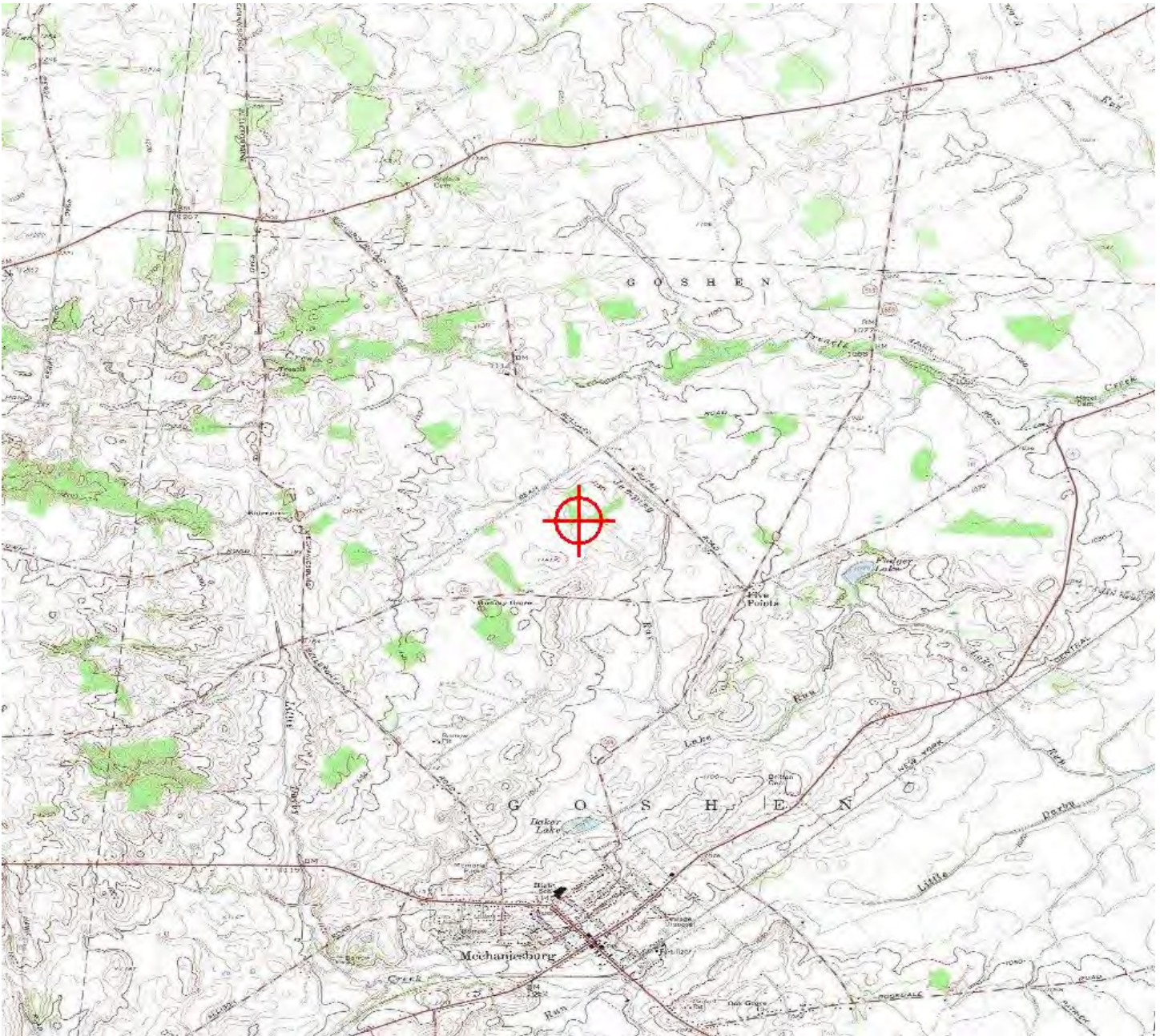
(EXT -WT)

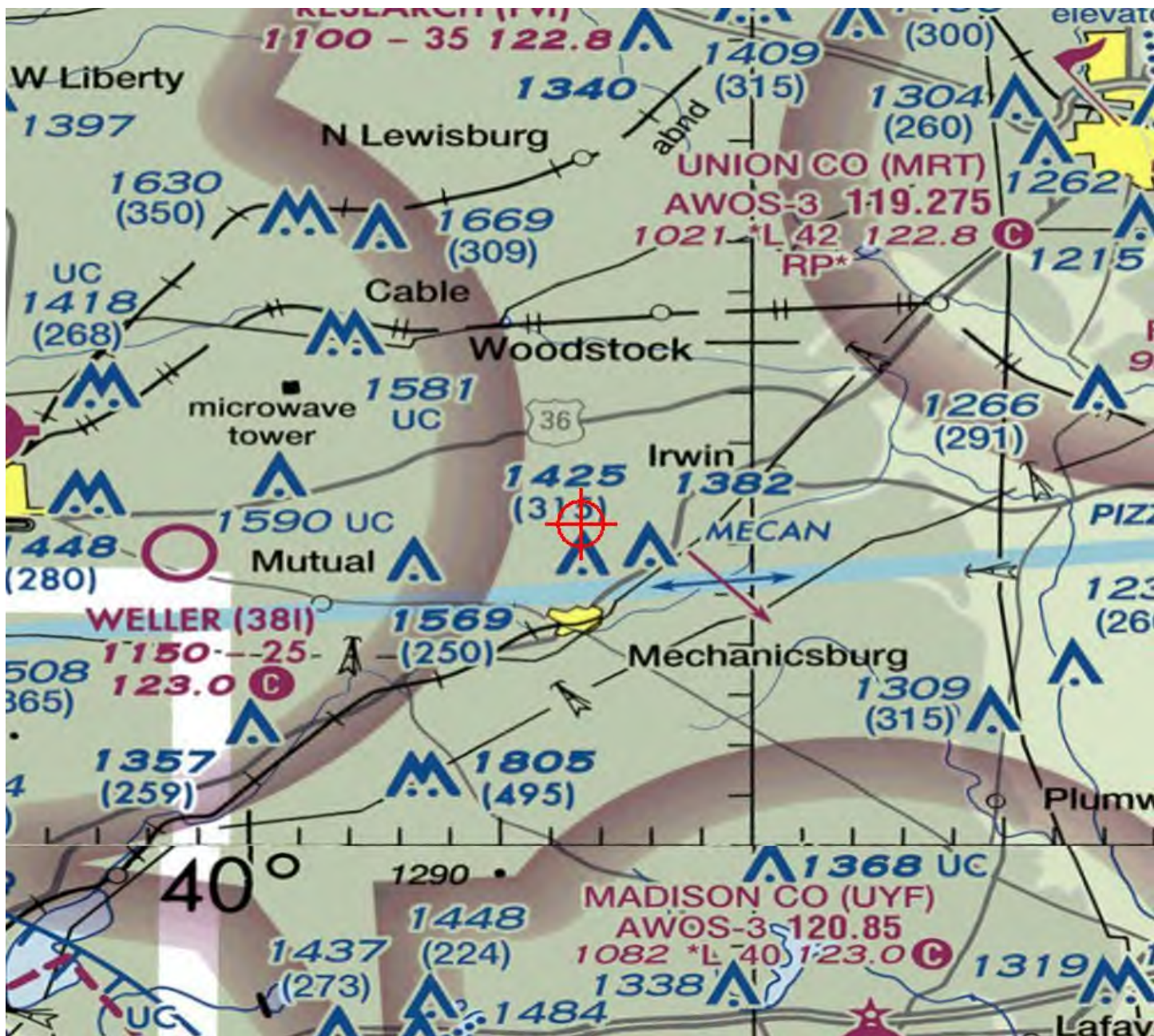
Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2014-WTE-7149-OE

Your extension is approved; all provisions from the original determination still apply.

Note: Primary Radar effects were found for this project, but those impacts were coordinated and approved by the affected air traffic control facilities at this time.







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

Aeronautical Study No.
2014-WTE-7153-OE

Issued Date: 01/06/2017

Jeff McKee
Buckeye Wind
1251 Waterfront Pl
3rd Floor
Pittsburgh, PA 15222

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine BII - 100
Location:	Urbana, OH
Latitude:	40-08-38.53N NAD 83
Longitude:	83-34-44.06W
Heights:	1167 feet site elevation (SE) 492 feet above ground level (AGL) 1659 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 07/06/2018 unless otherwise extended, revised, or terminated by this office. You must adhere to all conditions identified in the original determination.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (816) 329-2528. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-WTE-7153-OE.

Signature Control No: 238180108-314320919

(EXT -WT)

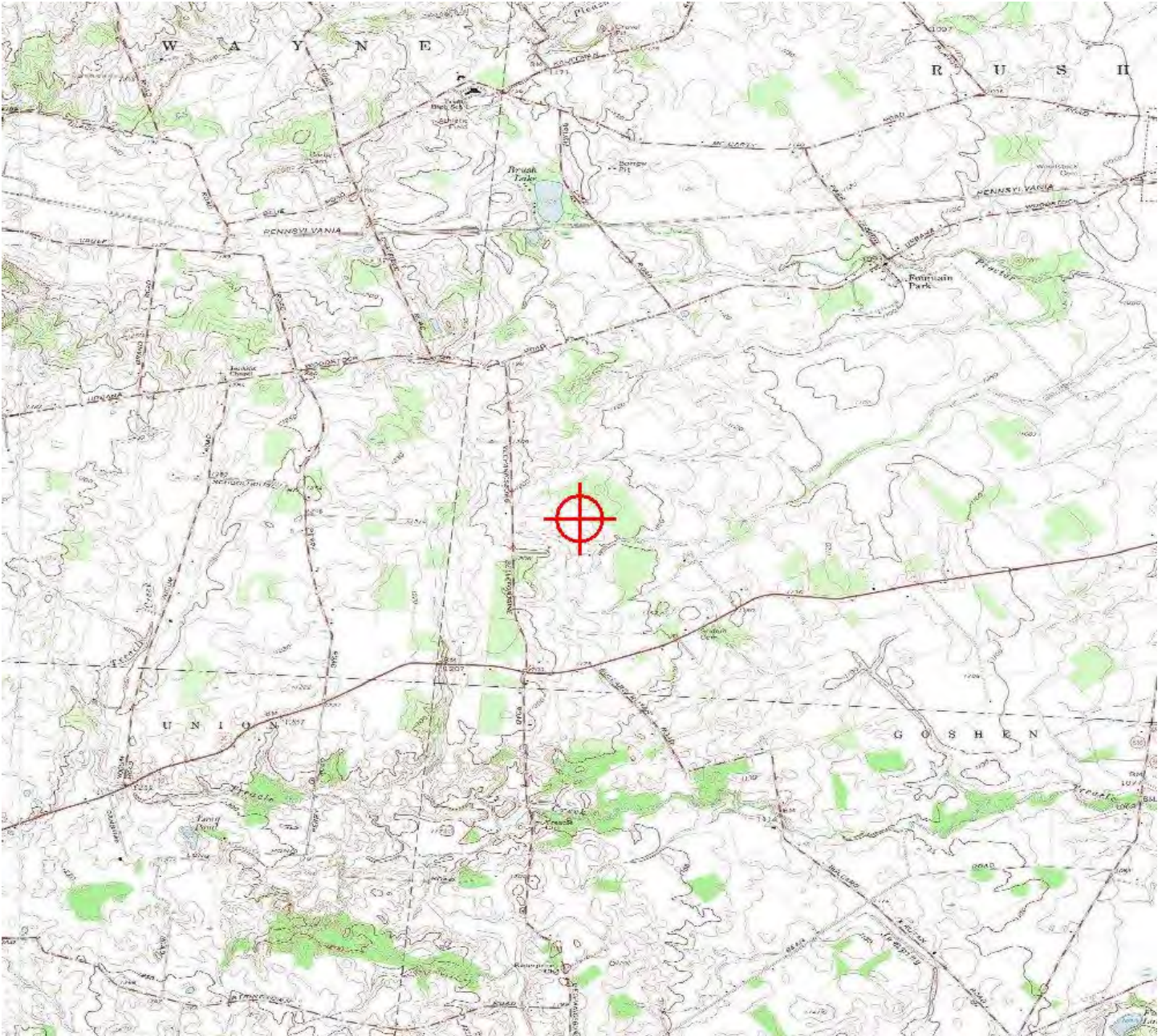
Cindy Whitten
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2014-WTE-7153-OE

Your extension is approved; all provisions from the original determination still apply.

Note: Primary Radar effects were found for this project, but those impacts were coordinated and approved by the affected air traffic control facilities at this time.





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

Aeronautical Study No.
2014-WTE-7154-OE

Issued Date: 01/06/2017

Jeff McKee
Buckeye Wind
1251 Waterfront Pl
3rd Floor
Pittsburgh, PA 15222

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine BII - 101
Location:	Urbana, OH
Latitude:	40-07-37.27N NAD 83
Longitude:	83-34-35.16W
Heights:	1155 feet site elevation (SE) 492 feet above ground level (AGL) 1647 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 07/06/2018 unless otherwise extended, revised, or terminated by this office. You must adhere to all conditions identified in the original determination.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (816) 329-2528. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-WTE-7154-OE.

Signature Control No: 238180109-314320920

(EXT -WT)

Cindy Whitten
Specialist

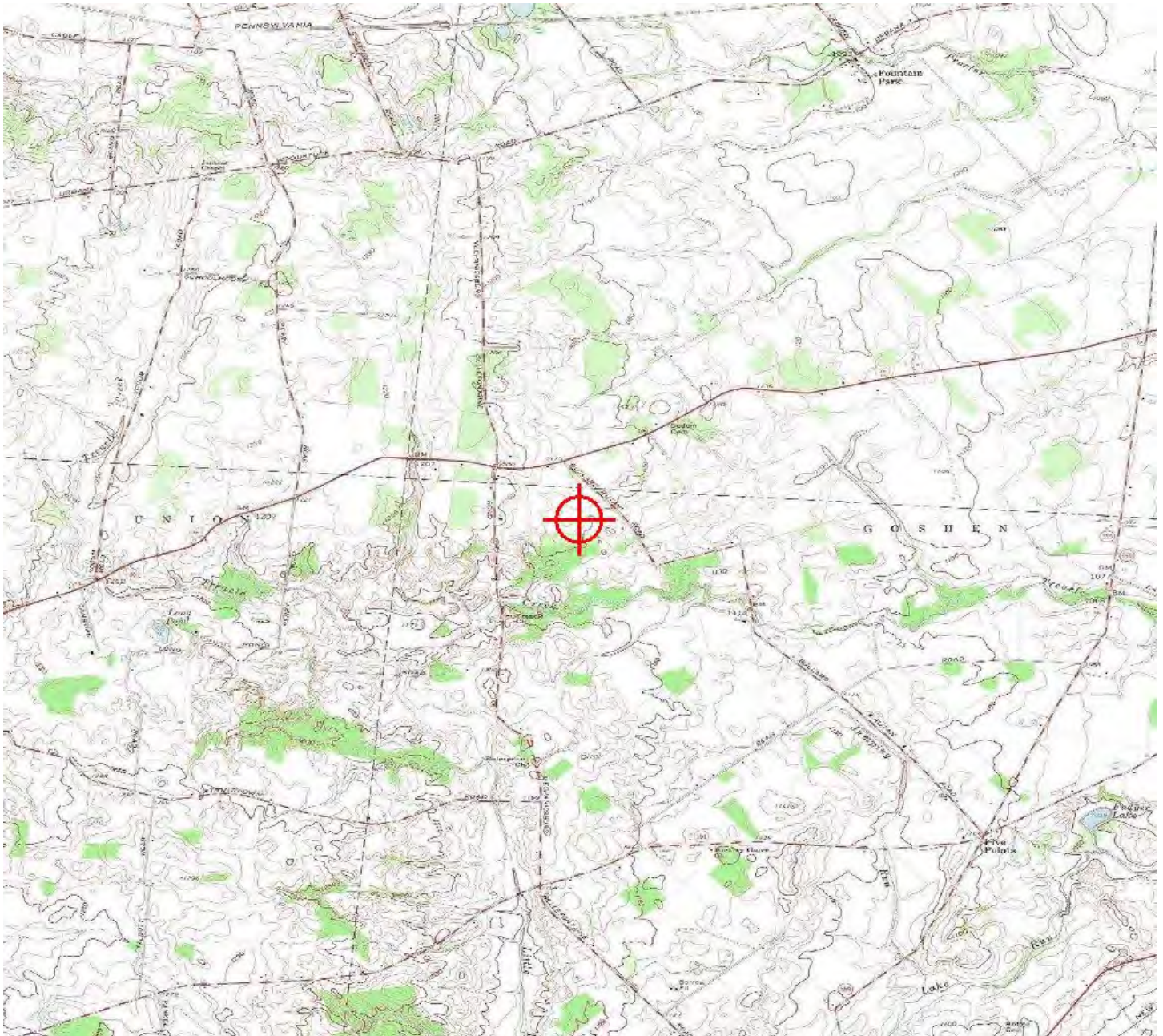
Attachment(s)
Additional Information
Map(s)

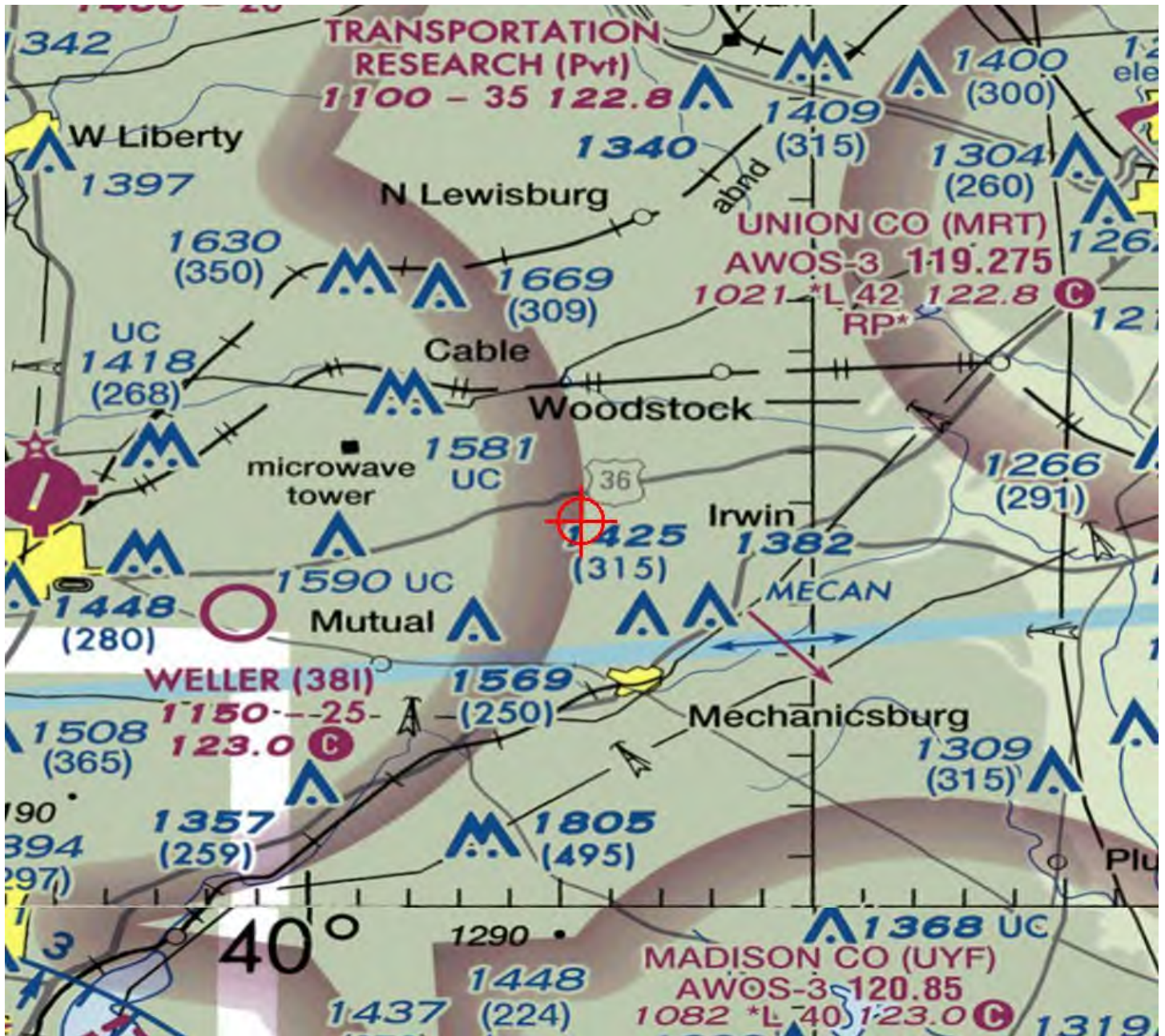
Additional information for ASN 2014-WTE-7154-OE

Your extension is approved; all provisions from the original determination still apply.

Note: Primary Radar effects were found for this project, but those impacts were coordinated and approved by the affected air traffic control facilities at this time.

TOPO Map for ASN 2014-WTE-7154-OE







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

Aeronautical Study No.
2017-WTE-3781-OE
Prior Study No.
2014-WTE-7155-OE

Issued Date: 10/20/2017

Jeff McKee
Buckeye Wind
1251 Waterfront Pl
3rd Floor
Pittsburgh, PA 15222

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

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine BII-105
Location:	Urbana, OH
Latitude:	40-08-17.25N NAD 83
Longitude:	83-38-13.51W
Heights:	1309 feet site elevation (SE) 499 feet above ground level (AGL) 1808 feet above mean sea level (AMSL)

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

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

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

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

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

See attachment for additional condition(s) or information.

This determination expires on 04/20/2019 unless:

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

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

This determination is subject to review if an interested party files a petition that is received by the FAA on or before November 19, 2017. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager, Airspace Policy & Regulation, Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This determination becomes final on November 29, 2017 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Regulations & ATC Procedures Group via telephone -- 202-267-8783 - or facsimile 202-267-9328.

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

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

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

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

one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

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

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

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

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

If we can be of further assistance, please contact Paul Holmquist, at (425) 227-2625, or paul.holmquist@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2017-WTE-3781-OE.

Signature Control No: 333959488-347022308

(DNH -WT)

Mike Helvey

Manager, Obstruction Evaluation Group

Attachment(s)

Additional Information

Map(s)

Additional information for ASN 2017-WTE-3781-OE

Abbreviations

AGL - above ground level

AMSL - above mean sea level

RWY - runway

VFR - visual flight rules

IFR - instrument flight rules

NM - nautical mile

ASN - aeronautical study number

TPA - traffic pattern airspace

Part 77 - Title 14 Code of Federal Regulations (CFR) Part 77, Safe, Efficient Use and Preservation of the Navigable Airspace

1. LOCATION OF PROPOSED CONSTRUCTION

The entire proposed Buckeye Wind 2 wind turbine project near Urbana, OH consists of 42 turbines at 492 and 499 feet AGL. The proposed wind turbine project lies approximately between 4.0 NM to 9.4 NM east of the Airport Reference Point (ARP) for the Grimes Field Airport (I74), Urbana, OH.

For the sake of efficiency, the narrative below describes 7 of the proposed turbines that have similar impacts, the primary difference being the amount of penetration to 14 CFR Part 77 standards. Separate determinations for each turbine will be made issued and are available on our website at <http://oeaaa.faa.gov>.

ASN (degrees)	AGL/AMSL (feet)	Latitude/Longitude	Distance From I74 (NM)/Azimuth
2017-WTE-3778-OE	499/1813	40-08-44.36N/83-37-35.17W	5.93/082.2
2017-WTE-3779-OE	499/1781	40-08-04.24N/83-38-31.04W	5.16/088.5
2017-WTE-3780-OE	499/1693	40-08-12.19N/83-39-46.81W	4.20/086.4
2017-WTE-3781-OE	499/1808	40-08-17.25N/83-38-13.51W	5.39/086.3
2017-WTE-3782-OE	499/1814	40-08-08.59N/83-38-03.83W	5.51/087.9
2017-WTE-3783-OE	499/1766	40-07-58.19N/83-39-05.66W	4.72/089.6
2017-WTE-3784-OE	499/1658	40-08-46.57N/83-40-07.85W	4.01/077.9

2. OBSTRUCTION STANDARDS EXCEEDED

The 7 proposed turbines would exceed 14 CFR Part 77 standards as described below.

Section 77.17(a)(2): A height Above Ground Level (AGL) or airport elevation, whichever is higher, exceeding a height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 nautical miles of the established reference point of an airport, excluding heliports, with its longest Runway (RWY) more than 3,200 feet in actual length, and that height increases in the proportion of 100 feet for each additional nautical mile from the airport up to a maximum of 499 feet.

ASN	Exceeds I74 Section 77.17(a)(2) By (feet)
2017-WTE-3778-OE	7
2017-WTE-3779-OE	83
2017-WTE-3780-OE	180
2017-WTE-3781-OE	60
2017-WTE-3782-OE	48
2017-WTE-3783-OE	128
2017-WTE-3784-OE	199

3. EFFECT ON AERONAUTICAL OPERATIONS

a. The impact on arrival, departure, and en route procedures for aircraft operating under VFR: The structures would exceed 14 CFR Part 77 standards described in Part 77 Section 77.17(a)(2) for I74 by the following values:

ASN	Exceeds Section 77.17(a)(2) By (feet)
2017-WTE-3778-OE	7
2017-WTE-3779-OE	83
2017-WTE-3780-OE	180
2017-WTE-3781-OE	60
2017-WTE-3782-OE	48
2017-WTE-3783-OE	128
2017-WTE-3784-OE	199

There are no effects on the VFR traffic pattern. The proposed 7 turbines lie within the lateral boundaries and penetrate category D traffic pattern airspace for RWY 09/27 at Weller Airport (38I). Two turbines, studied under ASNs 2017-WTE-3780-OE and 2017-WTE-3784-OE, also penetrate the category D traffic pattern airspace for RWYs 02/20 and 01/19 at I74. Category D aircraft are those aircraft with an approach speed of between 141-165 knots. Internal FAA evaluation found the proposed turbine(s) are located outside the VFR traffic pattern airspace for all categories of aircraft that use I74 and 38I.

There are no effects on any existing or proposed arrival, departure, or en route IFR minimum flight altitudes. There are no physical or electromagnetic effects on the operation of air navigation and communications facilities.

There are no effects on any airspace and routes used by the military.

b. The impact on arrival, departure, and en route procedures for aircraft operating under IFR: None.

c. The impact on all planned public-use airports and aeronautical facilities: None.

d. The cumulative impact resulting from the proposed construction or alteration of a structure when combined with the impact of other existing or proposed structures: None.

The I74 Airport Master Record can be viewed/downloaded <http://www.gcr1.com/5010web/airport.cfm?Site=I74> . It states there are 33 single-engine, 10 multi-engine, 0 jet and 1 helicopter and 4 ultra-light aircraft based there with 23,480 operations for the 12 months ending 3 September, 2016 (latest information).

The Weller Airport (38I) Airport Master Record can be viewed/downloaded <http://www.gcr1.com/5010web/airport.cfm?Site=38I> . It states there are 0 single-engine, 0 multi-engine, 0 jet and 0 helicopter and 0 ultra-light aircraft based there with 300 operations for the 12 months ending 3 September, 2016 (latest information).

4. CIRCULATION AND COMMENTS RECEIVED

The proposal was not circularized to the public for comments, as circularization is not required for structures that would exceed the above-cited standard and would be located outside traffic pattern airspace. The proposed turbine(s) are located outside the VFR traffic pattern airspace for all categories of aircraft that use I74 and 38I.

This policy does not affect the public's right to petition for review determinations regarding structures, which exceed the subject obstruction standards.

5. DETERMINATION - NO HAZARD TO AIR NAVIGATION

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

6. BASIS FOR DECISION

Study for possible VFR effect disclosed that the proposed structure would have no effect on any existing or proposed arrival or departure VFR operations or procedures. At 499 feet AGL, the proposed structures would not have a substantial adverse effect on VFR en route flight operations. FAA evaluation found the proposed turbine(s) are located outside the VFR traffic pattern airspace for all categories of aircraft that use I74 and 38I. No other VFR issues could be identified and there are no IFR effects.

The proposed structures must be appropriately obstruction marked and/or lighted to make them more conspicuous to airmen.

NOTE: A recommendation for white paint/synchronized red lights will be made for all turbines until such time as the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height. At that time, the proponent may contact this office and request a re-evaluation of the marking and lighting recommendations for the turbines within this project and a portion of the turbines may qualify for the removal of the lighting recommendation.

A detailed topographic map of Union, Pennsylvania. The map features contour lines indicating elevation, with green shading representing forested areas. A prominent red target symbol, consisting of a circle with a crosshair, is centered on the map. To the left of the target, there is a purple shaded region. The map includes labels for 'Union Creek', 'Pine Creek', and 'Union'. A road labeled '11' is visible on the left side. The map also shows various other geographical features and infrastructure, such as 'Radio Tower' and 'Cable'. The state boundary between Pennsylvania and New York is visible on the right side.



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

Aeronautical Study No.
2017-WTE-3782-OE
Prior Study No.
2014-WTE-7156-OE

Issued Date: 10/20/2017

Jeff McKee
Buckeye Wind
1251 Waterfront Pl
3rd Floor
Pittsburgh, PA 15222

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

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine BII-106
Location:	Urbana, OH
Latitude:	40-08-08.59N NAD 83
Longitude:	83-38-03.83W
Heights:	1315 feet site elevation (SE) 499 feet above ground level (AGL) 1814 feet above mean sea level (AMSL)

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

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

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

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

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

See attachment for additional condition(s) or information.

This determination expires on 04/20/2019 unless:

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

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

This determination is subject to review if an interested party files a petition that is received by the FAA on or before November 19, 2017. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager, Airspace Policy & Regulation, Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This determination becomes final on November 29, 2017 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Regulations & ATC Procedures Group via telephone -- 202-267-8783 - or facsimile 202-267-9328.

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

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

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

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

one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

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

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

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

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

If we can be of further assistance, please contact Paul Holmquist, at (425) 227-2625, or paul.holmquist@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2017-WTE-3782-OE.

Signature Control No: 333959489-347022310

(DNH -WT)

Mike Helvey

Manager, Obstruction Evaluation Group

Attachment(s)

Additional Information

Map(s)

Additional information for ASN 2017-WTE-3782-OE

Abbreviations

AGL - above ground level

AMSL - above mean sea level

RWY - runway

VFR - visual flight rules

IFR - instrument flight rules

NM - nautical mile

ASN - aeronautical study number

TPA - traffic pattern airspace

Part 77 - Title 14 Code of Federal Regulations (CFR) Part 77, Safe, Efficient Use and Preservation of the Navigable Airspace

1. LOCATION OF PROPOSED CONSTRUCTION

The entire proposed Buckeye Wind 2 wind turbine project near Urbana, OH consists of 42 turbines at 492 and 499 feet AGL. The proposed wind turbine project lies approximately between 4.0 NM to 9.4 NM east of the Airport Reference Point (ARP) for the Grimes Field Airport (I74), Urbana, OH.

For the sake of efficiency, the narrative below describes 7 of the proposed turbines that have similar impacts, the primary difference being the amount of penetration to 14 CFR Part 77 standards. Separate determinations for each turbine will be made issued and are available on our website at <http://oeaaa.faa.gov>.

ASN (degrees)	AGL/AMSL (feet)	Latitude/Longitude	Distance From I74 (NM)/Azimuth
2017-WTE-3778-OE	499/1813	40-08-44.36N/83-37-35.17W	5.93/082.2
2017-WTE-3779-OE	499/1781	40-08-04.24N/83-38-31.04W	5.16/088.5
2017-WTE-3780-OE	499/1693	40-08-12.19N/83-39-46.81W	4.20/086.4
2017-WTE-3781-OE	499/1808	40-08-17.25N/83-38-13.51W	5.39/086.3
2017-WTE-3782-OE	499/1814	40-08-08.59N/83-38-03.83W	5.51/087.9
2017-WTE-3783-OE	499/1766	40-07-58.19N/83-39-05.66W	4.72/089.6
2017-WTE-3784-OE	499/1658	40-08-46.57N/83-40-07.85W	4.01/077.9

2. OBSTRUCTION STANDARDS EXCEEDED

The 7 proposed turbines would exceed 14 CFR Part 77 standards as described below.

Section 77.17(a)(2): A height Above Ground Level (AGL) or airport elevation, whichever is higher, exceeding a height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 nautical miles of the established reference point of an airport, excluding heliports, with its longest Runway (RWY) more than 3,200 feet in actual length, and that height increases in the proportion of 100 feet for each additional nautical mile from the airport up to a maximum of 499 feet.

ASN	Exceeds I74 Section 77.17(a)(2) By (feet)
2017-WTE-3778-OE	7
2017-WTE-3779-OE	83
2017-WTE-3780-OE	180
2017-WTE-3781-OE	60
2017-WTE-3782-OE	48
2017-WTE-3783-OE	128
2017-WTE-3784-OE	199

3. EFFECT ON AERONAUTICAL OPERATIONS

a. The impact on arrival, departure, and en route procedures for aircraft operating under VFR: The structures would exceed 14 CFR Part 77 standards described in Part 77 Section 77.17(a)(2) for I74 by the following values:

ASN	Exceeds Section 77.17(a)(2) By (feet)
2017-WTE-3778-OE	7
2017-WTE-3779-OE	83
2017-WTE-3780-OE	180
2017-WTE-3781-OE	60
2017-WTE-3782-OE	48
2017-WTE-3783-OE	128
2017-WTE-3784-OE	199

There are no effects on the VFR traffic pattern. The proposed 7 turbines lie within the lateral boundaries and penetrate category D traffic pattern airspace for RWY 09/27 at Weller Airport (38I). Two turbines, studied under ASNs 2017-WTE-3780-OE and 2017-WTE-3784-OE, also penetrate the category D traffic pattern airspace for RWYs 02/20 and 01/19 at I74. Category D aircraft are those aircraft with an approach speed of between 141-165 knots. Internal FAA evaluation found the proposed turbine(s) are located outside the VFR traffic pattern airspace for all categories of aircraft that use I74 and 38I.

There are no effects on any existing or proposed arrival, departure, or en route IFR minimum flight altitudes. There are no physical or electromagnetic effects on the operation of air navigation and communications facilities.

There are no effects on any airspace and routes used by the military.

b. The impact on arrival, departure, and en route procedures for aircraft operating under IFR: None.

c. The impact on all planned public-use airports and aeronautical facilities: None.

d. The cumulative impact resulting from the proposed construction or alteration of a structure when combined with the impact of other existing or proposed structures: None.

The I74 Airport Master Record can be viewed/downloaded <http://www.gcr1.com/5010web/airport.cfm?Site=I74> . It states there are 33 single-engine, 10 multi-engine, 0 jet and 1 helicopter and 4 ultra-light aircraft based there with 23,480 operations for the 12 months ending 3 September, 2016 (latest information).

The Weller Airport (38I) Airport Master Record can be viewed/downloaded <http://www.gcr1.com/5010web/airport.cfm?Site=38I> . It states there are 0 single-engine, 0 multi-engine, 0 jet and 0 helicopter and 0 ultra-light aircraft based there with 300 operations for the 12 months ending 3 September, 2016 (latest information).

4. CIRCULATION AND COMMENTS RECEIVED

The proposal was not circularized to the public for comments, as circularization is not required for structures that would exceed the above-cited standard and would be located outside traffic pattern airspace. The proposed turbine(s) are located outside the VFR traffic pattern airspace for all categories of aircraft that use I74 and 38I.

This policy does not affect the public's right to petition for review determinations regarding structures, which exceed the subject obstruction standards.

5. DETERMINATION - NO HAZARD TO AIR NAVIGATION

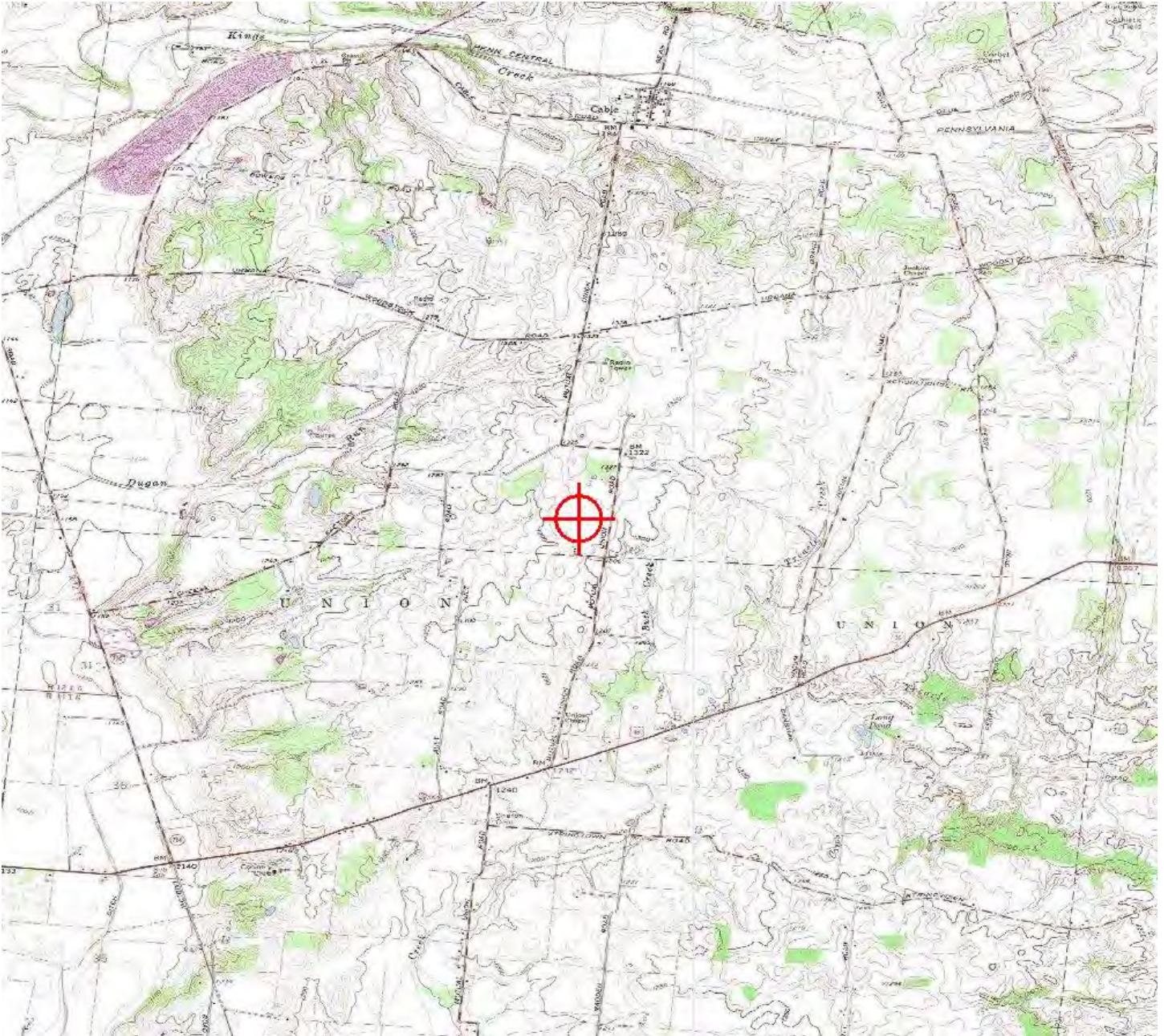
It is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation provided the conditions set forth within this determination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

6. BASIS FOR DECISION

Study for possible VFR effect disclosed that the proposed structure would have no effect on any existing or proposed arrival or departure VFR operations or procedures. At 499 feet AGL, the proposed structures would not have a substantial adverse effect on VFR en route flight operations. FAA evaluation found the proposed turbine(s) are located outside the VFR traffic pattern airspace for all categories of aircraft that use I74 and 38I. No other VFR issues could be identified and there are no IFR effects.

The proposed structures must be appropriately obstruction marked and/or lighted to make them more conspicuous to airmen.

NOTE: A recommendation for white paint/synchronized red lights will be made for all turbines until such time as the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height. At that time, the proponent may contact this office and request a re-evaluation of the marking and lighting recommendations for the turbines within this project and a portion of the turbines may qualify for the removal of the lighting recommendation.





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

Aeronautical Study No.
2017-WTE-3783-OE
Prior Study No.
2014-WTE-7157-OE

Issued Date: 10/20/2017

Jeff McKee
Buckeye Wind
1251 Waterfront Pl
3rd Floor
Pittsburgh, PA 15222

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

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine BII-107
Location:	Urbana, OH
Latitude:	40-07-58.19N NAD 83
Longitude:	83-39-05.66W
Heights:	1267 feet site elevation (SE) 499 feet above ground level (AGL) 1766 feet above mean sea level (AMSL)

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

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

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

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

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

See attachment for additional condition(s) or information.

This determination expires on 04/20/2019 unless:

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

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

This determination is subject to review if an interested party files a petition that is received by the FAA on or before November 19, 2017. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager, Airspace Policy & Regulation, Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This determination becomes final on November 29, 2017 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Regulations & ATC Procedures Group via telephone -- 202-267-8783 - or facsimile 202-267-9328.

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

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

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

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

one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

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

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

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

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

If we can be of further assistance, please contact Paul Holmquist, at (425) 227-2625, or paul.holmquist@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2017-WTE-3783-OE.

Signature Control No: 333959490-347022309

(DNH -WT)

Mike Helvey

Manager, Obstruction Evaluation Group

Attachment(s)

Additional Information

Map(s)

Additional information for ASN 2017-WTE-3783-OE

Abbreviations

AGL - above ground level

AMSL - above mean sea level

RWY - runway

VFR - visual flight rules

IFR - instrument flight rules

NM - nautical mile

ASN - aeronautical study number

TPA - traffic pattern airspace

Part 77 - Title 14 Code of Federal Regulations (CFR) Part 77, Safe, Efficient Use and Preservation of the Navigable Airspace

1. LOCATION OF PROPOSED CONSTRUCTION

The entire proposed Buckeye Wind 2 wind turbine project near Urbana, OH consists of 42 turbines at 492 and 499 feet AGL. The proposed wind turbine project lies approximately between 4.0 NM to 9.4 NM east of the Airport Reference Point (ARP) for the Grimes Field Airport (I74), Urbana, OH.

For the sake of efficiency, the narrative below describes 7 of the proposed turbines that have similar impacts, the primary difference being the amount of penetration to 14 CFR Part 77 standards. Separate determinations for each turbine will be made issued and are available on our website at <http://oeaaa.faa.gov>.

ASN (degrees)	AGL/AMSL (feet)	Latitude/Longitude	Distance From I74 (NM)/Azimuth
2017-WTE-3778-OE	499/1813	40-08-44.36N/83-37-35.17W	5.93/082.2
2017-WTE-3779-OE	499/1781	40-08-04.24N/83-38-31.04W	5.16/088.5
2017-WTE-3780-OE	499/1693	40-08-12.19N/83-39-46.81W	4.20/086.4
2017-WTE-3781-OE	499/1808	40-08-17.25N/83-38-13.51W	5.39/086.3
2017-WTE-3782-OE	499/1814	40-08-08.59N/83-38-03.83W	5.51/087.9
2017-WTE-3783-OE	499/1766	40-07-58.19N/83-39-05.66W	4.72/089.6
2017-WTE-3784-OE	499/1658	40-08-46.57N/83-40-07.85W	4.01/077.9

2. OBSTRUCTION STANDARDS EXCEEDED

The 7 proposed turbines would exceed 14 CFR Part 77 standards as described below.

Section 77.17(a)(2): A height Above Ground Level (AGL) or airport elevation, whichever is higher, exceeding a height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 nautical miles of the established reference point of an airport, excluding heliports, with its longest Runway (RWY) more than 3,200 feet in actual length, and that height increases in the proportion of 100 feet for each additional nautical mile from the airport up to a maximum of 499 feet.

ASN	Exceeds I74 Section 77.17(a)(2) By (feet)
2017-WTE-3778-OE	7
2017-WTE-3779-OE	83
2017-WTE-3780-OE	180
2017-WTE-3781-OE	60
2017-WTE-3782-OE	48
2017-WTE-3783-OE	128
2017-WTE-3784-OE	199

3. EFFECT ON AERONAUTICAL OPERATIONS

a. The impact on arrival, departure, and en route procedures for aircraft operating under VFR: The structures would exceed 14 CFR Part 77 standards described in Part 77 Section 77.17(a)(2) for I74 by the following values:

ASN	Exceeds Section 77.17(a)(2) By (feet)
2017-WTE-3778-OE	7
2017-WTE-3779-OE	83
2017-WTE-3780-OE	180
2017-WTE-3781-OE	60
2017-WTE-3782-OE	48
2017-WTE-3783-OE	128
2017-WTE-3784-OE	199

There are no effects on the VFR traffic pattern. The proposed 7 turbines lie within the lateral boundaries and penetrate category D traffic pattern airspace for RWY 09/27 at Weller Airport (38I). Two turbines, studied under ASNs 2017-WTE-3780-OE and 2017-WTE-3784-OE, also penetrate the category D traffic pattern airspace for RWYs 02/20 and 01/19 at I74. Category D aircraft are those aircraft with an approach speed of between 141-165 knots. Internal FAA evaluation found the proposed turbine(s) are located outside the VFR traffic pattern airspace for all categories of aircraft that use I74 and 38I.

There are no effects on any existing or proposed arrival, departure, or en route IFR minimum flight altitudes. There are no physical or electromagnetic effects on the operation of air navigation and communications facilities.

There are no effects on any airspace and routes used by the military.

b. The impact on arrival, departure, and en route procedures for aircraft operating under IFR: None.

c. The impact on all planned public-use airports and aeronautical facilities: None.

d. The cumulative impact resulting from the proposed construction or alteration of a structure when combined with the impact of other existing or proposed structures: None.

The I74 Airport Master Record can be viewed/downloaded <http://www.gcr1.com/5010web/airport.cfm?Site=I74> . It states there are 33 single-engine, 10 multi-engine, 0 jet and 1 helicopter and 4 ultra-light aircraft based there with 23,480 operations for the 12 months ending 3 September, 2016 (latest information).

The Weller Airport (38I) Airport Master Record can be viewed/downloaded <http://www.gcr1.com/5010web/airport.cfm?Site=38I> . It states there are 0 single-engine, 0 multi-engine, 0 jet and 0 helicopter and 0 ultra-light aircraft based there with 300 operations for the 12 months ending 3 September, 2016 (latest information).

4. CIRCULATION AND COMMENTS RECEIVED

The proposal was not circularized to the public for comments, as circularization is not required for structures that would exceed the above-cited standard and would be located outside traffic pattern airspace. The proposed turbine(s) are located outside the VFR traffic pattern airspace for all categories of aircraft that use I74 and 38I.

This policy does not affect the public's right to petition for review determinations regarding structures, which exceed the subject obstruction standards.

5. DETERMINATION - NO HAZARD TO AIR NAVIGATION

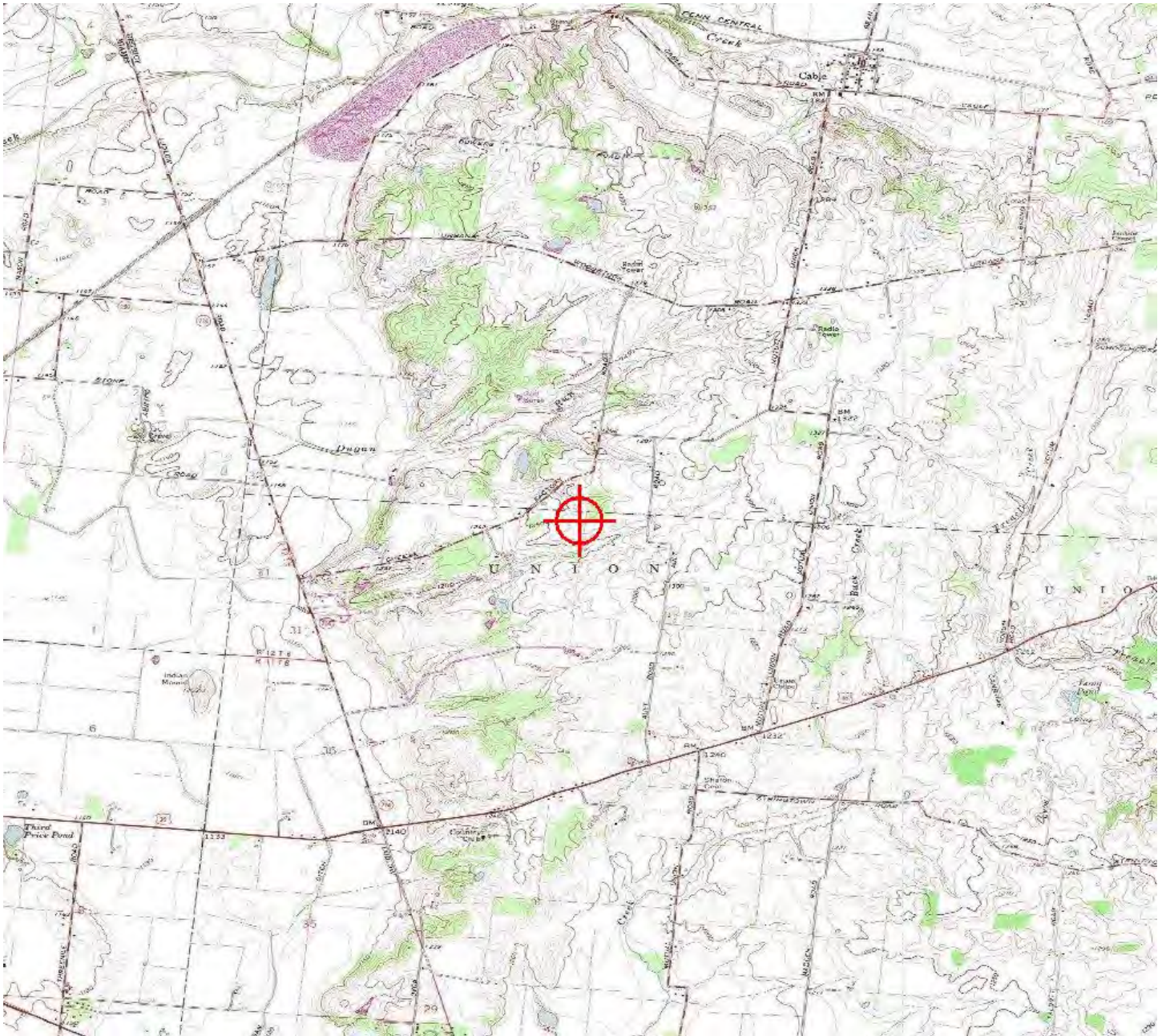
It is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation provided the conditions set forth within this determination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

6. BASIS FOR DECISION

Study for possible VFR effect disclosed that the proposed structure would have no effect on any existing or proposed arrival or departure VFR operations or procedures. At 499 feet AGL, the proposed structures would not have a substantial adverse effect on VFR en route flight operations. FAA evaluation found the proposed turbine(s) are located outside the VFR traffic pattern airspace for all categories of aircraft that use I74 and 38I. No other VFR issues could be identified and there are no IFR effects.

The proposed structures must be appropriately obstruction marked and/or lighted to make them more conspicuous to airmen.

NOTE: A recommendation for white paint/synchronized red lights will be made for all turbines until such time as the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height. At that time, the proponent may contact this office and request a re-evaluation of the marking and lighting recommendations for the turbines within this project and a portion of the turbines may qualify for the removal of the lighting recommendation.





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

Aeronautical Study No.
2017-WTE-3784-OE
Prior Study No.
2014-WTE-7160-OE

Issued Date: 10/20/2017

Jeff McKee
Buckeye Wind
1251 Waterfront Pl
3rd Floor
Pittsburgh, PA 15222

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

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine BII-110
Location:	Urbana, OH
Latitude:	40-08-46.57N NAD 83
Longitude:	83-40-07.85W
Heights:	1159 feet site elevation (SE) 499 feet above ground level (AGL) 1658 feet above mean sea level (AMSL)

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

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

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

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

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

See attachment for additional condition(s) or information.

This determination expires on 04/20/2019 unless:

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

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

This determination is subject to review if an interested party files a petition that is received by the FAA on or before November 19, 2017. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager, Airspace Policy & Regulation, Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This determination becomes final on November 29, 2017 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Regulations & ATC Procedures Group via telephone -- 202-267-8783 - or facsimile 202-267-9328.

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

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

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

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

one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

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

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

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

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

If we can be of further assistance, please contact Paul Holmquist, at (425) 227-2625, or paul.holmquist@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2017-WTE-3784-OE.

Signature Control No: 333959491-347022313

(DNH -WT)

Mike Helvey

Manager, Obstruction Evaluation Group

Attachment(s)

Additional Information

Map(s)

Additional information for ASN 2017-WTE-3784-OE

Abbreviations

AGL - above ground level

AMSL - above mean sea level

RWY - runway

VFR - visual flight rules

IFR - instrument flight rules

NM - nautical mile

ASN - aeronautical study number

TPA - traffic pattern airspace

Part 77 - Title 14 Code of Federal Regulations (CFR) Part 77, Safe, Efficient Use and Preservation of the Navigable Airspace

1. LOCATION OF PROPOSED CONSTRUCTION

The entire proposed Buckeye Wind 2 wind turbine project near Urbana, OH consists of 42 turbines at 492 and 499 feet AGL. The proposed wind turbine project lies approximately between 4.0 NM to 9.4 NM east of the Airport Reference Point (ARP) for the Grimes Field Airport (I74), Urbana, OH.

For the sake of efficiency, the narrative below describes 7 of the proposed turbines that have similar impacts, the primary difference being the amount of penetration to 14 CFR Part 77 standards. Separate determinations for each turbine will be made issued and are available on our website at <http://oeaaa.faa.gov>.

ASN (degrees)	AGL/AMSL (feet)	Latitude/Longitude	Distance From I74 (NM)/Azimuth
2017-WTE-3778-OE	499/1813	40-08-44.36N/83-37-35.17W	5.93/082.2
2017-WTE-3779-OE	499/1781	40-08-04.24N/83-38-31.04W	5.16/088.5
2017-WTE-3780-OE	499/1693	40-08-12.19N/83-39-46.81W	4.20/086.4
2017-WTE-3781-OE	499/1808	40-08-17.25N/83-38-13.51W	5.39/086.3
2017-WTE-3782-OE	499/1814	40-08-08.59N/83-38-03.83W	5.51/087.9
2017-WTE-3783-OE	499/1766	40-07-58.19N/83-39-05.66W	4.72/089.6
2017-WTE-3784-OE	499/1658	40-08-46.57N/83-40-07.85W	4.01/077.9

2. OBSTRUCTION STANDARDS EXCEEDED

The 7 proposed turbines would exceed 14 CFR Part 77 standards as described below.

Section 77.17(a)(2): A height Above Ground Level (AGL) or airport elevation, whichever is higher, exceeding a height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 nautical miles of the established reference point of an airport, excluding heliports, with its longest Runway (RWY) more than 3,200 feet in actual length, and that height increases in the proportion of 100 feet for each additional nautical mile from the airport up to a maximum of 499 feet.

ASN	Exceeds I74 Section 77.17(a)(2) By (feet)
2017-WTE-3778-OE	7
2017-WTE-3779-OE	83
2017-WTE-3780-OE	180
2017-WTE-3781-OE	60
2017-WTE-3782-OE	48
2017-WTE-3783-OE	128
2017-WTE-3784-OE	199

3. EFFECT ON AERONAUTICAL OPERATIONS

a. The impact on arrival, departure, and en route procedures for aircraft operating under VFR: The structures would exceed 14 CFR Part 77 standards described in Part 77 Section 77.17(a)(2) for I74 by the following values:

ASN	Exceeds Section 77.17(a)(2) By (feet)
2017-WTE-3778-OE	7
2017-WTE-3779-OE	83
2017-WTE-3780-OE	180
2017-WTE-3781-OE	60
2017-WTE-3782-OE	48
2017-WTE-3783-OE	128
2017-WTE-3784-OE	199

There are no effects on the VFR traffic pattern. The proposed 7 turbines lie within the lateral boundaries and penetrate category D traffic pattern airspace for RWY 09/27 at Weller Airport (38I). Two turbines, studied under ASNs 2017-WTE-3780-OE and 2017-WTE-3784-OE, also penetrate the category D traffic pattern airspace for RWYs 02/20 and 01/19 at I74. Category D aircraft are those aircraft with an approach speed of between 141-165 knots. Internal FAA evaluation found the proposed turbine(s) are located outside the VFR traffic pattern airspace for all categories of aircraft that use I74 and 38I.

There are no effects on any existing or proposed arrival, departure, or en route IFR minimum flight altitudes. There are no physical or electromagnetic effects on the operation of air navigation and communications facilities.

There are no effects on any airspace and routes used by the military.

b. The impact on arrival, departure, and en route procedures for aircraft operating under IFR: None.

c. The impact on all planned public-use airports and aeronautical facilities: None.

d. The cumulative impact resulting from the proposed construction or alteration of a structure when combined with the impact of other existing or proposed structures: None.

The I74 Airport Master Record can be viewed/downloaded <http://www.gcr1.com/5010web/airport.cfm?Site=I74> . It states there are 33 single-engine, 10 multi-engine, 0 jet and 1 helicopter and 4 ultra-light aircraft based there with 23,480 operations for the 12 months ending 3 September, 2016 (latest information).

The Weller Airport (38I) Airport Master Record can be viewed/downloaded <http://www.gcr1.com/5010web/airport.cfm?Site=38I> . It states there are 0 single-engine, 0 multi-engine, 0 jet and 0 helicopter and 0 ultra-light aircraft based there with 300 operations for the 12 months ending 3 September, 2016 (latest information).

4. CIRCULATION AND COMMENTS RECEIVED

The proposal was not circularized to the public for comments, as circularization is not required for structures that would exceed the above-cited standard and would be located outside traffic pattern airspace. The proposed turbine(s) are located outside the VFR traffic pattern airspace for all categories of aircraft that use I74 and 38I.

This policy does not affect the public's right to petition for review determinations regarding structures, which exceed the subject obstruction standards.

5. DETERMINATION - NO HAZARD TO AIR NAVIGATION

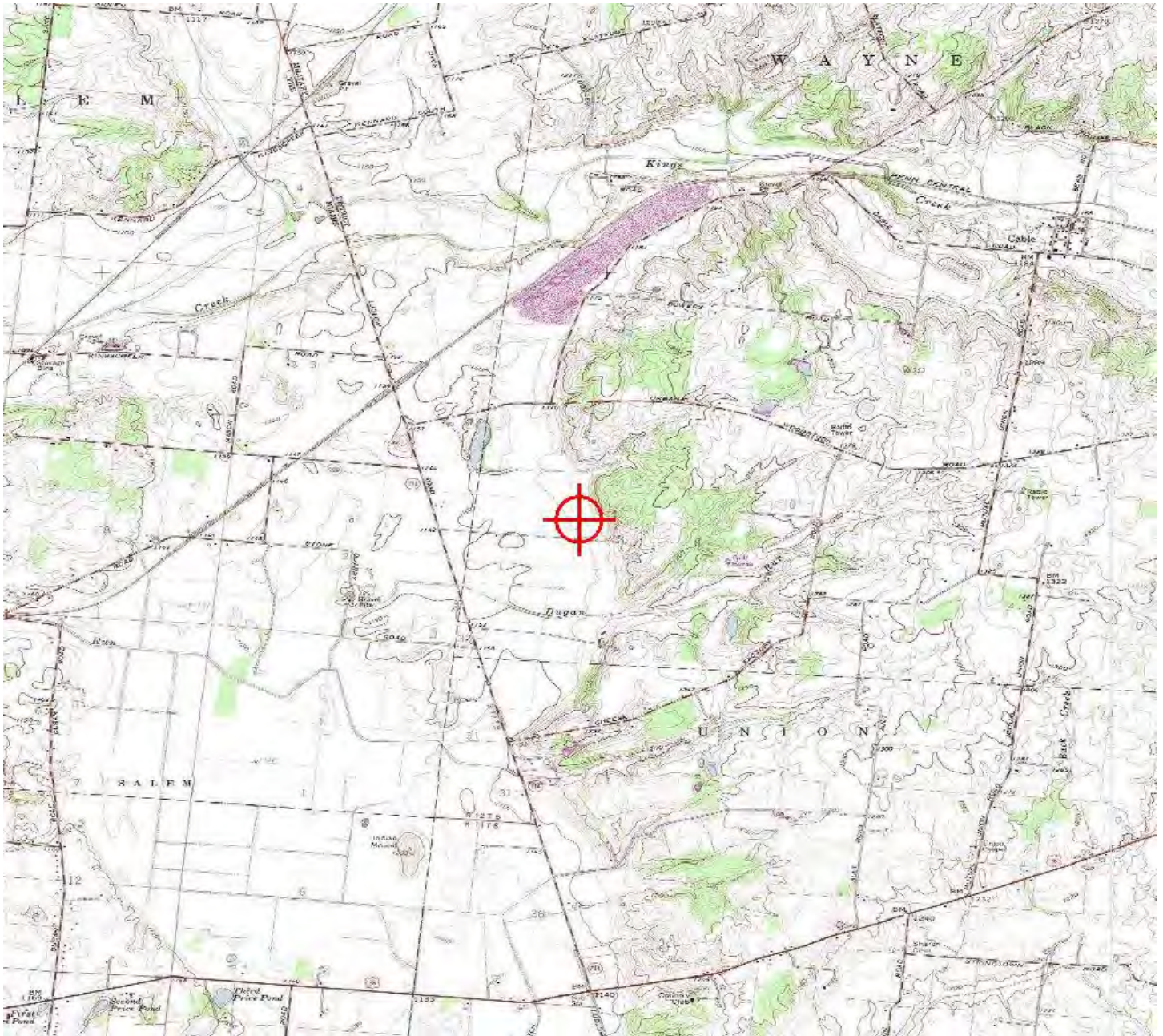
It is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation provided the conditions set forth within this determination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

6. BASIS FOR DECISION

Study for possible VFR effect disclosed that the proposed structure would have no effect on any existing or proposed arrival or departure VFR operations or procedures. At 499 feet AGL, the proposed structures would not have a substantial adverse effect on VFR en route flight operations. FAA evaluation found the proposed turbine(s) are located outside the VFR traffic pattern airspace for all categories of aircraft that use I74 and 38L. No other VFR issues could be identified and there are no IFR effects.

The proposed structures must be appropriately obstruction marked and/or lighted to make them more conspicuous to airmen.

NOTE: A recommendation for white paint/synchronized red lights will be made for all turbines until such time as the proponent confirms that the layout is final (no changes, no additions, no removals) and all turbines can and will be built at their determined location and height. At that time, the proponent may contact this office and request a re-evaluation of the marking and lighting recommendations for the turbines within this project and a portion of the turbines may qualify for the removal of the lighting recommendation.





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

Aeronautical Study No.
2014-WTE-7164-OE

Issued Date: 01/06/2017

Jeff McKee
Buckeye Wind
1251 Waterfront Pl
3rd Floor
Pittsburgh, PA 15222

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine BII - 115
Location:	Urbana, OH
Latitude:	40-08-01.50N NAD 83
Longitude:	83-37-10.71W
Heights:	1261 feet site elevation (SE) 492 feet above ground level (AGL) 1753 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 07/06/2018 unless otherwise extended, revised, or terminated by this office. You must adhere to all conditions identified in the original determination.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (816) 329-2528. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-WTE-7164-OE.

Signature Control No: 238180122-314320922

Cindy Whitten
Specialist

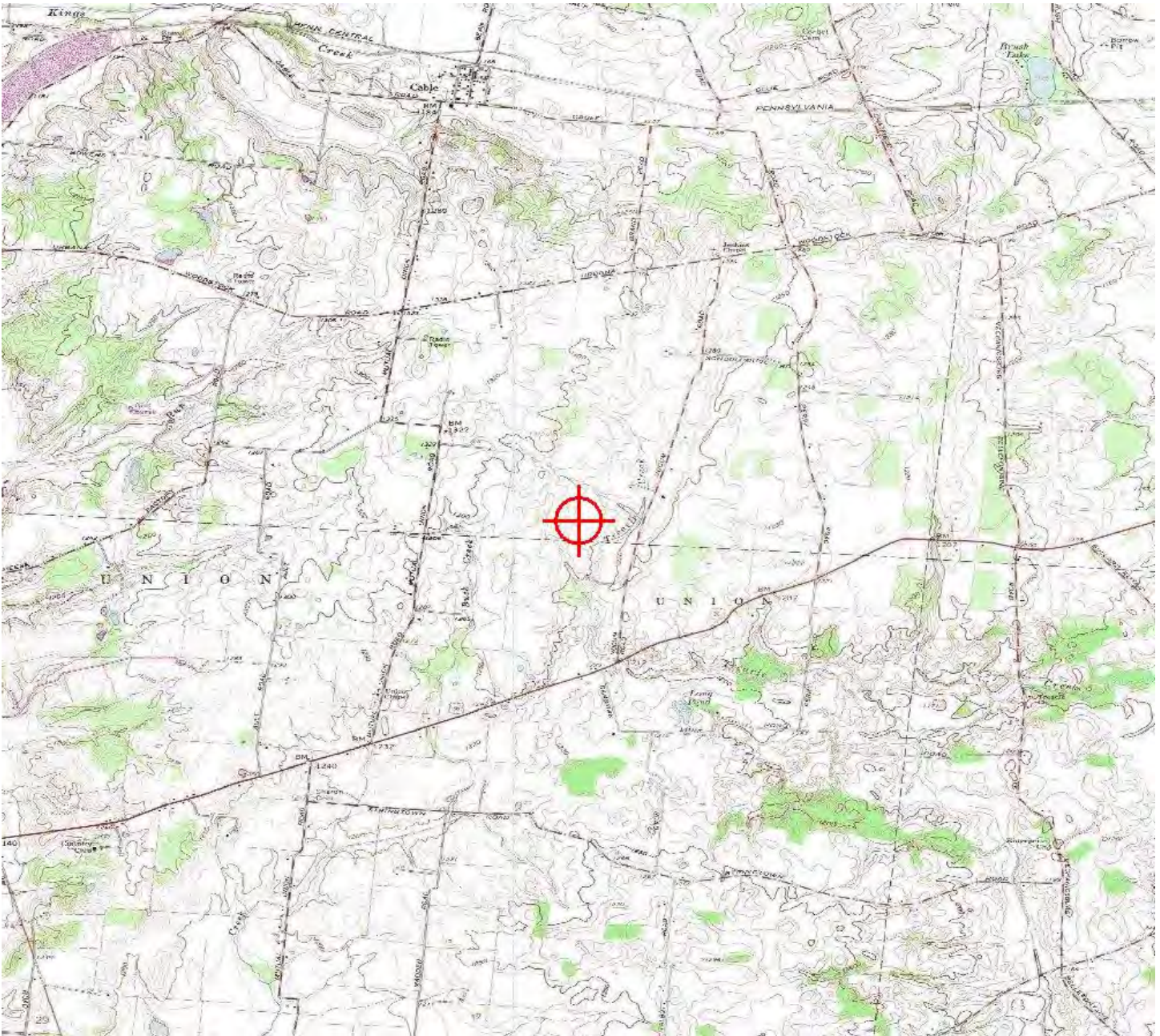
(EXT -WT)

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2014-WTE-7164-OE

Your extension is approved; all provisions from the original determination still apply.

Note: Primary Radar effects were found for this project, but those impacts were coordinated and approved by the affected air traffic control facilities at this time.





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

Aeronautical Study No.
2014-WTE-7165-OE

Issued Date: 01/06/2017

Jeff McKee
Buckeye Wind
1251 Waterfront Pl
3rd Floor
Pittsburgh, PA 15222

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine BII - 116
Location:	Urbana, OH
Latitude:	40-08-18.69N NAD 83
Longitude:	83-37-11.83W
Heights:	1282 feet site elevation (SE) 492 feet above ground level (AGL) 1774 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 07/06/2018 unless otherwise extended, revised, or terminated by this office. You must adhere to all conditions identified in the original determination.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (816) 329-2528. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-WTE-7165-OE.

Signature Control No: 238180123-314320923

(EXT -WT)

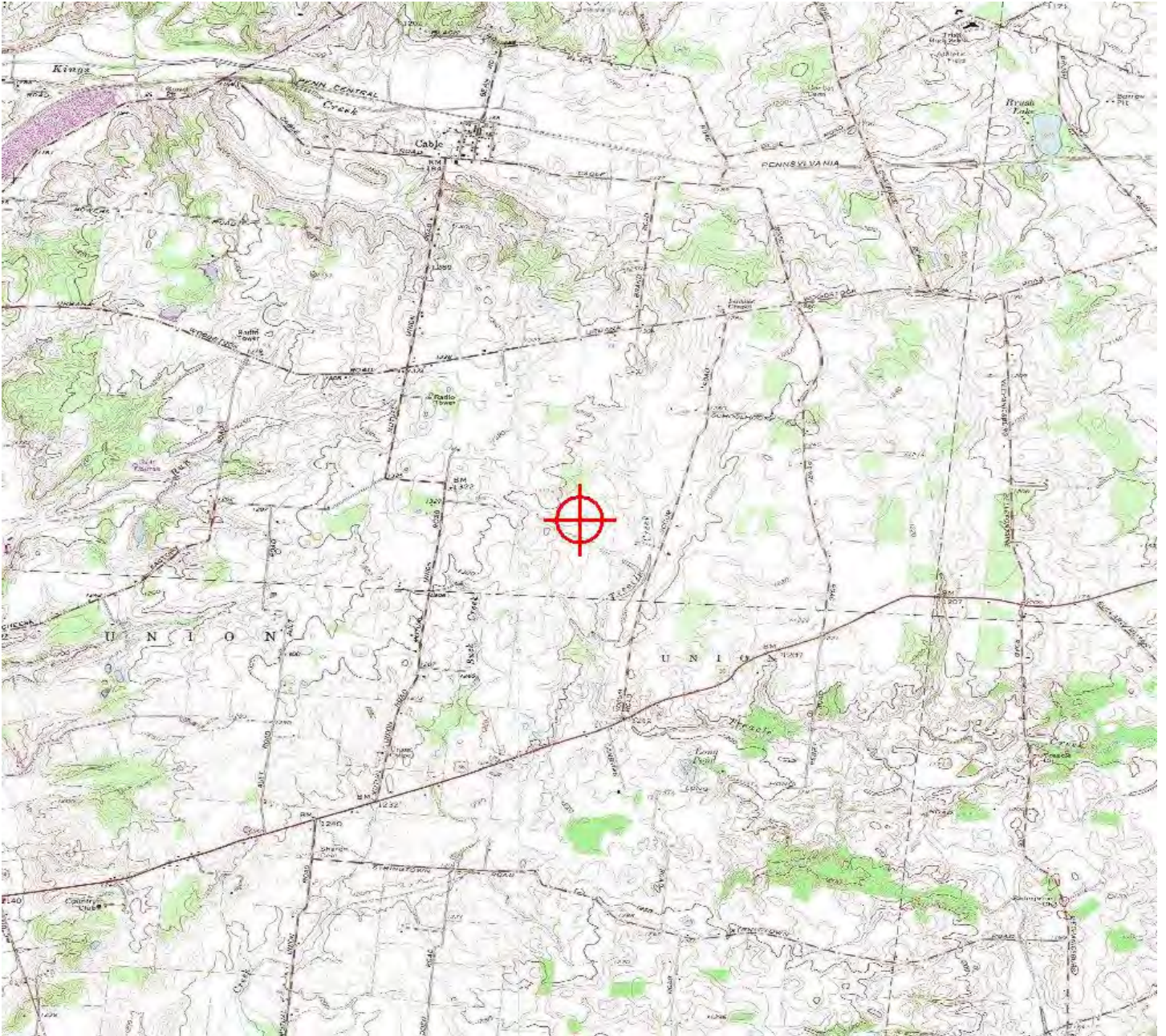
Cindy Whitten
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2014-WTE-7165-OE

Your extension is approved; all provisions from the original determination still apply.

Note: Primary Radar effects were found for this project, but those impacts were coordinated and approved by the affected air traffic control facilities at this time.





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Aeronautical Study No.
2014-WTE-7166-OE

Issued Date: 01/06/2017

Jeff McKee
Buckeye Wind
1251 Waterfront Pl
3rd Floor
Pittsburgh, PA 15222

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine BII - 117
Location:	Urbana, OH
Latitude:	40-08-38.89N NAD 83
Longitude:	83-36-59.17W
Heights:	1278 feet site elevation (SE) 492 feet above ground level (AGL) 1770 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 07/06/2018 unless otherwise extended, revised, or terminated by this office. You must adhere to all conditions identified in the original determination.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (816) 329-2528. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-WTE-7166-OE.

Signature Control No: 238180124-314320924

Cindy Whitten
Specialist

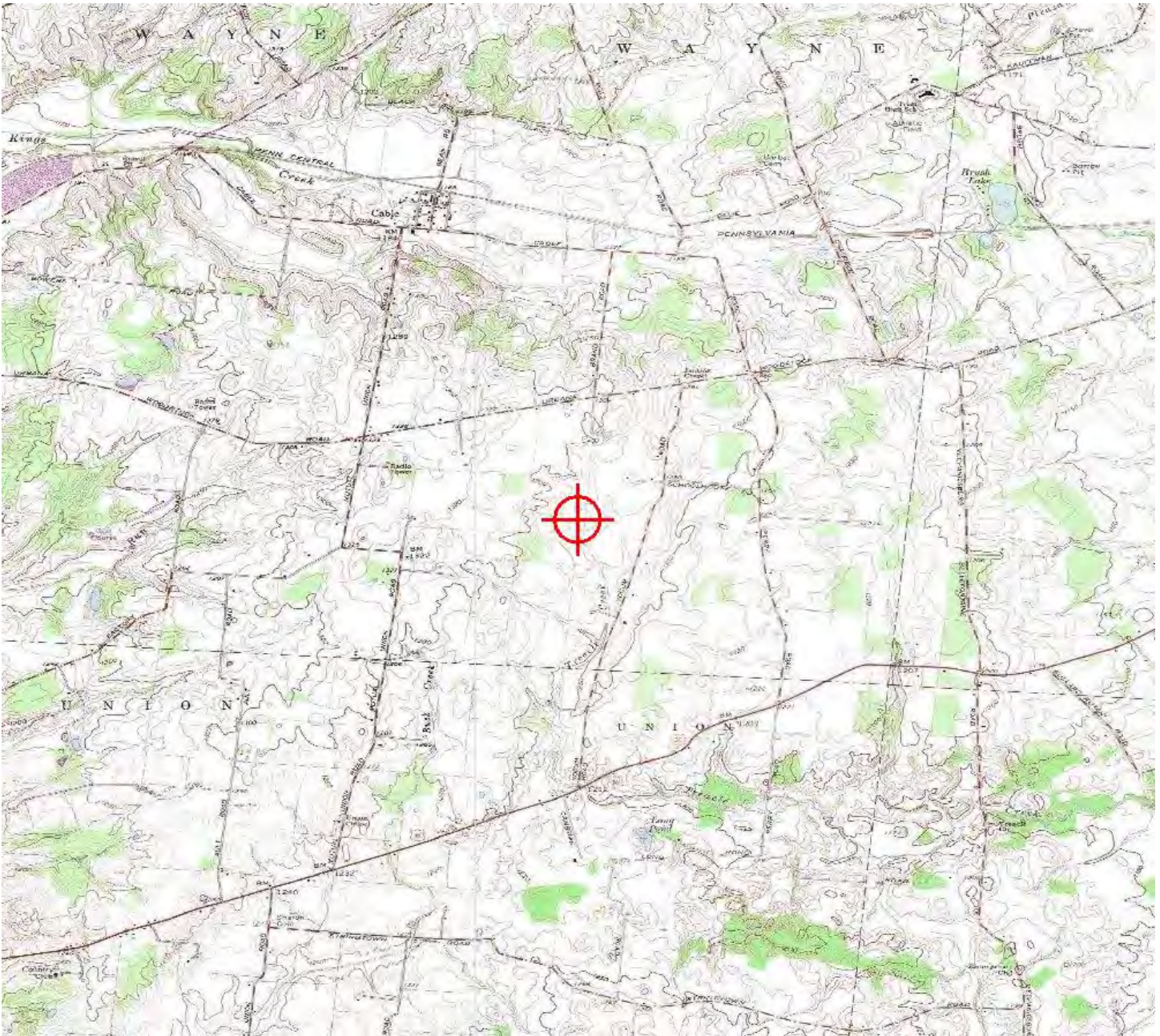
(EXT -WT)

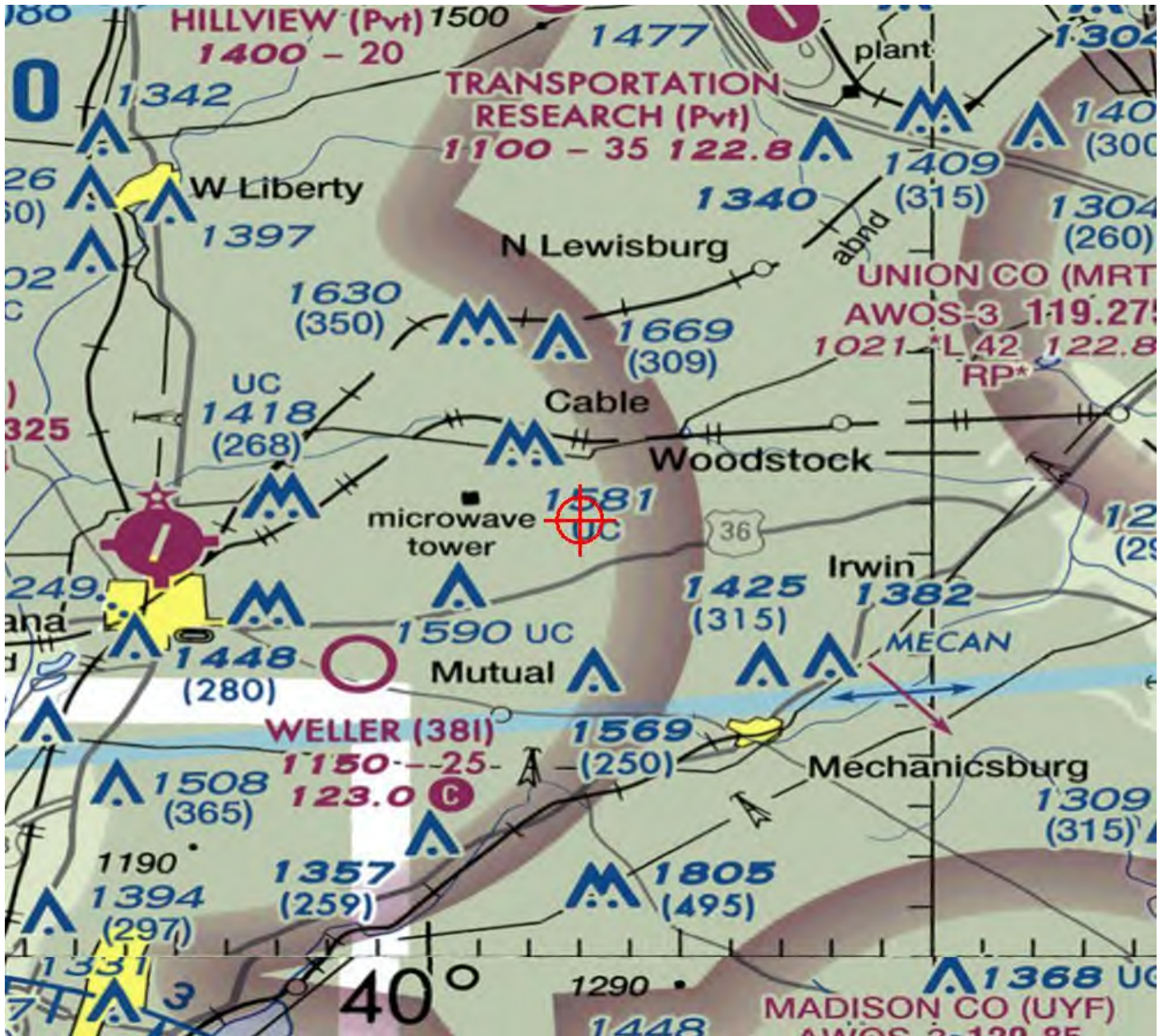
Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2014-WTE-7166-OE

Your extension is approved; all provisions from the original determination still apply.

Note: Primary Radar effects were found for this project, but those impacts were coordinated and approved by the affected air traffic control facilities at this time.







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Southwest Regional Office
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Aeronautical Study No.
2014-WTE-7172-OE

Issued Date: 01/06/2017

Jeff McKee
Buckeye Wind
1251 Waterfront Pl
3rd Floor
Pittsburgh, PA 15222

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine BII - 126
Location:	Urbana, OH
Latitude:	40-08-44.87N NAD 83
Longitude:	83-34-21.53W
Heights:	1143 feet site elevation (SE) 492 feet above ground level (AGL) 1635 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 07/06/2018 unless otherwise extended, revised, or terminated by this office. You must adhere to all conditions identified in the original determination.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (816) 329-2528. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-WTE-7172-OE.

Signature Control No: 238180136-314320925

(EXT -WT)

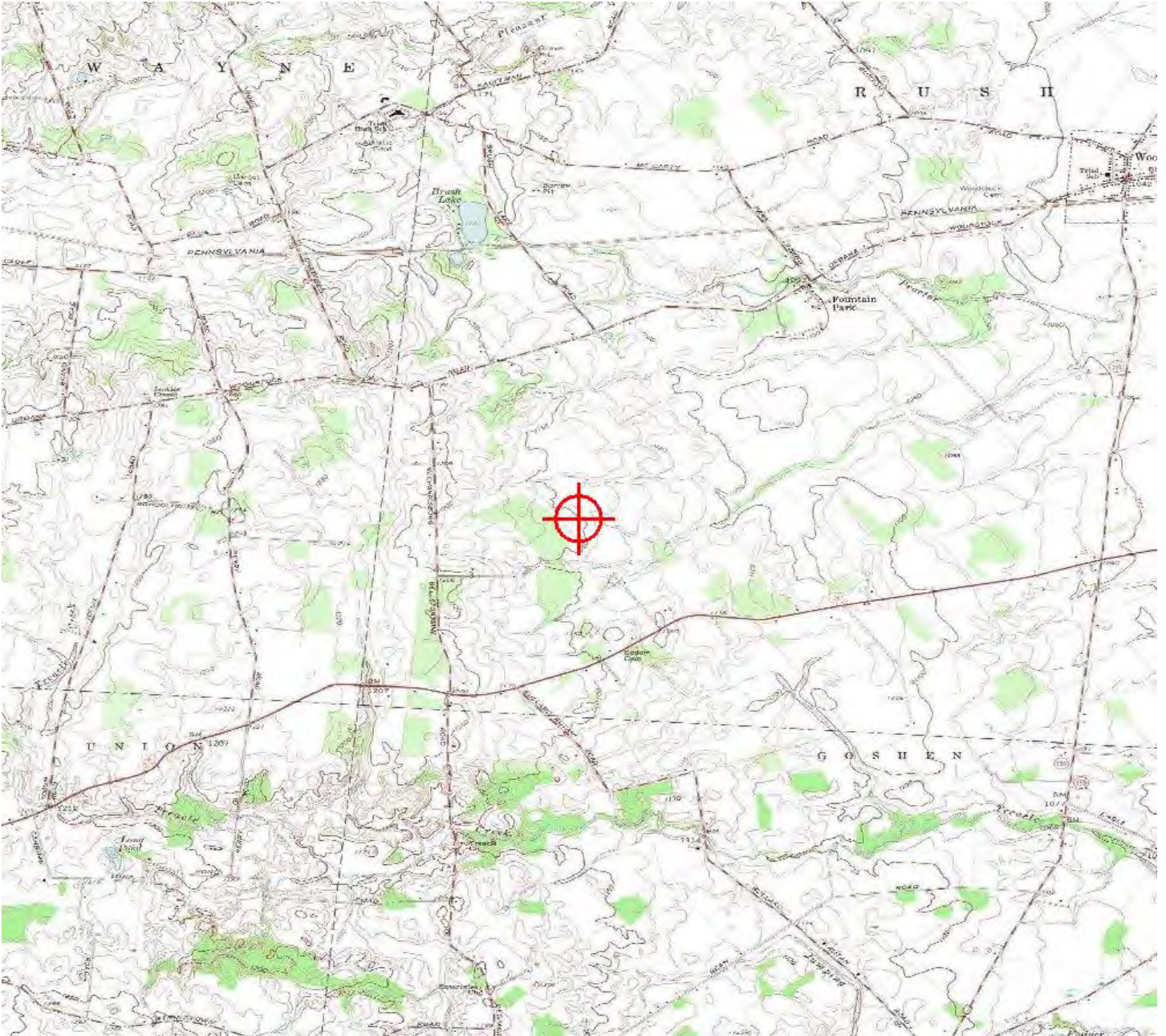
Cindy Whitten
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2014-WTE-7172-OE

Your extension is approved; all provisions from the original determination still apply.

Note: Primary Radar effects were found for this project, but those impacts were coordinated and approved by the affected air traffic control facilities at this time.





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

Aeronautical Study No.
2014-WTE-7173-OE

Issued Date: 01/06/2017

Jeff McKee
Buckeye Wind
1251 Waterfront Pl
3rd Floor
Pittsburgh, PA 15222

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine BII - 127
Location:	Urbana, OH
Latitude:	40-07-48.40N NAD 83
Longitude:	83-34-19.06W
Heights:	1147 feet site elevation (SE) 492 feet above ground level (AGL) 1639 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 07/06/2018 unless otherwise extended, revised, or terminated by this office. You must adhere to all conditions identified in the original determination.

This extension issued in accordance with 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77, concerns the effect of the structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

If we can be of further assistance, please contact our office at (816) 329-2528. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-WTE-7173-OE.

Signature Control No: 238180137-314320926
Cindy Whitten
Specialist

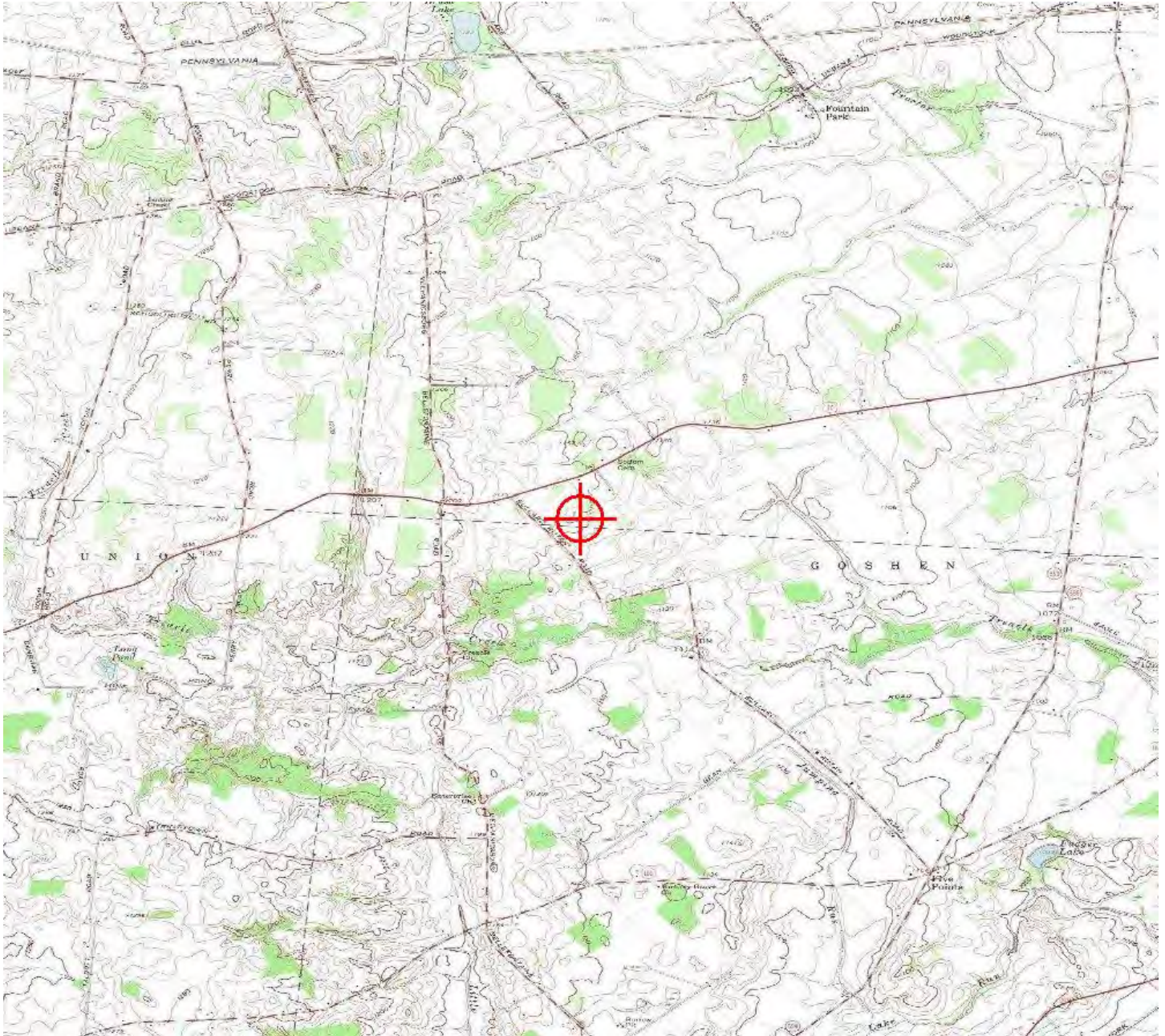
(EXT -WT)

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2014-WTE-7173-OE

Your extension is approved; all provisions from the original determination still apply.

Note: Primary Radar effects were found for this project, but those impacts were coordinated and approved by the affected air traffic control facilities at this time.







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Federal Aviation Administration
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10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2014-WTE-7174-OE

Issued Date: 01/06/2017

Jeff McKee
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1251 Waterfront Pl
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Pittsburgh, PA 15222

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine BII - 128
Location:	Urbana, OH
Latitude:	40-05-27.64N NAD 83
Longitude:	83-33-21.19W
Heights:	1087 feet site elevation (SE) 492 feet above ground level (AGL) 1579 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 07/06/2018 unless otherwise extended, revised, or terminated by this office. You must adhere to all conditions identified in the original determination.

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If we can be of further assistance, please contact our office at (816) 329-2528. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-WTE-7174-OE.

Signature Control No: 238180139-314320927

(EXT -WT)

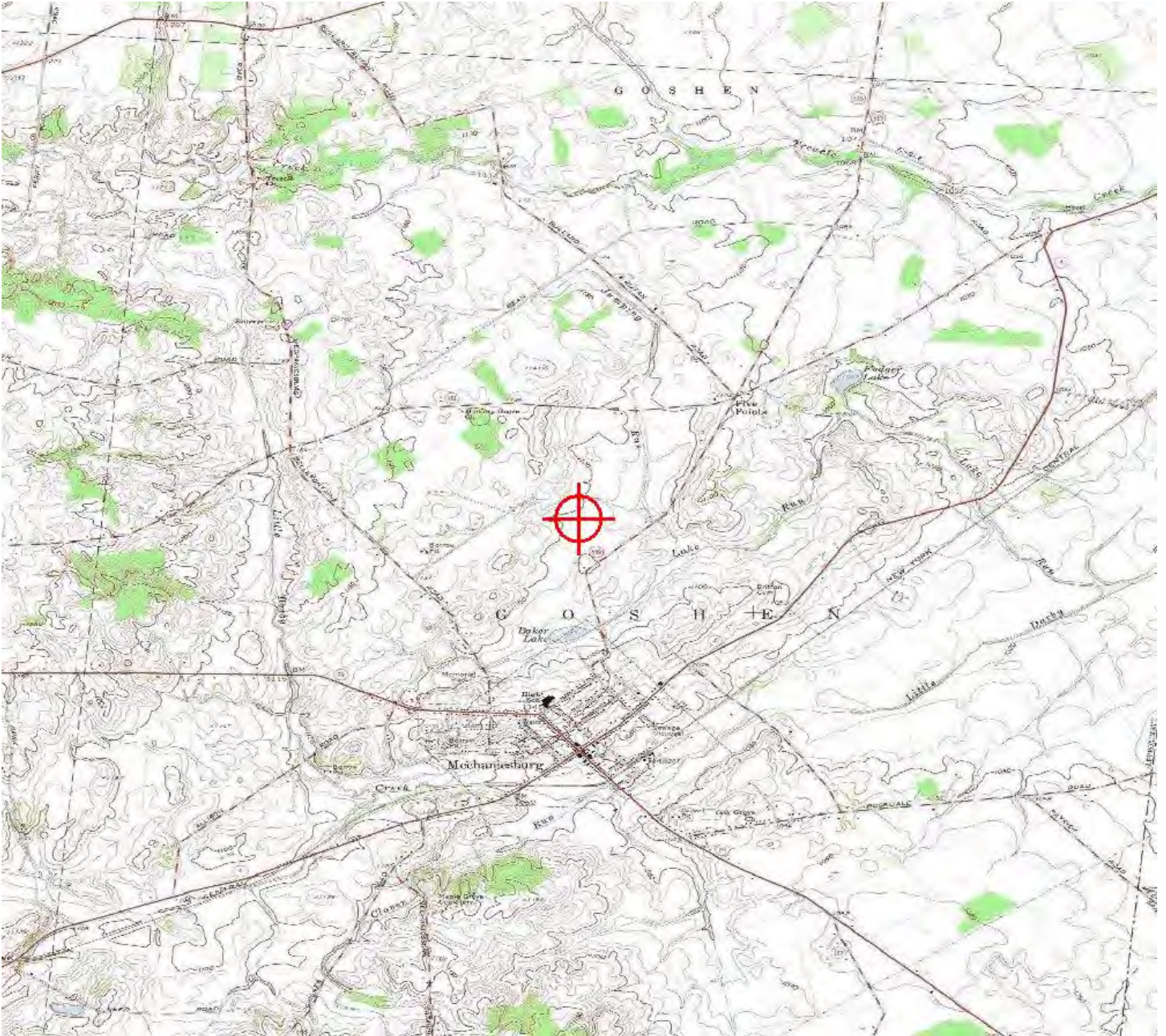
Cindy Whitten
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2014-WTE-7174-OE

Your extension is approved; all provisions from the original determination still apply.

Note: Primary Radar effects were found for this project, but those impacts were coordinated and approved by the affected air traffic control facilities at this time.







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Federal Aviation Administration
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Aeronautical Study No.
2014-WTE-7175-OE

Issued Date: 01/06/2017

Jeff McKee
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1251 Waterfront Pl
3rd Floor
Pittsburgh, PA 15222

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine BII - 129
Location:	Urbana, OH
Latitude:	40-08-23.09N NAD 83
Longitude:	83-34-36.59W
Heights:	1155 feet site elevation (SE) 492 feet above ground level (AGL) 1647 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 07/06/2018 unless otherwise extended, revised, or terminated by this office. You must adhere to all conditions identified in the original determination.

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If we can be of further assistance, please contact our office at (816) 329-2528. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-WTE-7175-OE.

Signature Control No: 238180140-314320928

(EXT -WT)

Cindy Whitten
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2014-WTE-7175-OE

Your extension is approved; all provisions from the original determination still apply.

Note: Primary Radar effects were found for this project, but those impacts were coordinated and approved by the affected air traffic control facilities at this time.



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Fort Worth, TX 76177

Aeronautical Study No.
2014-WTE-7176-OE

Issued Date: 01/06/2017

Jeff McKee
Buckeye Wind
1251 Waterfront Pl
3rd Floor
Pittsburgh, PA 15222

**** Extension ****

A Determination was issued by the Federal Aviation Administration (FAA) concerning:

Structure:	Wind Turbine BII - 130
Location:	Urbana, OH
Latitude:	40-06-08.77N NAD 83
Longitude:	83-33-13.56W
Heights:	1102 feet site elevation (SE) 492 feet above ground level (AGL) 1594 feet above mean sea level (AMSL)

In response to your request for an extension of the effective period of the determination, the FAA has reviewed the aeronautical study in light of current aeronautical operations in the area of the structure and finds that no significant aeronautical changes have occurred which would alter the determination issued for this structure.

Accordingly, pursuant to the authority delegated to me, the effective period of the determination issued under the above cited aeronautical study number is hereby extended and will expire on 07/06/2018 unless otherwise extended, revised, or terminated by this office. You must adhere to all conditions identified in the original determination.

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If we can be of further assistance, please contact our office at (816) 329-2528. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-WTE-7176-OE.

Signature Control No: 238180141-314320929

(EXT -WT)

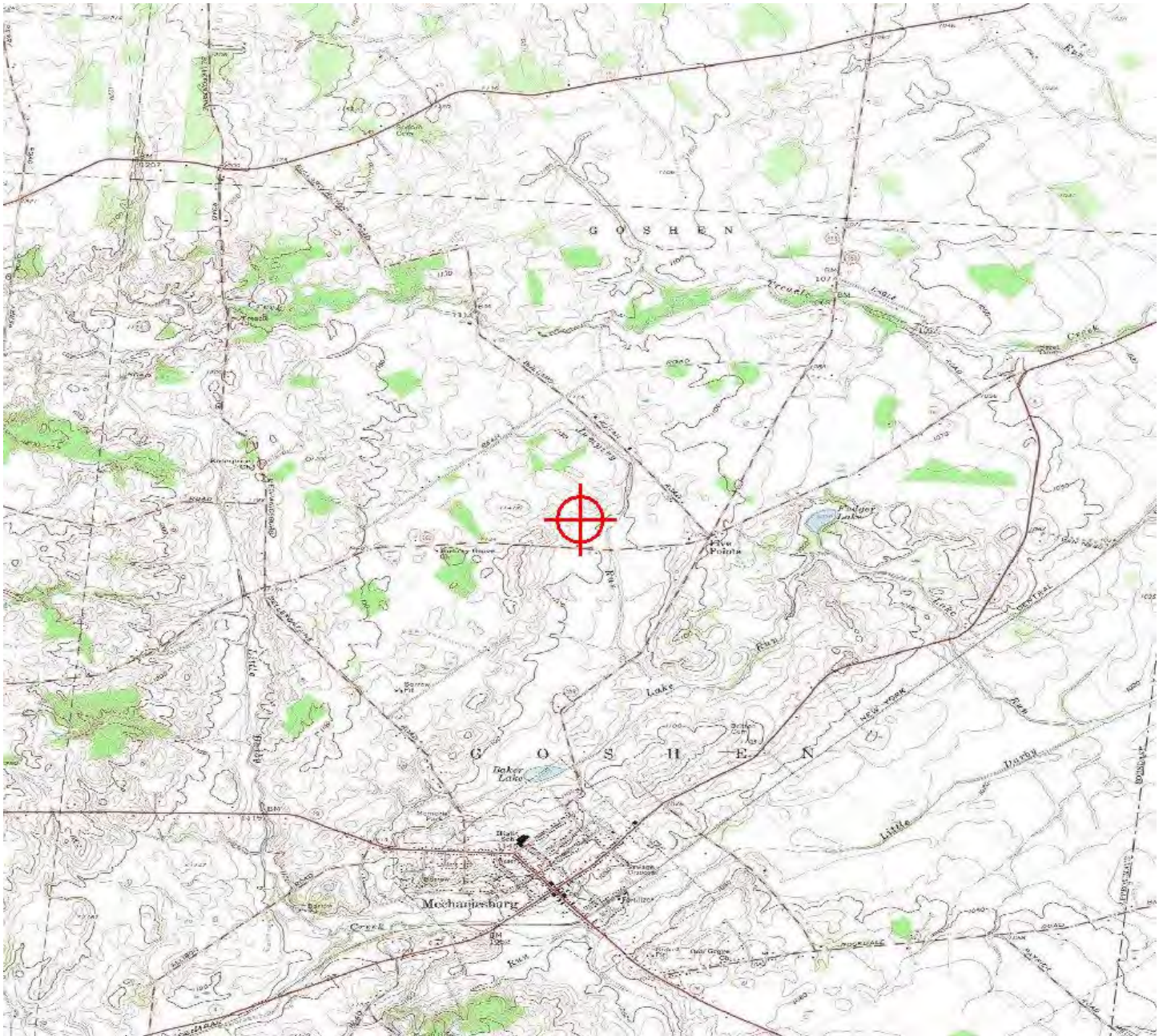
Cindy Whitten
Specialist

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2014-WTE-7176-OE

Your extension is approved; all provisions from the original determination still apply.

Note: Primary Radar effects were found for this project, but those impacts were coordinated and approved by the affected air traffic control facilities at this time.





This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

12/22/2017 4:08:25 PM

in

Case No(s). 17-2516-EL-BGA, 17-2517-EL-BGA

Summary: Application Exhibit J - FAA Determinations electronically filed by Mr. Ryan D. Elliott on behalf of Buckeye Wind LLC and Champaign Wind LLC