



814 Thornwick Drive
Houston, TX 77079
www.Civil-PEs.com

March 11, 2024

James Mason, CM, A.C.E.
Bay City Regional Airport
3598 FM 2540 North
Bay City, Texas 77414

Permit Application Technical Review: Permit Application: Structure PC2167 – Wind Turbine

Transmitted via email to jmason@cityofbaycity.org on March 11, 2024

Dear James.

We have completed a review of the structure reference above. This structure was previously studied under FAA's airspace review as study 2022-WTW-3572-OE. This review is organized around the following sections of the ordinance:

Zoning Ordinance Section 18-41 – Height Limitations

Subsection: N/A

Reasons: We have no objection to the proposed structure based on the Part 77 surfaces identified in this Section.

Zoning Ordinance Section 18-42 – Compatible Land Use Area

Subsection: N/A

Reasons: We have no objection to the proposed structure based on noise compatibility requirements in this Section.

Zoning Ordinance Section 18-44 – Other Use Restrictions

Subsection: (1) Airport Safety

Reasons: This section does not permit use of land or water in the entirety of Matagorda County that might impair visibility in the vicinity of the airport, or otherwise in any way endanger or interfere with the landing, taking off, or maneuvering of aircraft intending to use the airport. This proposed item will affect taking off from the airport:

1. This proposed structure is located 3.32 nm from the end of Runway 31, its departure end. This structure is within the "Diverse Departure Assessment Area" as defined under FAA Order 8260.3D and may require an Obstacle Departure Procedure. For southbound departures from the runway toward the proposed structure, the climb gradient needed to provide proper clearance over the structure will exceed the standard climb gradient; this has been noted in the airspace determination letter of March 15, 2023. Such a requirement interferes with operating out of the airport compared to the operating requirements today.

Based on the information provided above, we find this proposed structure to be contradictory to the zoning ordinance and hereby do not recommend approval of this structure.

Civil PEs, LLC

A handwritten signature in blue ink, appearing to read "Thomas D Dodson".

Thomas D Dodson, PE
Project Leader



www.FlyBayCity.com

3598 FM 2540 N Bay City, Texas 77414

(979) 244-5037

Airport Hazard and Land Use Permit

In accordance with Texas Local Government Code, Chapter 241, also known as the Airport Zoning Act, the Consolidated Hazard Area and Compatible Land Use Zoning Regulations have been revised by the Bay City Regional Airport Zoning Board. Revisions now include maps which allow for timelier identification of real properties within hazard and zoning areas.

The Airport Zoning Act found that airport hazards and obstructions have the potential for endangering the lives and property of users of Bay City Regional Airport and property or occupants of land in its vicinity. Obstructions may impact the size of areas available for the landing, taking off and maneuvering of aircraft and may affect aircraft instrument approach minimums.

The real property for which you are submitting a permit application is located within the Compatible Land Use Area and/or Hazard Area of the Bay City Regional Airport. Applications for building, electrical, plumbing, or mechanical permit(s) within these areas require an "Airport Hazard and Land Use Permit" be approved before any other permit will be issued. Airport Hazard and Land Use permits may restrict some aspects of the potential use, size, height, lighting, glare potential or construction of your building.

Any cost associated with a permit that requires the assistance of any person not employed by the City of Bay City or the County of Matagorda shall be paid by the permittee. The permit fee shall be calculated by the Bay City Regional Airport Manager and shall be paid before the permit will be reviewed or issued.

Please complete the attached permit application and submit to the Bay City Regional Airport in person or by mail or email (contact information below). The Bay City Regional Airport shall consider and provide an approval or denial within a reasonable period of time.

Bay City Regional Airport
Attention: Airport Manager
3598 FM 2540 N
Bay City, TX 77414
Airport@cityofbaycity.org
(979) 244-5037

The Consolidated Hazard Area and Compatible Land Use Zoning Regulations can be found in the *City of Bay City Municipal Code of Ordinances, Chapter 18 – Aviation.*

x _____ PRIVATE (Individual, corporation, nonprofit institution, etc.)

_____ PUBLIC (Federal, state or local government)

ATTACH SURVEY/DRAWING/DEPICTION/MAP OF THE PROPERTY AND PROPOSED IMPROVEMENT

DESCRIPTION OF IMPROVEMENT OR PROJECT AND INTENDED USE OF LAND(ATTACH SEPARATE SHEETS IF NEEDED)

Install Wind Turbine Generator - PC2167

Will the property be used for any of the following purposes:

- Residential? (Y/N): N
- Educational (including child care and vocational)? (Y/N): N
- Medical, Institutional, Convalescent, or Rehabilitative Care? (Y/N): N
- Nursing Homes? (Y/N): N

If you answered "Yes" to any of the above, please describe further the proposed use: _____

Will any improvement or use create or cause electrical interference with communications between aircrafts and the Airport? (Y/N): N

If "Yes," explain: _____

Will any improvement or use create or cause difficulty for pilots to distinguish aircraft and the proposed improvement or the Airport? (Y/N): N

If "Yes," explain: _____

Will any improvement or use result in glare in the eyes of pilots or otherwise impair visibility in the vicinity of the Airport? (Y/N): N


If "Yes," explain: _____

Will any improvement or use increase the likelihood of bird strikes? (Y/N): N

If "Yes," explain: _____

Will any improvement or use endanger or interfere with the landing, taking off, or maneuvering of aircraft? (Y/N): N

If "Yes," explain: _____

Yes, Limited to Take-off maneuvers of aircraft departing Runway.


FAA AIRSPACE REVIEW:

Does this project require an airspace review by the FAA? Yes: X No: _____

Date FAA Form 7460-1 Submitted*: 5/19/2022

*Please contact the Airport Manager at (979) 323-1115, for assistance completing FAA Form 7460-1

Date Determination Letter received from FAA: 3/15/2023
(If received please attach a copy to this application)

NOTICE

I hereby certify that I have read and examined this application and know the same to be true and correct. The granting of a permit does not presume to give authority to violate or cancel any other Federal, State or local law regulating construction or the performance of construction.

DocuSigned by:

Applicant's Signature

Richard Suanders

Print Name

Date: 3/5/2024

Return completed Application to:

Airport Manager
Bay City Regional Airport
3598 FM 2540 N
Bay City, Texas 77414
(979) 244-5037
airport@cityofbaycity.org

Should you have any questions please contact the Aviation Director at (979) 244-5037 or email at airport@cityofbaycity.org

For Office Use Only:

Date Application Received: 3/11/24

Is project consistent with the Airport Zoning Regulation: Yes _____ No X

Reason for project not being considered consistent with zoning regulation:
INCREASE TALL-AT MINIMUMS & OBSTACLE DEPARTURE PROCEDURES

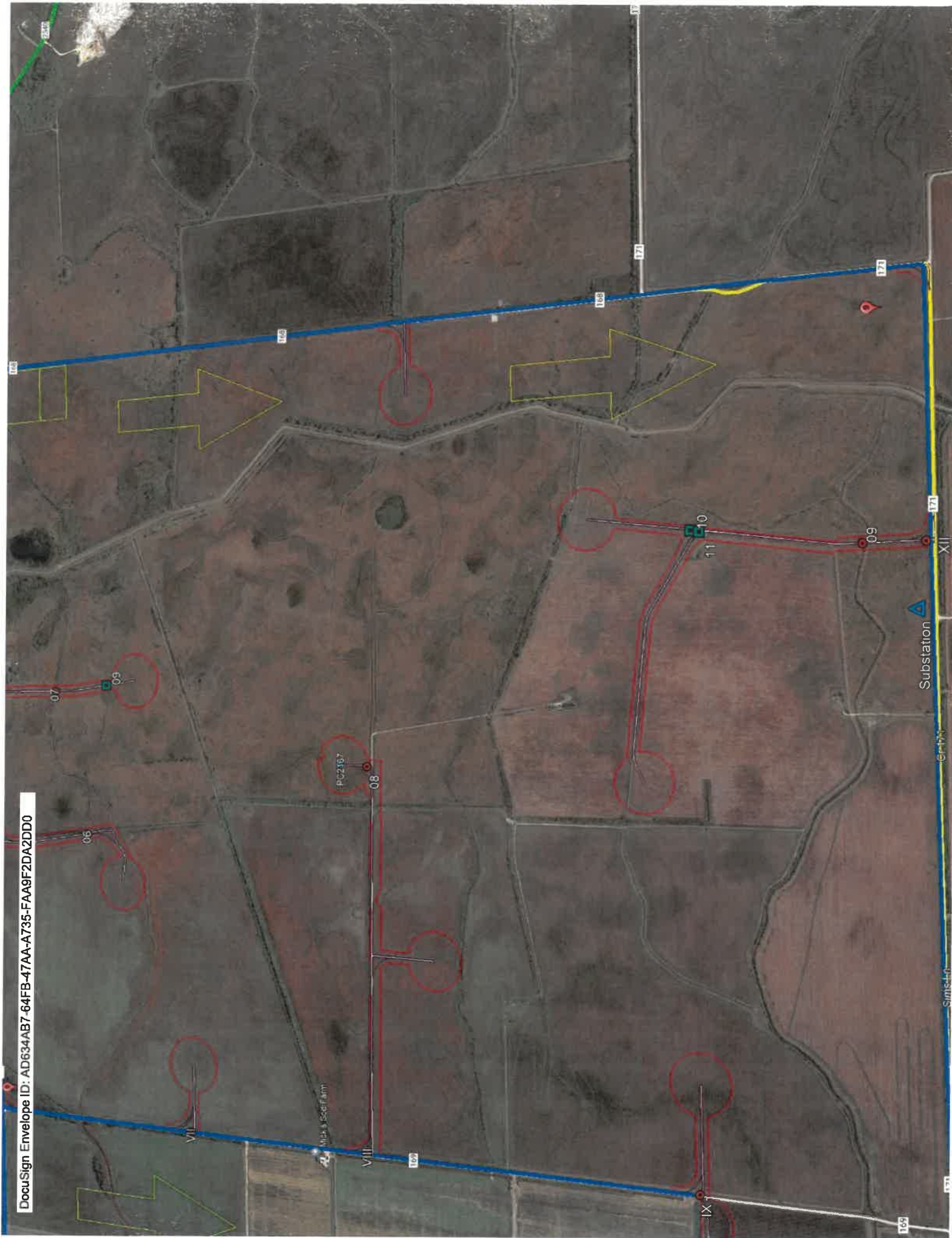
Airport Director Signature: _____

Date Application Considered by Administrative Agency Court.: _____

Permit Approved: Yes _____ No X

Permit Returned to Applicant 3/12/24 via email

DocuSign Envelope ID: AD634AB7-64FB-47AA-A735-FAA9F2DA2DD0





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

Aeronautical Study No.
2022-WTW-3572-OE

Issued Date: 03/15/2023

Rich Saunders
Peyton Creek II
701 Brazos St
Suite 1400
Austin, TX 78701

**** 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 PC2167
Location: Bay City, TX
Latitude: 28-54-48.92N NAD 83
Longitude: 95-52-06.22W
Heights: 42 feet site elevation (SE)
656 feet above ground level (AGL)
698 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 M, Obstruction Marking and Lighting, white paint/synchronized red lights-Chapters 4,13(Turbines),&15.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to 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.

- (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 April 14, 2023. In the event an interested party files a petition for review, it must contain a full statement of the basis upon which the petition is made. Petitions can be submitted to the Manager of the Rules and Regulations Group via e-mail at OEPetitions@faa.gov, via mail to Federal Aviation Administration, Air Traffic Organization, Rules and Regulations Group, Room 425, 800 Independence Ave, SW, Washington, DC 20591, or via facsimile (202) 267-9328. FAA encourages the use of email to ensure timely processing.

This determination becomes final on April 24, 2023 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 Rules and Regulations Group via telephone – 202-267-8783.

This determination is based, in part, on the foregoing description which includes specific coordinates and heights. This determination is valid for coordinates within one (1) second latitude/longitude and up to the approved AMSL height listed above. If a certified 1A or 2C accuracy survey was required to mitigate an adverse effect, any change in coordinates or increase in height will require a new certified accuracy survey and may require a new aeronautical study.

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

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

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

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

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

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

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

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

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

If we can be of further assistance, please contact Bill Kieffer, at (816) 329-2526, or bill.kieffer@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2022-WTW-3572-OE.

Signature Control No: 531743931-576371867

(DNH -WT)

Mike Helvey

Manager, Obstruction Evaluation Group

Attachment(s)

Additional Information

Map(s)

All FAA determinations and circularized cases are public record and available at the FAA's public website; <https://oeaaa.faa.gov>. The distribution for proposals circularized for public comments includes all "known" aviation interested persons and those who do not have an aeronautical interest but may become involved with specific aeronautical studies. Notification includes both postcard mailers and email notifications to those with registered FAA accounts.

A list of commonly used acronyms and abbreviations is available at the end of this document. A full list is available at the FAA's public website at https://oeaaa.faa.gov/oeaaa/downloads/external/content/FAA_Acronyms.pdf.

1. PROPOSAL DESCRIPTION

Proposed are 77 wind turbines for a project that lies approximately 5.4 NM east extending clockwise to points 3.4 NM south through 8 NM southwest of the airport reference point for the Bay City Regional Airport (BYY), Bay City, Texas.

For the sake of efficiency, all of the wind turbines in this project that have similar impacts are included in this narrative.

The proposed wind turbines' described heights and locations are expressed in Above Ground Level (AGL) height, Above Mean Sea Level (AMSL) height and latitude (LAT)/longitude (LONG).

ASN / AGL / AMSL / LAT / LONG

2022-WTW-3511-OE / 656 / 684 / 28-49-03.24N / 95-59-25.94W
 2022-WTW-3512-OE / 656 / 685 / 28-49-04.46N / 95-59-01.66W
 2022-WTW-3513-OE / 656 / 684 / 28-49-09.81N / 95-58-33.76W
 2022-WTW-3514-OE / 656 / 689 / 28-49-09.90N / 95-58-09.58W
 2022-WTW-3515-OE / 656 / 695 / 28-49-43.99N / 95-57-03.53W
 2022-WTW-3516-OE / 656 / 695 / 28-49-44.33N / 95-57-44.50W
 2022-WTW-3517-OE / 656 / 695 / 28-50-15.14N / 95-57-44.79W
 2022-WTW-3518-OE / 656 / 696 / 28-50-16.97N / 95-57-16.52W
 2022-WTW-3519-OE / 656 / 692 / 28-50-17.26N / 95-56-47.57W
 2022-WTW-3520-OE / 656 / 696 / 28-50-35.11N / 95-58-48.34W
 2022-WTW-3521-OE / 656 / 695 / 28-50-37.45N / 95-58-08.58W
 2022-WTW-3522-OE / 656 / 698 / 28-50-44.02N / 95-57-39.74W
 2022-WTW-3523-OE / 656 / 697 / 28-50-51.44N / 95-57-18.78W
 2022-WTW-3524-OE / 656 / 694 / 28-50-54.85N / 95-56-47.66W
 2022-WTW-3525-OE / 656 / 697 / 28-51-06.40N / 95-58-18.47W
 2022-WTW-3526-OE / 656 / 696 / 28-51-07.06N / 95-58-50.43W
 2022-WTW-3527-OE / 656 / 699 / 28-52-35.42N / 95-58-10.45W
 2022-WTW-3528-OE / 656 / 700 / 28-52-46.99N / 95-58-49.48W
 2022-WTW-3529-OE / 656 / 696 / 28-52-52.29N / 95-50-43.85W
 2022-WTW-3530-OE / 656 / 698 / 28-53-09.82N / 95-57-45.01W
 2022-WTW-3531-OE / 656 / 703 / 28-53-18.36N / 95-59-13.14W
 2022-WTW-3532-OE / 656 / 695 / 28-53-23.71N / 95-50-19.59W
 2022-WTW-3533-OE / 656 / 681 / 28-53-24.65N / 95-46-44.84W

2022-WTW-3534-OE / 656 / 701 / 28-53-30.00N / 95-58-50.54W
2022-WTW-3535-OE / 656 / 695 / 28-53-32.17N / 95-50-50.37W
2022-WTW-3536-OE / 656 / 697 / 28-53-37.93N / 95-57-34.82W
2022-WTW-3537-OE / 656 / 691 / 28-53-39.98N / 95-53-00.18W
2022-WTW-3538-OE / 656 / 680 / 28-53-40.00N / 95-46-25.00W
2022-WTW-3539-OE / 656 / 702 / 28-53-42.09N / 95-58-01.32W
2022-WTW-3540-OE / 656 / 693 / 28-53-45.02N / 95-49-48.22W
2022-WTW-3541-OE / 656 / 683 / 28-53-54.17N / 95-47-55.81W
2022-WTW-3542-OE / 656 / 695 / 28-53-55.29N / 95-50-12.51W
2022-WTW-3543-OE / 656 / 680 / 28-53-55.51N / 95-46-06.73W
2022-WTW-3544-OE / 656 / 701 / 28-54-00.09N / 95-58-40.28W
2022-WTW-3545-OE / 656 / 692 / 28-54-01.71N / 95-49-30.52W
2022-WTW-3546-OE / 656 / 691 / 28-54-02.77N / 95-53-22.81W
2022-WTW-3547-OE / 656 / 682 / 28-54-03.38N / 95-47-32.67W
2022-WTW-3548-OE / 656 / 682 / 28-54-06.61N / 95-47-06.89W
2022-WTW-3549-OE / 656 / 693 / 28-54-08.35N / 95-56-54.67W
2022-WTW-3550-OE / 656 / 703 / 28-54-08.71N / 95-58-18.58W
2022-WTW-3551-OE / 656 / 697 / 28-54-09.07N / 95-57-38.10W
2022-WTW-3552-OE / 656 / 700 / 28-54-09.92N / 95-51-09.23W
2022-WTW-3553-OE / 656 / 699 / 28-54-10.32N / 95-50-40.68W
2022-WTW-3554-OE / 656 / 692 / 28-54-10.67N / 95-52-38.56W
2022-WTW-3555-OE / 656 / 680 / 28-54-12.98N / 95-46-28.70W
2022-WTW-3556-OE / 656 / 680 / 28-54-16.20N / 95-45-48.58W
2022-WTW-3557-OE / 656 / 697 / 28-54-16.38N / 95-52-06.76W
2022-WTW-3558-OE / 656 / 699 / 28-54-22.35N / 95-51-38.19W
2022-WTW-3559-OE / 656 / 691 / 28-54-25.59N / 95-56-27.82W
2022-WTW-3560-OE / 656 / 694 / 28-54-26.46N / 95-50-05.29W
2022-WTW-3561-OE / 656 / 691 / 28-54-29.01N / 95-55-34.20W
2022-WTW-3562-OE / 656 / 690 / 28-54-29.64N / 95-56-01.93W
2022-WTW-3563-OE / 656 / 706 / 28-54-31.45N / 95-59-44.40W
2022-WTW-3564-OE / 656 / 702 / 28-54-32.76N / 95-59-10.74W
2022-WTW-3565-OE / 656 / 691 / 28-54-36.61N / 95-54-48.20W
2022-WTW-3566-OE / 656 / 692 / 28-54-39.44N / 95-49-42.28W
2022-WTW-3567-OE / 656 / 680 / 28-54-41.47N / 95-46-41.64W
2022-WTW-3568-OE / 656 / 702 / 28-54-45.79N / 95-58-24.32W
2022-WTW-3569-OE / 656 / 698 / 28-54-46.79N / 95-57-53.91W
2022-WTW-3570-OE / 656 / 700 / 28-54-47.17N / 95-50-49.99W
2022-WTW-3571-OE / 656 / 704 / 28-54-47.66N / 95-58-50.23W
2022-WTW-3572-OE / 656 / 698 / 28-54-48.92N / 95-52-06.22W
2022-WTW-3573-OE / 656 / 686 / 28-54-50.31N / 95-47-35.04W
2022-WTW-3574-OE / 656 / 692 / 28-54-51.26N / 95-49-11.96W
2022-WTW-3575-OE / 656 / 690 / 28-54-57.63N / 95-54-06.33W
2022-WTW-3577-OE / 656 / 694 / 28-55-00.16N / 95-55-20.76W
2022-WTW-3578-OE / 656 / 694 / 28-55-07.10N / 95-52-43.78W
2022-WTW-3579-OE / 656 / 693 / 28-55-11.02N / 95-54-58.39W
2022-WTW-3580-OE / 656 / 694 / 28-55-11.25N / 95-50-26.07W
2022-WTW-3581-OE / 656 / 699 / 28-55-14.93N / 95-51-56.84W
2022-WTW-3582-OE / 656 / 697 / 28-55-16.47N / 95-52-22.14W
2022-WTW-3583-OE / 656 / 693 / 28-55-26.00N / 95-54-36.08W

DocuSign Envelope ID: AD634AB7-64FB-47AA-A735-FAA9F2DA2DD0
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2022-WTW-3585-OE / 656 / 695 / 28-55-35.01N / 95-55-22.26W
2022-WTW-3587-OE / 656 / 688 / 28-56-14.97N / 95-46-26.39W
2022-WTW-3588-OE / 656 / 691 / 28-56-37.14N / 95-46-13.44W
2022-WTW-3589-OE / 656 / 688 / 28-56-50.79N / 95-45-51.83W

2. TITLE 14 CFR PART 77 - OBSTRUCTION STANDARDS EXCEEDED

a. Section 77.17(a)(1): Exceeds a height of 499 feet AGL at the site of the object exceeds this standard by 157 feet.

b. Section 77.17(a)(2): a height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 NM miles of the established reference point of BYY, and that height increases in the proportion of 100 feet for each additional NM from the airport up to a maximum of 499 feet. The following would exceed by:

2022-WTW-3548-OE / Exceeds by 144 ft.
2022-WTW-3567-OE / Exceeds by 154 ft.
2022-WTW-3547-OE / Exceeds by 166 ft.
2022-WTW-3541-OE / Exceeds by 176 ft.
2022-WTW-3559-OE / Exceeds by 178 ft.
2022-WTW-3529-OE / Exceeds by 193 ft.
2022-WTW-3589-OE / Exceeds by 200 ft.
2022-WTW-3562-OE / Exceeds by 208 ft.
2022-WTW-3587-OE / Exceeds by 226 ft.
2022-WTW-3588-OE / Exceeds by 226 ft.
2022-WTW-3573-OE / Exceeds by 229 ft.
2022-WTW-3532-OE / Exceeds by 235 ft.
2022-WTW-3561-OE / Exceeds by 236 ft.
2022-WTW-3540-OE / Exceeds by 253 ft.
2022-WTW-3535-OE / Exceeds by 259 ft.
2022-WTW-3537-OE / Exceeds by 263 ft.
2022-WTW-3545-OE / Exceeds by 268 ft.
2022-WTW-3542-OE / Exceeds by 283 ft.
2022-WTW-3565-OE / Exceeds by 287 ft.
2022-WTW-3577-OE / Exceeds by 290 ft.
2022-WTW-3546-OE / Exceeds by 291 ft.
2022-WTW-3554-OE / Exceeds by 321 ft.
2022-WTW-3553-OE / Exceeds by 322 ft.
2022-WTW-3579-OE / Exceeds by 325 ft.
2022-WTW-3560-OE / Exceeds by 327 ft.
2022-WTW-3574-OE / Exceeds by 327 ft.
2022-WTW-3552-OE / Exceeds by 330 ft.
2022-WTW-3585-OE / Exceeds by 331 ft.
2022-WTW-3566-OE / Exceeds by 332 ft.
2022-WTW-3557-OE / Exceeds by 341 ft.
2022-WTW-3575-OE / Exceeds by 348 ft.
2022-WTW-3558-OE / Exceeds by 353 ft.
2022-WTW-3583-OE / Exceeds by 365 ft.

2022-WTW-3572-OE / Exceeds by 380 ft.

2022-WTW-3572-OE / Exceeds by 396 ft.

2022-WTW-3584-OE / Exceeds by 399 ft.

2022-WTW-3580-OE / Exceeds by 408 ft.

2022-WTW-3578-OE / Exceeds by 413 ft.

2022-WTW-3582-OE / Exceeds by 437 ft.

2022-WTW-3581-OE / Exceeds by 441 ft.

c. Section 77.17(a)(3): A height that increases a minimum instrument flight altitude within a terminal area (TERPS criteria).

The following proposals would increase TAKE-OFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES for RWY 13 at BYY. The increase would be from standard (200/1 ceiling/visibility) to standard with a minimum climb gradient of between 207-285 ft. per NM until reaching 1000 ft. AMSL depending on the location of each individual structure.

2022-WTW-3552-OE

2022-WTW-3553-OE

2022-WTW-3558-OE

2022-WTW-3560-OE

2022-WTW-3566-OE

2022-WTW-3570-OE

2022-WTW-3572-OE

2022-WTW-3574-OE

2022-WTW-3580-OE

2022-WTW-3581-OE

2022-WTW-3582-OE

3. TITLE 14 CFR PART 77 - EFFECT ON AERONAUTICAL OPERATIONS

a. Section 77.29 (a)(1): the impact on arrival, departure, and en route procedures for aircraft operating under visual flight rules.

At a height greater than 499 feet AGL, the proposed wind farm would extend into airspace normally used for VFR en route flight and may be located within 2 statute miles (SM) of potential VFR Routes as defined by FAA Order 7400.2, Section 6-3-8. The turbines within 2 SM of a VFR Route would have an adverse effect upon VFR air navigation.

The following proposed turbines would lie within the lateral boundaries and exceed traffic pattern airspace (TPA) for CAT D aircraft at BYY (aircraft with approach speeds between 141-165 knots):

2022-WTW-3552-OE

2022-WTW-3554-OE

2022-WTW-3557-OE

2022-WTW-3558-OE

2022-WTW-3570-OE

2022-WTW-3572-OE

2022-WTW-3575-OE

2022-WTW-3578-OE

2022-WTW-3581-OE

2022-WTW-3582-OE

2022-WTW-3583-OE

2022-WTW-3584-OE

4. TITLE 14 CFR PART 77 - FURTHER STUDY AND PUBLIC COMMENTS

The project was circularized under ASN 2022-WTW-3546-OE on 07/22/2022, to all known aviation interests and to non-aeronautical interests that may be affected by the proposal. There were two commenters received during the public comment period as a result of the circularization. They are summarized below.

Comment:

The commenter had concerns about the increase to the RWY 13 Departure Procedure and impacts to the RNAV (GPS) LNAV RWY 31 approach at BYY.

Response:

The aeronautical study determined that although there are a few turbines that are close to affecting the LNAV RWY 31 approach that they in fact do not impact this approach. Minimums will not change for the LNAV RWY 31 approach. The sponsor agreed to terminate turbine 2022-WTW-3586-OE although internal review determined that this turbine would not affect the minimums to the LNAV RWY 31 approach. The impact to the departure procedure are considered minimal, there were no comments received nor did flight standards believe that the increase would affect the departure capacity of BYY.

Comment:

The commenter wanted to ensure the structures were appropriately marked/lighted.

Response:

The structures will, as a condition to their determination, recommended to be marked/lighted IAW the current Advisory Circular.

Comment:

The commenter had concern over traffic pattern penetrations for CAT C and D aircraft that may utilize BYY.

Response:

The sponsor agreed to terminate the one turbine that penetrated CAT C traffic pattern airspace into BYY. Further study indicated that there was not a substantial amount (if any) CAT D operations for the previous 12 months into BYY nor are there any plans on file to improve the RWY at BYY to accommodate a substantial amount of CAT D aircraft. Therefore the project would not interfere with normal traffic pattern operations at BYY.

Comment:

The commenter was concerned about the effects to a private airport close or within the project area.

Response:

The FAA recognizes that obstructions can and do have impacts to privately owned private use airports. However, within the scope of a 14 CFR Part 77 study, the VFR effects to private use airports are not considered when determining the impacts of an obstruction to the national airspace system.

The commenter responded that they support green energy, however the project would render many aspects of aviation nearly impossible. Agricultural, off shore aviation, tourist aviation and hunting including feral hog control.

Response:

A structure that has an adverse effect would have a substantial adverse effect if there is a significant volume of aircraft effected. Further study included a yearly traffic count over the area and along possible VFR flyways in or near the project and found that it would not affect a significant volume of traffic along any identified flyways. Agricultural aircraft, although may be effected, while operating under Part 137 are not considered within the scope of a 14 CFR Part 77 study.

Comment:

The commenter was concerned over the turbulence of the blades, the visual and noise effects, the effects to local people, birds, and cattle.

Response:

Aeronautical studies are only looking at direct effects to the national airspace system. The visual and noise effects to people or animals are not considered under an aeronautical study but may be considered under a different study, for example an environmental impact study if required. Wake turbulence caused by wind turbines is currently not within the scope of an aeronautical study under 14 CFR Part 77.

5. BASIS FOR DETERMINATION

IFR EFFECTS

The aeronautical study identified an IFR effect for the RWY 13 instrument departure procedure at BYY. Further study concluded that the effects were minimal and would not impact the departure capacity for normal aircraft departing RWY 13 at BYY.

The proposed structures would have no effect on any other existing or proposed arrival, departure, or en route IFR operations or procedures.

VFR EFFECTS

The aeronautical study identified no substantial adverse effect on any existing or proposed VFR arrival or departure operations. A portion of the proposals would be located within CAT D traffic pattern airspace but beyond the normally utilized traffic pattern airspace for BYY or any other known public use or military airports. At 656 feet AGL, the structures would be located within the altitudes commonly used for en route VFR flight. In coordination with ATC, an analysis of potential VFR Routes and available traffic data indicated that an average of less than one VFR aircraft per day may be affected by the proposed wind farm. Therefore, it is determined they will not have a substantial adverse effect on en route VFR flight operations.

CHARTING AND CUMULATIVE EFFECT

The proposed structures would be charted on VFR sectional aeronautical charts and appropriately obstruction marked/lighted to make them more conspicuous to airmen should circumnavigation be necessary.

The cumulative impact of the proposed structure(s), when combined with other proposed and existing structures, is not considered to be significant. Study did not disclose a substantial adverse effect on existing or proposed public-use or military airports, nor does the proposal(s) affect the capacity of any known existing or planned public-use or military airport. There are no substantial physical or electromagnetic effects on the operation of air navigation and communications facilities and there are no substantial adverse effects on any airspace and routes used by the military.

6. DETERMINATION

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

7. CONDITIONS

The proponent is required to file FAA form 7460-2, part 1, Notice of Actual Construction or Alteration, ten days prior to beginning construction for the following ASN's, at the OE/AAA website (<http://oeaaa.faa.gov>).

2022-WTW-3552-OE
2022-WTW-3553-OE
2022-WTW-3558-OE
2022-WTW-3560-OE
2022-WTW-3566-OE
2022-WTW-3570-OE
2022-WTW-3572-OE
2022-WTW-3574-OE
2022-WTW-3580-OE
2022-WTW-3581-OE
2022-WTW-3582-OE

ACRONYMS & ABBREVIATIONS

AGL, Above Ground Level
AMSL, Above Mean Sea Level
ARP, Airport Reference Point
ARSR, Air Route Surveillance Radar
ARTCC, Air Route Traffic Control Center
ASN, Aeronautical Study Number
ASR, Airport Surveillance Radar
ATC, Air Traffic Control
ATCT, Air Traffic Control Tower
CARSR, Common Air Route Surveillance Radar
CAT, Category
CFR, Code of Federal Regulations
CG, Climb Gradient
DA, Decision Altitude
DME, Distance Measuring Equipment
FAA, Federal Aviation Administration
FUS, Fusion
GPS, Global Positioning System

IAP, Initial Approach Fix

IAP, Instrument Approach Procedure

ICA, Initial Climb Area

IFR, Instrument Flight Rules

INT, Intersection

LAT, Latitude

LNAV, Lateral Navigation

LOC, Localizer

LONG, Longitude

LP, Localizer Performance

LPV, Localizer Performance with Vertical Guidance

MDA, Minimum Descent Altitude

MEA, Minimum En route Altitude

MET, Meteorological Evaluation Tower

MIA, Minimum IFR Altitude

Min, Minimum

MOCA, Minimum Obstruction Clearance Altitude

MSA, Minimum Safe Altitude

MSL, Mean Sea Level

MVA, Minimum Vectoring Altitude

NA, Not Authorized

NAS, National Airspace System

NAVAID, Navigational Aid

NDB, Non-Directional Radio Beacon

NEH, No Effect Height

NM, Nautical Mile

NOTAM, Notice to Airmen

NPF, Notice of Preliminary Findings

OCS, Obstacle Clearance Surface

OE, Obstruction Evaluation

OEG, Obstruction Evaluation Group

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

P-NOTAM, Permanent Notice to Airmen

RLOS, Radar Line of Sight

RNAV, Area Navigation

RNP, Required Navigation Performance

RWY, Runway

S-, Straight-in

SE, Site Elevation

S-LOC, Straight-in Localizer

SM, Statute Miles

Std., Standard

TAA, Terminal Arrival Area

TACAN, Tactical Air Navigation System

TERPS, Terminal Instrument Procedures

TPA, Traffic Pattern Airspace

TRACON, Terminal Radar Approach Control

V, Victor Airway

VHF, Very High Frequency

VOR, VHF Omnidirectional Radio Range System

VORTAC, VOR/TACAN System

WTE, Wind Turbine East

WTW, Wind Turbine West

Sectional map for ASN 2022-WTW-3572-OE

