



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

Aeronautical Study No.
2022-WTW-9639-OE

Issued Date: 04/29/2024

Dave Iadarola
Nimbus Wind Farm LLC
5775 Flatiron Parkway
Suite 120
Boulder, CO 80301

**** PUBLIC NOTICE ****

The Federal Aviation Administration is conducting an aeronautical study concerning the following:

Structure:	Wind Turbine 37
Location:	Green Forest, AR
Latitude:	36-15-21.67N NAD 83
Longitude:	93-23-25.40W
Heights:	2004 feet site elevation (SE) 698 feet above ground level (AGL) 2702 feet above mean sea level (AMSL)

The structure above exceeds obstruction standards. To determine its effect upon the safe and efficient use of navigable airspace by aircraft and on the operation of air navigation facilities, the FAA is conducting 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.

**** SEE REVERSE SIDE FOR ADDITIONAL INFORMATION ****

In the study, consideration will be given to all facts relevant to the effect of the structure on existing and planned airspace use, air navigation facilities, airports, aircraft operations, procedures and minimum flight altitudes, and the air traffic control system.

Interested persons are invited to participate in the aeronautical study by submitting comments to the above FAA address or through the electronic notification system. To be eligible for consideration, comments must be relevant to the effect the structure would have on aviation, must provide sufficient detail to permit a clear understanding, must contain the aeronautical study number printed in the upper right hand corner of this notice, and must be received on or before 06/05/2024.

This notice may be reproduced and circulated by any interested person. Airport managers are encouraged to post this notice.

If we can be of further assistance, please contact our office at (847) 294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2022-WTW-9639-OE.

Signature Control No: 561552886-620113060

(CIR -WT)

Buck Reynolds
Specialist

Attachment(s)

Part 77

Additional Information

Map(s)

Additional Information for ASN 2022-WTW-9639-OE

Proposal: To construct and/or operate a(n) Wind Turbine to a height of 698 feet above ground level, 2702 feet above mean sea level.

Location: The structure will be located 11.44 nautical miles west of HRO Airport reference point.

Part 77 Obstruction Standard(s) Exceeded:

TITLE 14 CFR PART 77 - AERONAUTICAL STUDY - PUBLIC COMMENTS

This additional information provides details on the results of an Aeronautical Study for a notice of proposed construction/alteration filed with the FAA. The purpose of this notice is to solicit aeronautical comments from the public concerning the physical effect of these proposed wind turbines on the safe and efficient use of airspace by aircraft. Please submit your comments through the FAA's public website at <https://oeaaa.faa.gov>. This will ensure your comments are submitted directly to the case file. Comments submitted by email are strongly discouraged. Email comments could be directed to an FAA Specialist that is away from the office, reassigned or no longer with the organization and therefore may not be considered.

Begin by completing the "New User Registration". Login to your portal page and select the link, "View Circularized Cases". Search for the case in the appropriate state and then select "Submit Public Comments". If you need further assistance, contact the helpdesk at phone: 202-580-7500 / email: oeaaa_helpdesk@cghtech.com.

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. The FAA does not have a database for all persons with an aeronautical and non-aeronautical interest. Therefore, the public is encouraged to re-distribute and forward notices of circularized cases to the maximum extent possible. Additionally, it is incumbent upon local state, county and city officials to share notice of circularized cases with their concerned citizens.

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 46 wind turbines for a project that lies approximately 9.27 NM to 13.95 NM west of the airport reference point (ARP) of the Boone County Airport (HRO), Harrison, AR. This project is being re-circularized due to a height decrease to 10 of the proposed wind turbines from 698 feet to 591 feet. All potential adverse effects for each proposed wind turbine is listed below.

The wind turbines are being circularized for public comment under this Aeronautical Study Number (ASN) 2022-WTW-9639-OE, which represents the proposed turbine that would be located at approximately the center of this wind farm project (see attached maps). Comments on any of the proposed wind turbines in this project must be submitted under this ASN. All comments received from this circularization will be considered in completing the separate determinations for each wind turbine.

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-9606-OE	/	698	/	2635	/	36-17-43.52N	/	93-26-21.13W

2022-WTW-9607-OE / 698 / 2666 / 36-17-39.06N / 93-26-03.69W
2022-WTW-9609-OE / 698 / 2673 / 36-17-07.95N / 93-25-56.52W
2022-WTW-9611-OE / 698 / 2636 / 36-16-39.77N / 93-25-44.09W
2022-WTW-9616-OE / 591 / 2504 / 36-17-01.02N / 93-21-32.58W
2022-WTW-9617-OE / 698 / 2692 / 36-16-24.35N / 93-25-19.93W
2022-WTW-9618-OE / 698 / 2682 / 36-16-13.20N / 93-25-05.33W
2022-WTW-9619-OE / 698 / 2583 / 36-16-18.58N / 93-23-05.20W
2022-WTW-9620-OE / 591 / 2436 / 36-16-39.99N / 93-22-06.54W
2022-WTW-9621-OE / 591 / 2502 / 36-16-27.00N / 93-21-51.56W

2022-WTW-9622-OE / 591 / 2556 / 36-16-27.79N / 93-21-33.00W
2022-WTW-9624-OE / 591 / 2562 / 36-16-10.42N / 93-21-20.88W
2022-WTW-9627-OE / 698 / 2681 / 36-15-55.43N / 93-23-22.18W
2022-WTW-9628-OE / 698 / 2664 / 36-15-47.03N / 93-23-05.77W
2022-WTW-9630-OE / 698 / 2662 / 36-15-36.36N / 93-22-33.47W
2022-WTW-9632-OE / 698 / 2658 / 36-15-38.79N / 93-22-01.75W
2022-WTW-9633-OE / 591 / 2413 / 36-15-47.32N / 93-21-44.94W
2022-WTW-9634-OE / 591 / 2572 / 36-15-50.77N / 93-21-28.58W
2022-WTW-9636-OE / 698 / 2714 / 36-15-20.85N / 93-24-55.13W
2022-WTW-9638-OE / 698 / 2707 / 36-15-18.34N / 93-23-42.50W

2022-WTW-9639-OE / 698 / 2702 / 36-15-21.67N / 93-23-25.40W
2022-WTW-9640-OE / 591 / 2448 / 36-15-34.37N / 93-21-07.50W
2022-WTW-9641-OE / 698 / 2621 / 36-14-16.85N / 93-24-27.26W
2022-WTW-9642-OE / 698 / 2639 / 36-14-16.20N / 93-24-10.16W
2022-WTW-9643-OE / 698 / 2628 / 36-14-22.32N / 93-23-51.87W
2022-WTW-9645-OE / 698 / 2680 / 36-13-01.39N / 93-23-31.67W
2022-WTW-9646-OE / 698 / 2720 / 36-12-46.73N / 93-23-22.25W
2023-WTW-12672-OE / 698 / 2627 / 36-17-44.43N / 93-25-48.35W
2023-WTW-12673-OE / 698 / 2569 / 36-16-45.49N / 93-24-46.78W
2023-WTW-12674-OE / 698 / 2550 / 36-16-46.32N / 93-24-32.57W

2023-WTW-12675-OE / 698 / 2531 / 36-16-44.44N / 93-24-18.39W
2023-WTW-12676-OE / 591 / 2447 / 36-16-29.17N / 93-21-12.03W
2023-WTW-12677-OE / 698 / 2707 / 36-15-45.51N / 93-24-48.61W
2023-WTW-12678-OE / 698 / 2640 / 36-16-03.54N / 93-23-35.03W
2023-WTW-12679-OE / 698 / 2623 / 36-15-39.70N / 93-22-46.12W
2023-WTW-12680-OE / 698 / 2729 / 36-15-33.21N / 93-22-15.31W
2023-WTW-12681-OE / 591 / 2583 / 36-15-51.33N / 93-21-14.96W
2023-WTW-12682-OE / 698 / 2639 / 36-15-21.51N / 93-24-31.58W
2023-WTW-12683-OE / 698 / 2598 / 36-13-28.23N / 93-23-55.99W
2023-WTW-12686-OE / 698 / 2675 / 36-14-38.59N / 93-23-21.43W

2023-WTW-12687-OE / 698 / 2720 / 36-12-35.91N / 93-22-40.46W
2023-WTW-12688-OE / 698 / 2752 / 36-12-56.15N / 93-21-40.82W
2023-WTW-12689-OE / 698 / 2732 / 36-13-06.59N / 93-21-18.97W
2023-WTW-12690-OE / 698 / 2720 / 36-12-58.73N / 93-20-57.33W
2023-WTW-12691-OE / 698 / 2582 / 36-13-31.50N / 93-20-41.68W
2023-WTW-12692-OE / 698 / 2567 / 36-14-05.50N / 93-20-34.72W

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. The proposed wind turbines at 698 feet would exceed this standard by 199 feet. The proposed wind turbines at 591 feet would exceed this standard by 92 feet.
- b. Section 77.17(a)(3); a height within a terminal obstacle clearance area, including an initial approach segment, a departure area, and a circling approach area, which would result in the vertical distance between any point on the object and an established minimum instrument flight altitude within that area or segment to be less than the required obstacle clearance.

The following proposed turbines would increase the CASSVILLE MUNI (94K) CASSVILLE, MO. RNAV (GPS) RWY 27, Orig-B, increase Terminal Arrival Areas (TAA) Straight-In Area 178 degree radial clockwise, to the 358 degree radial Minimum Descent Altitude (MDA) from 3600 feet AMSL to as much as 3800 feet AMSL.

Increase to 3700 feet AMSL

2022-WTW-9606-OE
2022-WTW-9607-OE
2022-WTW-9609-OE
2022-WTW-9611-OE
2022-WTW-9617-OE
2022-WTW-9618-OE
2022-WTW-9627-OE
2022-WTW-9628-OE
2022-WTW-9630-OE
2022-WTW-9632-OE

2022-WTW-9641-OE
2022-WTW-9642-OE
2022-WTW-9643-OE
2022-WTW-9645-OE
2023-WTW-12672-OE
2023-WTW-12678-OE
2023-WTW-12679-OE
2023-WTW-12682-OE
2023-WTW-12686-OE

Increase to 3800 feet AMSL

2022-WTW-9636-OE
2022-WTW-9638-OE
2022-WTW-9639-OE
2023-WTW-12677-OE
2023-WTW-12680-OE

The following proposed turbines would increase the missed approach for the Boone County (HRO) Harrison AR. ILS or LOC RWY 36 AMDT 1; climb to 1900 feet AMSL then climbing left turn to 3800 feet AMSL; an

increase from 3700 feet AMSL direct HRO VOR/DME and hold. Continue climb-in-hold to 3800 feet AMSL; an increase from 3700 feet AMSL.

- 2022-WTW-9638-OE
- 2022-WTW-9639-OE
- 2023-WTW-12677-OE
- 2023-WTW-12680-OE
- 2023-WTW-12690-OE

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

Section 77.29 (a)(1): 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. Further study is required to determine whether the structures would affect a significant volume of VFR en route traffic.

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
- FAAO, Federal Aviation Administration Order
- FUS, Fusion
- GPS, Global Positioning System
- IAF, 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
VFR, Visual Flight Rules
VHF, Very High Frequency
VOR, VHF Omnidirectional Radio Range System
VORTAC, VOR/TACAN System
WTE, Wind Turbine East
WTW, Wind Turbine West

