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Aeronautical Study No.
2023-WTW-13571-OE

Issued Date: 10/09/2025

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**** DETERMINATION OF 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 Ferguson Wind Turbine No. 1
County, State: El Paso, Colorado

Collected Point(s):

Label	Latitude	Longitude	SE	AGL	AMSL
Ferguson Wind Turbine No. 1	38-57-31.70N	104-34-40.95W	6912 Ft	75 Ft	6987 Ft

This aeronautical study revealed that the structure as described above would have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft and/or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would be a hazard to air navigation.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before November 08, 2025. 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, Rules and Regulations Group via email at OEPetitions@faa.gov, or via mail to Federal Aviation Administration, Air Traffic Organization, Rules and Regulations Group, 5th floor, 600 Independence Ave, SW., Washington, DC 20597. FAA encourages the use of email to ensure timely processing.

This determination becomes final on November 18, 2025 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. Any questions regarding your petition, contact Rules and Regulations Group via telephone (202) 267-8783.

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 enroute 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 a 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 wayne.reynolds@faa.gov, at 1-847-294-7576, or Wayne.Reynolds@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2023-WTW-13571-OE.

Signature Control No: 601327920-680964295

(DOH -WT)

Julie A. Morgan

Manager, Obstruction Evaluation Group

Attachment(s)

Additional Information

Map(s)

Additional information for ASN 2023-WTW-13571-OE

The FAA completed an aeronautical study of this proposal in accordance with 14 CFR Part 77. The results of aeronautical studies conducted by the FAA are published in determination letters which are public record and available through the FAA public website at <https://oeaaa.faa.gov>.

This is NOT a construction permit application. This determination does not constitute FAA approval or disapproval of the physical development involved in this proposal. It is a determination with respect to the safe and efficient use of the navigable airspace by aircraft. The FAA does not have land use authority or issue construction permits and cannot prevent construction on privately owned/leased property. Land use authority resides with the government body at the local city, county or state level that is responsible for regulating how land can be used within their jurisdiction, typically through zoning ordinances and other land use planning mechanisms. This determination in no way preempts or waives any ordinances, laws, or regulations of any government body or agency.

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 2 wind turbines for a project that lies approximately 1.02 NM to 1.03 NM north/northwest of the airport reference point (ARP) of the Meadow Lake Airport (FLY), Colorado Springs, CO.

For the sake of efficiency, all 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
2023-WTW-13570-OE	/	75	/	6981	/	38-57-31.75N	/	104-34-37.67W
2023-WTW-13571-OE	/	75	/	6987	/	38-57-31.70N	/	104-34-40.95W

2. TITLE 14 CFR PART 77 - OBSTRUCTION STANDARDS EXCEEDED

a. Section § 77.19: Civil airport imaginary surfaces.

The following civil airport imaginary surfaces are established with relation to the airport and to each runway. The size of each such imaginary surface is based on the category of each runway according to the type of approach available or planned for that runway. The slope and dimensions of the approach surface applied to each end of a runway are determined by the most precise approach procedure existing or planned for that runway end.

Section § 77.19 (d) Approach surface. A surface longitudinally centered on the extended runway centerline and extending outward and upward from each end of the primary surface. An approach surface is applied to each end of each runway based upon the type of approach available or planned for that runway end. Turbine 2023-WTW-13570-OE penetrates the FLY RWY 15 Approach Surface by 11 feet, and turbine 2023-WTW-13571-OE penetrates the FLY RWY 15 Approach Surface by 12 feet.

ASN 2023-WTW-13570-OE

The proposed permanent structure at the proposed location interacts with the traffic pattern airspace IAW FAA Order JO 7400.2 Para 6-3-8d.1.c and Para. 6-3-15.c.2. The height of the proposed structure is such that an adverse effect is created by the penetration of part 77 surface and traffic pattern interaction. The proposed structure at 75 feet AGL will penetrate the KFLY 20-to-1 visual approach surface for Runway 15/33 by approximately 11 feet. The proposed structure at the proposed location will cause the VFR pilot to adjust their flight path laterally and/or vertically and potentially cause a distraction during a critical phase of flight. VFR aircraft flying a final approach to Runway 15 will be required to fly a higher (steeper) than the normal visual glide path to avoid the wind turbine. In addition, the proposed wind turbine's rotating blades may not be lit and therefore may not be visible to VFR pilots particularly between sunset and sunrise. A steeper descent angle on final approach is not desired due to the risk of un-stabilized approaches that could result in an accident or incident. At its proposed location and height (75ft AGL) the structure will have an adverse effect upon VFR navigation, especially during periods of low ceiling and visibility conditions near the minimum allowed for VFR flight as prescribed in 14 CFR 91.155. A structure that exceeds a Part 77 obstruction standard and that exceeds the part 77 surface is considered to have an adverse effect and would have a substantial adverse effect if a significant volume of VFR traffic is affected. The VFR traffic counts are over 50,000 operations per year, which were confirmed by the airport manager.

ASN 2023-WTW-13571-OE

Safety advisory of risk created by adverse effect on VFR navigation. The proposed permanent structure at the proposed location interacts with the traffic pattern airspace IAW FAA Order JO 7400.2 Para 6-3-8d.1.c and Para. 6-3-15.c.2. The height of the proposed structure is such that an adverse effect is created by the penetration of part 77 surface and traffic pattern interaction. The proposed structure at 75 feet AGL will penetrate the KFLY 20-to-1 visual approach surface for Runway 15/33 by approximately 12 feet. The proposed structure at the proposed location will cause the VFR pilot to adjust their flight path laterally and/or vertically and potentially cause a distraction during a critical phase of flight. VFR aircraft flying a final approach to Runway 15 will be required to fly a higher (steeper) than the normal visual glide path to avoid the wind turbine. In addition, the proposed wind turbine's rotating blades may not be lit and therefore may not be visible to VFR pilots particularly between sunset and sunrise. A steeper descent angle on final approach is not desired due to the risk of un-stabilized approaches that could result in an accident or incident. At its proposed location and height (75ft AGL) the structure will have an adverse effect upon VFR navigation, especially during periods of low ceiling and visibility conditions near the minimum allowed for VFR flight as prescribed in 14 CFR 91.155. A structure that exceeds a Part 77 obstruction standard and that exceeds the part 77 surface is considered to have an adverse effect and would have a substantial adverse effect if a significant volume of VFR traffic is affected. The VFR traffic counts are over 50,000 operations per year, which were confirmed by the airport manager.

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.

ASN 2023-WTW-13570-OE

Meadow Lake (FLY) Colorado Springs CO. Obstacle penetrates RWY 33 Initial Climb Area (ICA) 52 feet. Qualifies as low close-in penetration with climb gradient termination altitude 200 feet or less above DER requiring TAKE-OFF MINIMUM AND (OBSTACLE) DEPARTURE PROCEDURES NOTE: RWY 33 WINDMILL 2075 feet from departure end of runway 23 feet left of centerline 75 AGL / 6981 feet AMSL. NEH feet 6929 AMSL.

RNAV (GPS) RWY 15 Orig; obstacle penetrates 20:1 Visual Area Surface by 10 feet; if not lighted procedure N/A at night and Circling to RWY 33 N/A at night for all procedures. NEH 6971 feet AMSL (4D/1A).

RNAV (GPS) RWY 15 Orig; Obstacle penetrates Vertical Guidance Surface (VGS) by 19 feet; LPV and LNAV/VNAV N/A.

RNAV (GPS) RWY 15 Orig; Increase LPV Decision Altitude (DA) from 7176 to 7204 feet AMSL. W/1A no IFR effect.

ASN 2023-WTW-13571-OE

Meadow Lake (FLY) Colorado Springs CO. Obstacle penetrates RWY 33 Initial Climb Area (ICA) 55 feet. Qualifies as low close-in penetration with climb gradient termination altitude 200 feet or less above DER requiring TAKE-OFF MINIMUM AND (OBSTACLE) DEPARTURE PROCEDURES NOTE: RWY 33 WINDMILL 2157 feet from departure end of runway 269 feet left of centerline 75 AGL / 6987 feet AMSL. NEH feet 6932 AMSL.

RNAV (GPS) RWY 15 Orig; obstacle penetrates 20:1 Visual Area Surface by 12 feet; if not lighted procedure N/A at night and Circling to RWY 33 N/A at night for all procedures. NEH feet 6975 AMSL (4D/1A).

RNAV (GPS) RWY 15 Orig; Obstacle penetrates Vertical Guidance Surface (VGS) 19 feet LPV and LNAV/VNAV N/A.

RNAV (GPS) RWY 15 Orig; Increase LPV Decision Altitude (DA) from 7176 to 7204 feet AMSL. W/1A no IFR effect.

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

a. Section 77.29(a)(6): effect on ATC radar, direction finders, ATC tower line-of-sight visibility, and physical or electromagnetic effects on air navigation, communication facilities, and other surveillance systems.

The FAA found that 2023-WTW-13570-OE proposal penetrates the Obstacle Clearance Surface (OCS) given in the siting standard Order 6850.2 for the Precision Approach Path Indicator (PAPI) serving Meadow Lake Airport Runway 15. The RW-15 PAPI will not provide the required minimum obstacle clearance over the proposal. The effect can be eliminated by lowering the proposal below 6978 feet. AMSL. The FAA found that 2023-WTW-13571-OE proposal penetrates the Obstacle Clearance Surface (OCS) given in the siting standard Order 6850.2 for the Precision Approach Path Indicator (PAPI) serving Meadow Lake Airport Runway 15. The RW-15 PAPI will not provide the required minimum obstacle clearance over the proposal. The effect can be eliminated by lowering the proposal below 6981 feet AMSL. Lowering to the no effect height or moving the turbines to a location that doesn't impact the PAPI are the only available mitigations. Baffling or other modifications to the PAPI are not feasible.

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

This project was not circularized for public comment as the sponsor/representative decided not to continue negotiations for lowering the structures to the No Effect Height or moving the structures to mitigate the substantial adverse effects to air navigation. The FAA was notified that the sponsor has decided to continue with constructing the turbines at the originally requested height without regard to the substantial adverse effect to air navigation that they were notified of.

5. BASIS FOR DETERMINATION

a. IFR EFFECTS

The impact due to the RNAV (GPS) RWY 15 Orig; Vertical Guidance Surface (VGS) penetration renders the LPV and LNAV/VNAV as Not Available (N/A). There is a significant volume of IFR traffic at KFLY. The IFR traffic counts from 5/1/2024 to 5/1/2025 were 530 total operations. The threshold for significant volume of traffic is 1 IFR operation per week. Therefore, this unmitigated impact is considered a substantial adverse effect and a hazard to aviation safety. This hazard could have been mitigated by lowering the turbines to the No Effect Height of 56' AGL.

The Initial Climb Area (ICA) penetration for the FLY Runway 15/33 is not considered excessive and could be mitigated by requiring Take-Off Minimum and (Obstacle) Departure Procedures Note as indicated above.

The impact due to the RNAV (GPS) RWY 15 Orig; Visual Area Surface penetration could be mitigated by lighting the structures. If not lighted, the procedure is N/A at night and Circling to RWY 33 N/A at night for all procedures.

The impact on the RNAV (GPS) RWY 15 Orig; Increase LPV Decision Altitude (DA) from 7176 to 7204 feet AMSL. could be mitigated with a W/1A survey.

b. VFR EFFECTS

The aeronautical study identified substantial adverse effects on the proposed VFR arrival or departure operations at FLY. Both proposed turbines penetrate the KFLY 20-to-1 visual approach surface for Runway 15/33. The proposed structure at the proposed location will cause the VFR pilot to adjust their flight path laterally and/or vertically and potentially cause a distraction during a critical phase of flight. VFR aircraft flying a final approach to Runway 15 will be required to fly a higher (steeper) than the normal visual glide path to avoid the wind turbine. In addition, the proposed wind turbine's rotating blades may not be lit and therefore may not be visible to VFR pilots particularly between sunset and sunrise. A steeper descent angle on final approach is not desired due to the risk of un-stabilized approaches that could result in an accident or incident. At its proposed location and height (75ft AGL) the structure will have an adverse effect upon VFR navigation, especially during periods of low ceiling and visibility conditions near the minimum allowed for VFR flight as prescribed in 14 CFR 91.155. A structure that exceeds a Part 77 obstruction standard and that exceeds the part 77 surface is considered to have an adverse effect and would have a substantial adverse effect if a significant volume of VFR traffic is affected. The VFR traffic counts are over 50,000 operations per year, which were confirmed by the airport manager. Therefore, these structures will be a hazard to air navigation.

In accordance with FAA Order 7400.2, the proposed wind farm would affect a significant volume of aircraft and therefore, it is determined they will have a substantial adverse effect on VFR flight operations.

c. NAVIGATIONAL AID EFFECTS

Due to the impact on the Vertical Guidance Surface (VGS), the proposals would render the RNAV (GPS) RWY 15 Orig; procedure at KFLY Not Applicable (N/A). According to IFR traffic counts from 1 May 2024 through 1 May 2025, KFLY conducted 530 IFR operations. The threshold for a significant volume of traffic IAW FAAO 7400.2 is 1 IFR flight per week, which is 52 operations per year. Additionally, the VFR traffic count is over 50,000 operations per year. The threshold for VFR traffic is 1 VFR operation per day, or 365 per year. Based on this data, a significant volume of aeronautical operations would be affected. In accordance with FAA Order 7400.2, the proposed wind turbines would have a substantial adverse effect on VFR and IFR operations at FLY and would be considered a hazard to air navigation. Baffling, or other mitigations are not an option

due to the location of the turbines and the sponsor/representative declined to negotiate alternate locations for the turbines.

d. CUMULATIVE EFFECT

The cumulative impact of the proposed structures, when combined with other proposed and existing structures, is not considered to be significant.

6. DETERMINATION OF HAZARD

It is determined that the proposed construction would 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 be a hazard to air navigation.

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
- 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 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

