

Proposed Rules

Federal Register

Vol. 89, No. 222

Monday, November 18, 2024

This section of the FEDERAL REGISTER contains notices to the public of the proposed issuance of rules and regulations. The purpose of these notices is to give interested persons an opportunity to participate in the rule making prior to the adoption of the final rules.

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 77

[Docket No. FAA-2024-2574; Notice No. 25-01]

RIN 2120-AK77

Requirements To File Notice for Meteorological Towers and Other Wind Energy Systems

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA is proposing to amend requirements applicable to meteorological towers and permanent wind energy systems. This rule would require any person that owns (sponsor) any proposed, altered, or existing meteorological tower to file notice with the Federal Aviation Administration (FAA) if the highest point of the structure is at least 50 feet above ground level (AGL) up to and including 200 feet AGL at its site. The FAA is also proposing marking requirements for meteorological towers constructed or altered after the effective date of a final rule if the highest point of the structure is at least 50 feet AGL up to and including 200 feet AGL at its site. Additionally, the FAA proposes making certain pertinent information about any meteorological tower with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site available on the FAA's official database. The FAA expects these changes to lower the collision risk for aircraft during low-altitude operations. Moreover, these requirements would partially address two statutory mandates and two National Transportation Safety Board (NTSB) recommendations.

DATES: Send comments on or before January 17, 2025.

ADDRESSES: Send comments identified by docket number FAA-2024-2574 using any of the following methods:

- *Federal eRulemaking Portal:* Go to <https://www.regulations.gov> and follow the online instructions for sending your comments electronically.

- *Mail:* Send comments to Docket Operations, M-30; U.S. Department of Transportation (DOT), 1200 New Jersey Avenue SE, Room W12-140, West Building Ground Floor, Washington, DC 20590-0001.

- *Hand Delivery or Courier:* Take comments to Docket Operations in Room W12-140 of the West Building Ground Floor at 1200 New Jersey Avenue SE, Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

- *Facsimile:* Fax comments to Docket Operations at (202) 493-2251.

Docket: Background documents or comments received may be read at <https://www.regulations.gov> at any time. Follow the online instructions for accessing the docket or go to the Docket Operations in Room W12-140 of the West Building Ground Floor at 1200 New Jersey Avenue SE, Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

FOR FURTHER INFORMATION CONTACT: Brian Konie, Airspace Rules and Regulations Team, Air Traffic Organization, AJV-P21, Federal Aviation Administration, 800 Independence Avenue SW, Washington, DC 20591; telephone: (202) 267-8783; email: brian.konie@faa.gov.

SUPPLEMENTARY INFORMATION: The FAA further proposes amending the notice requirements for any person that owns (sponsors) a proposed or altered permanent wind energy system. The FAA is also proposing to extend the expiration date of the Determination of No Hazard to Air Navigation for permanent wind energy systems and associated meteorological towers.

The FAA is also proposing to clarify that, except for structures that have received an FAA Determination of No Hazard to Air Navigation prior to the effective date of a final rule or any meteorological tower with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site for which construction is complete prior to the effective date of a final rule, all conditions and limitations of any Determination of No Hazard to Air Navigation are mandatory, which includes marking requirements. Finally, the FAA proposes making several

miscellaneous conforming and clarifying amendments.

List of Abbreviations and Acronyms Frequently Used in This Document

AC—Advisory Circular
 AGL—Above Ground Level
 ATC—Air Traffic Control
 AWES—Airborne Wind Energy System
 DOE—Department of Energy
 FCC—Federal Communications Commission
 GPS—Global positioning system
 NAAA—National Agricultural Aviation Association
 NAS—National Airspace System
 NTSB—National Transportation Safety Board
 OE/AAA—Obstruction Evaluation/Airport Airspace Analysis
 SIR—Special Investigation Report
 VOR—Very High Frequency Omnidirectional Range

I. Executive Summary

A. Overview of Proposed Rule

This proposed rule would amend title 14 Code of Federal Regulations (14 CFR) part 77, Safe, Efficient Use, and Preservation of the Navigable Airspace, as it applies to all existing meteorological towers, as well as proposals to construct or alter a meteorological tower, with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site.

The FAA proposes requiring a sponsor¹ proposing to construct or alter a meteorological tower at least 50 feet AGL up to and including 200 feet AGL at its site to file notice under § 77.9 pursuant to § 77.7(b).

This rule would also require sponsors of existing meteorological towers with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site to file notice with the FAA within 90 days of the final rule's effective date pursuant to § 77.9.

Additionally, the FAA proposes making certain pertinent information about any meteorological tower with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site available on the FAA's official database, the Digital Obstacle File (DOF), available at https://www.faa.gov/air_traffic/flight_info/aeronav/digital_products/dof. The FAA expects that collecting via the notice

¹ The FAA notes that the word "Sponsor" is capitalized in Advisory Circular 70/7460-1. However, for purposes of this rulemaking, the word is lower case.

and sharing information on proposed, altered, and existing meteorological towers in the DOF database will improve situational awareness for pilots conducting low-altitude operations.

In addition to the changes affecting meteorological towers, this proposed rule would also add additional requirements addressing permanent wind energy systems. The FAA needs these changes to properly handle the unique attributes of wind energy systems. The FAA proposes the following changes:

- Require notice of proposed construction or alteration of a permanent wind energy system at least 90 days before the start date of the proposed construction or alteration, or the date an application for a construction permit is filed, whichever is earlier; and,
- Amend the expiration date of the Determination of No Hazard to Air Navigation under § 77.33 for permanent wind energy systems and associated meteorological towers to 36 months after the effective date of the determination.

Finally, this proposed rule would make the following changes, clarifying and codifying current agency practice:

- Add a definition of airborne wind energy system (AWES) to § 77.3 for consistency with the FAA’s final notice of policy;²
- Add a definition of meteorological towers to § 77.3 for consistency with the FAA’s final notice of policy;³
- Add a definition of sponsor to § 77.3 to clarify the scope of applicability;

- Add a definition of wind energy system to § 77.3 to clarify the scope of applicability;

- Amend § 77.7 to update the methods available to acquire an approved copy of FAA Form 7460–1, Notice of Proposed Construction or Alteration;

- Revise the heading of § 77.9, “Construction or alteration requiring notice,” to “Notice requirements” to reflect that existing meteorological towers may need to provide notice to the FAA;

- Redesignate § 77.11 as § 77.10, and amend to identify FAA Form 7460–2, Notice of Actual Construction or Alteration, as the form sponsors use to provide supplemental notice;

- Add § 77.11 to require the sponsor to submit additional information upon request throughout the aeronautical study process, which includes all actions required pre- and post-determination;

- Add § 77.12 to clarify that, except for structures that have received an FAA Determination of No Hazard to Air Navigation prior to the effective date of a final rule or any meteorological tower with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site for which construction is complete prior to the effective date of a final rule, a sponsor must comply with any conditions and limitations contained in a Determination of No Hazard to Air Navigation including marking requirements that would be developed in accordance with the FAA Advisory

Circular 70/7460–1, Obstruction Marking and Lighting, for proposed or altered meteorological towers with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site;

- Amend § 77.27 to clarify when an aeronautical study is appropriate;
- Add § 77.32 to clarify how a sponsor may request a modification or deviation from the marking and lighting requirements contained in a determination; and,

- Amend § 77.35 to clarify a sponsor’s duty to request an extension of the effective period of the determination when the original Federal Communications Commission (FCC) completion date needs to be extended.

The FAA is proposing to revise references to “Airport/Facility Directory, Alaska Supplement, or Pacific Chart Supplement” to “Chart Supplement U.S., Chart Supplement Alaska, or Chart Supplement Pacific.”

The FAA notes that, as discussed in section IV.D. of this preamble, the FAA is proposing to revise references to “you” to refer to the sponsor to make clear to whom “you” applies.

The FAA also notes that, as discussed in section IV.D of this preamble, the FAA is proposing to revise references to “marking and lighting recommendations” to “marking and lighting requirements” for consistency with the changes in § 77.12.

The following table summarizes the substantive changes proposed in this rule.

TABLE 1—SUMMARY OF PROPOSED CHANGES

CFR §	Proposed provision
77.1	Establishes the requirement that all conditions and limitations in the determination are mandatory, including the requirement to mark newly constructed or altered meteorological towers with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site.
77.3	Add definitions for “airborne wind energy system (AWES),” “meteorological tower,” “sponsor,” and “wind energy system.”
77.5	A sponsor of a meteorological tower in existence before the effective date of a final rule must provide notice consistent with § 77.7(d). A sponsor proposing any construction or alteration of a meteorological tower with the highest point of the structure at least 50 feet up to and including 200 feet AGL at its site must provide adequate notice to the FAA of that construction or alteration pursuant to § 77.7(b).
77.7	Require a sponsor to file notice at least 45 days before the start of construction or alteration or the date of application for a construction permit for any new meteorological tower, whichever is earlier. A sponsor must submit FAA Form 7460–1 for any proposed construction or alteration of a permanent wind energy system and associated meteorological towers at least 90 days before the start date of the proposed construction or alteration, or the date an application for a construction permit is filed, whichever is earlier. A sponsor of a meteorological tower that exists prior to the effective date of a final rule with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site must submit FAA Form 7460–1 within 90 days of the effective date of a final rule.
77.9	A sponsor must file notice of any construction or alteration of a meteorological tower with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site.

² Airborne Wind Energy Systems (AWES) Policy Statement, 87 FR 78849 (Dec. 23, 2022).

³ Id.

TABLE 1—SUMMARY OF PROPOSED CHANGES—Continued

CFR §	Proposed provision
77.10	If a sponsor has an existing meteorological tower with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site prior to the effective date of a final rule, the sponsor must file notice consistent with § 77.7(d).
77.11	Makes clear that a sponsor must file supplemental notice if otherwise requested by the FAA.
77.12	If the FAA requests additional information during any part of the aeronautical study process, pre- or post-any determination, the sponsor must provide that information within 30 days.
77.27	Except for structures that have received an FAA Determination of No Hazard to Air Navigation prior to the effective date of a final rule or any meteorological tower with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site for which construction is complete prior to the effective date of a final rule, sponsors must comply with the conditions and limitations contained in a Determination of No Hazard to Air Navigation. This includes requiring newly constructed or altered meteorological towers with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site to mark the tower.
77.32	The FAA will conduct an aeronautical study when: (1) notice required under § 77.9 has been received, or (2) the FAA determines a study is necessary. All other notices filed outside of these parameters will be screened within the automated OE/AAA system and provided an electronic letter response that indicates that no notice is required for the said proposal or alteration, and thus the FAA has no objections to the proposal.
77.33	In order to request a modification or deviation from the marking and lighting requirements contained in a Determination of No Hazard to Air Navigation, the sponsor must submit FAA Form 7460–1, Notice of Proposed Construction or Alteration.
77.33	Unless extended, revised, or terminated, each Determination of No Hazard to Air Navigation issued under subpart D of part 77 regarding a proposed permanent wind energy system, including an airborne wind energy system, and associated meteorological towers, expires 36 months after the effective date of the determination or on the date the proposed construction or alteration is abandoned, whichever is earlier.

B. Summary of Costs and Benefits

Section 2110 of the FAA Extension, Safety, and Security Act of 2016 (FESSA),⁴ as amended by section 576 of the FAA Reauthorization Act of 2018 (FAARA),⁵ mandates the FAA to require the marking of “covered towers” if they are not included in the database described in section 2110, except for meteorological towers. Section 2110(a)(2) requires that all meteorological towers be marked and included within a database. This proposed rule would include meteorological tower information in a database as well as require compliance with any marking requirements that are conditions and limitations in a Determination of No Hazard to Air Navigation for a proposed or altered meteorological tower. The proposed rule would partially satisfy the mandate concerning meteorological towers without placing undue financial burdens on existing towers and partially address two National Transportation Safety Board (NTSB) recommendations.⁶ This proposal also includes additional amendments that would allow the FAA more time to study and determine aeronautical effects and any potential national airspace system (NAS) impacts from permanent

wind energy systems and associated meteorological towers.

Section 2110, as amended by section 576 of FAARA, requires the clear marking of towers and their inclusion in a database no later than 18 months after the date of enactment of the FAA Reauthorization Act of 2018 or the date of availability of the database, whichever is later. Section 2110(a)(1)(A) requires that towers be clearly marked consistent with applicable guidance in the advisory circular issued December 4, 2015 (AC 70/7460–1L). Consistent with the direction provided by section 2110, the FAA proposes to add new § 77.12, Conditions and limitations. This proposal would clarify that sponsors that receive a Determination of No Hazard to Air Navigation, except for structures that have received an FAA Determination of No Hazard to Air Navigation prior to the effective date of a final rule or any meteorological tower with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site for which construction is complete prior to the effective date of a final rule must comply with the conditions and limitations therein including, at a minimum, marking requirements for newly constructed or altered meteorological towers with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site. Those conditions and limitations as they relate to marking will be derived from the current version of AC 70/7460–1. Existing meteorological towers at least 50 feet AGL and up to

and including 200 feet AGL are required to file notice with the FAA within 90 days of the effective date of a final rule. The FAA will study these notices, and the FAA may issue a part 77 determination.

The primary costs of the proposed rule to industry would be the costs to mark new and altered meteorological towers. The estimated costs to mark each new or altered tower is about \$14,300 and includes equipment costs for marker balls and sleeves and installing them to new and altered towers, buying a new pre-painted tower, and dismantling a tower. This estimated cost also includes the cost to provide FAA notifications of both existing and dismantling of out-of-service meteorological towers. The FAA would process notifications of existing and new meteorological towers, including notifications of dismantled out-of-service meteorological towers, at a cost of about \$41 per existing notification and about \$162 per dismantling notification. The FAA is also proposing to extend the expiration date of the Determination of No Hazard to Air Navigation for permanent wind energy systems and associated meteorological towers. Extending the wind turbine determination period from 18 months to 36 months would result in minimal cost savings to industry and the FAA.

The primary benefit of the proposed rule would be enhanced conspicuity to prevent agricultural pilots from colliding with meteorological towers with the highest point of the structure

⁴Public Law 114–190, sec. 2110; 130 Stat. 623 (Jul. 15, 2016).

⁵Public Law 115–254, sec. 576; 132 Stat. 3391 (Oct. 5, 2018).

⁶NTSB Safety Recommendations A–13–16 and A–13–17 (May 2013).

at least 50 feet AGL up to and including 200 feet AGL at its site.

II. Authority for This Proposed Rulemaking

The FAA's authority to issue rules on aviation safety is found in title 49 of the United States Code (49 U.S.C.). Subtitle I, section 106 describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the agency's authority.

This rulemaking is issued under the authority described in 49 U.S.C. 40103(b), which vests the Administrator with broad authority to prescribe regulations to ensure the safety of aircraft and the efficient use of airspace, and 49 U.S.C. 44701(a)(5), which requires the Administrator to promulgate regulations and minimum standards for other practices, methods, and procedures necessary for safety in air commerce and national security. This rulemaking is also consistent with: (1) the authority in 49 U.S.C. 44718(a), which directs the Secretary of Transportation to require a person to give adequate public notice of the construction, alteration, establishment, or expansion, or the proposed construction, alteration, establishment, or expansion, of a structure or sanitary landfill in furtherance of safety in air commerce and the efficient use and preservation of the navigable airspace and of airport traffic capacity at public-use airports; (2) section 44718(b), which requires the Secretary to conduct an aeronautical study to decide the extent of any adverse impact on the safe and efficient use of the airspace, facilities, or equipment if the Secretary decides that constructing or altering a structure may result in an obstruction of the navigable airspace or an interference with air navigation facilities and equipment or the navigable airspace; and (3) section 44718(c), which requires that in carrying out laws related to a broadcast application and conducting an aeronautical study related to broadcast towers, the FAA Administrator and the FCC shall take action necessary to coordinate efficiently the receipt and consideration of, and action on, the application and the completion of any associated aeronautical study.

Furthermore, the portions of the proposed rule regarding meteorological towers are authorized by section 2110 of the 2016 FESSA, as amended by section 576 of the 2018 FAARA and section 355 of the FAA Reauthorization Act of 2024 (Pub. L. 118–63), that imposed marking and informational requirements on covered towers, including meteorological towers. The following

proposed amendments to part 77 are within the scope of this authority. Publication of this NPRM also satisfies the requirement in section 355 of the FAA Reauthorization Act of 2024⁷ that the FAA publish this notice of proposed rulemaking within one year of the date of enactment of that Act.

III. Background

A. Current Regulations and Practices

Part 77 contains the regulations governing the safe, efficient use, and preservation of the navigable airspace. Sponsors proposing to construct or alter a structure that is more than 200 feet AGL must provide the FAA notice per § 77.9(a). Sponsors must provide notice at least 45 days before the start of construction or alteration or the date an application for a construction permit is filed, whichever is earlier, per § 77.7(b).

After receiving notice, the FAA's Obstruction Evaluation Group (OEG) conducts an initial review to verify the information provided and, if appropriate, enters it into the Obstruction Evaluation/Airport Airspace Analysis (OE/AAA) system as a verified proposed structure.

Currently, the FAA will conduct an aeronautical study when requested by the sponsor of any proposed construction or alteration for which a notice is submitted, or the FAA determines a study is necessary.⁸ As part of this study, the FAA determines whether the structure exceeds the heights identified in part 77's obstruction standards. A structure exceeding one or more of the heights described in the obstruction standards is presumed a hazard to air navigation unless an aeronautical study determines otherwise. If the proposed structure is a presumed hazard, the FAA sends the sponsor a notice of preliminary findings (which previously was called a Notice of Presumed Hazard) with 60 days to respond.

Upon receipt of the preliminary findings, the sponsor has the option to move or lower the proposed structure, request further study (which may include a public comment period), terminate the proposal, or request a Determination of Hazard. The FAA and the sponsor may also discuss hazard mitigation strategies, such as reducing the structure's height or adjusting the proposed location, prior to the agency's formal determination. Proper mitigation, if appropriate, may result in a Determination of No Hazard to Air Navigation that contains conditions and

limitations (e.g., marking, lighting, or supplemental notice filing constraints). Each Determination of No Hazard to Air Navigation issued under subpart B of part 77 expires 18 months after the effective date of the determination, or on the date the proposed construction or alteration is abandoned, whichever is earlier. If the FAA determines that a structure does not pose a hazard to air navigation, the FAA will recommend marking and lighting in the determination, as appropriate, in accordance with the current AC 70/7460–1 to make the structure more conspicuous for aircraft operators to see and avoid.

A sponsor may request a modification from the marking and lighting recommendations contained in a determination by submitting FAA Form 7460–1, Notice of Proposed Construction or Alteration, to the OEG. A request received after the FAA has issued its determination containing marking and lighting conditions and limitations may require a new marking and lighting study and could result in new requirements. If the FAA issues a modification from the marking or lighting conditions and limitations prior to the implementation of the changes, the sponsor may also be required to notify the FCC. Modifications would be based on whether or not they impact aviation safety.

A sponsor may also request a deviation from the marking and lighting conditions and limitations contained in the determination derived from the standards in AC 70/7460–1. Proposed requests to deviate from current marking and lighting conditions and limitations derived from the standards in AC 70/7460–1 for research and development to introduce new technology or improve current standards are generally submitted by email. The FAA will perform a safety assessment for use in the NAS and may request additional information if needed. If at any time the FAA determines the study has created an unsafe condition, the deviation request may be disapproved. Research and development testing is independent of the aeronautical study process and generally requires a more lengthy analysis period for evaluation by the FAA for aviation safety. When testing is complete and the FAA concludes its review, the sponsor will be notified of the determination. Examples of deviations that may be considered include, but are not limited to, alternative painting schemes, colors/types of lights, basic signals and intensity of lights, night/day lighting combinations, and flash rate.

⁷ Public Law 118–63, sec. 355 (May 16, 2024).

⁸ 14 CFR 77.27.

B. NTSB Investigations of Meteorological Tower Accidents

The NTSB is an independent U.S. government agency responsible for the investigation of civil transportation accidents.⁹ Between 2003 and 2011, the NTSB investigated 3 accidents involving meteorological towers below 200 feet AGL. A summary of the investigated accidents follows:

- *December 15, 2003:* During a personal flight from Yakima, Washington, to Walla Walla, Washington, an Erickson SHA Glasair collided with an unmarked meteorological tower (164 feet AGL) near Vansycle, Oregon. The accident resulted in fatalities to the pilot and passenger.¹⁰
- *May 19, 2005:* During an aerial application flight, an Air Tractor AT-602 collided with an unmarked meteorological tower (197 feet AGL) erected 15 days before the accident near Ralls, Texas. The accident resulted in a pilot fatality.¹¹
- *January 10, 2011:* During an aerial application flight, a Rockwell International S-2R collided with an unmarked meteorological tower (198 feet AGL) near Oakley, California. The accident resulted in a pilot fatality.¹²

In 2011, the NTSB issued Safety Alert (SA) 016.¹³ The SA warned operators that “unmarked towers could interfere with low-flying aircraft operations, including those involving helicopter emergency medical services, law enforcement, animal damage control, fish and wildlife, agriculture, and aerial fire suppression.” In 2013, the NTSB published a Safety Recommendation letter¹⁴ addressed to the FAA Administrator, containing the following 2 recommendations:

- *A-13-16:* Amend part 77 to require that all meteorological towers¹⁵ are registered, marked, and—where feasible—lighted; and,
- *A-13-17:* Create and maintain a publicly accessible national database for the required registration of all meteorological towers.

In 2014, the NTSB published a Special Investigation Report (SIR)

concerning the safety of agricultural aircraft operations.¹⁶ The SIR focused, in part, on the impact of meteorological towers and guy wires, which are cables designed for the support of towers or other structures, on agricultural aircraft operations and reiterated NTSB recommendations A-13-16 and A-13-17. The NTSB concluded that in some of the accidents, the pilot was not previously aware of, and did not see, the obstacle in time to avoid the collision because the obstacle was not visually conspicuous. The report noted the multiple attention demands for pilots engaged in agricultural operations. For instance, pilots must operate the spray application per the instructions of the particular applied substance while simultaneously maneuvering the aircraft at low altitude. In other cases, the pilot knew about the obstacle, having seen it in a previous pass, a survey flight, or during a previous close call, but nevertheless misjudged the aircraft’s distance from, and collided with, the obstacle.

The NTSB concluded that these accidents show that obstacle collision risk management requires a multifaceted approach. In addition to making meteorological towers more visually conspicuous, the NTSB suggested pre-flight planning that would allow a pilot to learn of any structures in the area of their planned operations to reduce the risk of an obstacle collision. Pilots learn of obstacles from many sources, including local residents, area maps (both paper and electronic) that depict obstacles, and ground surveys. The SIR concluded that additional meteorological tower collisions resulting in loss of life would occur without requiring registration, marking, and the creation of a publicly accessible national meteorological tower database.

C. The 2011 Voluntary Meteorological Tower Marking Policy Statement

On January 5, 2011, in response to concerns from agricultural operators over the safety risk of low-flying operations in remote and rural areas and a November 16, 2010, meeting with representatives from the National Agricultural Aviation Association (NAAA) to discuss safety-specific concerns of the aerial application industry, the FAA published a proposed policy statement that recommended voluntary marking of meteorological towers under 200 feet AGL.¹⁷

The FAA published the final policy on June 24, 2011,¹⁸ and included voluntary marking guidance in AC 70/7460-1L.¹⁹ The FAA continues to modify its voluntary marking criteria in AC 70/7460-1.

D. State Requirements Related to Marking of Meteorological Towers

In the absence of a nationwide requirement for marking meteorological towers, at least sixteen states adopted meteorological tower marking and notice requirements.²⁰ As a result of individual state requirements, marking and lighting requirements are inconsistent across states and may conflict with FAA AC 70/7460-1 marking requirements, which Congress mandated the FAA to adopt for marking standards.

For example, Colorado²¹ requires that certain towers over 50 feet in height be marked and painted or otherwise constructed to be visible in clean air during daylight hours from a distance of not less than 2,000 feet. Colorado requires towers be painted in equal alternating bands of aviation orange and white, beginning with orange at the top of the tower. Additionally, Colorado also requires the attachment of one marker ball to the top third of each outside guy wire and that guy wires have seven-foot-long safety sleeves at each anchor point that extend from the anchor point along each guy wire attached to the anchor point.

Additional states have similar requirements. Wyoming²² stipulates that any structure that meets the criteria must be marked in a manner that makes the tower recognizable in clear air during daylight hours from a distance of at least 2,000 feet. South Dakota’s law²³ mandates that any meteorological tower of 50 feet or more, including the tower, guy wires, and accessory facilities, located outside the boundaries of a municipality must be marked, painted, flagged, or otherwise constructed to be recognizable in clear air during daylight hours. While some similarities exist between these requirements, they are not consistent with FAA AC 70/7460-1 and, considering Colorado’s

⁹ See NTSB’s Aviation Accidents Database at <https://data.ntsb.gov/carol-main-public/basic-search>.

¹⁰ NTSB accident number SEA04LA027.

¹¹ NTSB accident number DFW05LA126.

¹² NTSB accident number WPR11LA094.

¹³ NTSB SA-016: The Hazards of Unmarked Towers (March 2011, revised September 2018).

¹⁴ NTSB Safety Recommendation A-13-16 and A-13-17 (May 2013).

¹⁵ While the NTSB and others use the terms “meteorological evaluation tower” or “MET”, the FAA decided to use the term “meteorological tower”. Meteorological tower is interchangeable with either.

¹⁶ NTSB/SIR-14/01.

¹⁷ *Marking Meteorological Evaluation Towers* Proposed revision to Advisory Circular; request for comments, 76 FR 490 (Jan. 5, 2011).

¹⁸ *Marking Meteorological Evaluation Towers* policy statement, 76 FR 36983 (Jun. 24, 2011).

¹⁹ AC 70-7460-1L, effective December 4, 2015.

²⁰ As of January 2022, the FAA identified 16 states with marking requirements applicable to meteorological towers: California, Colorado, Idaho, Kansas, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, North Dakota, Oklahoma, South Dakota, Texas, Washington, and Wyoming.

²¹ Colorado Revised Statutes 43-10-117.

²² Wyo. Stat. Ann. § 10-4-305.

²³ SDCL § 50-9-13.

requirements, are also inconsistent across three shared state lines.

In addition to inconsistent marking requirements, state laws for filing notice of existing, new, and dismantled meteorological towers vary across state lines. Only five states require notice of current meteorological towers, only nine require notice of planned construction for new meteorological towers, and only six require notice of dismantled meteorological towers. The notice requirements directed by states are inconsistent with what the FAA proposes to standardize.

In response to the inconsistent state marking standards, the FAA sent the National Association of State Aviation Officials (NASAO) a letter in 2011.²⁴ The letter reminded the association that the Federal Government occupied the entire field of airspace management and aviation safety, preempting state and local regulation related to the marking and lighting of structures for aviation safety purposes. The FAA is vested with plenary authority to regulate the use of the airspace as necessary to ensure the safety of aircraft and the efficient use of airspace.²⁵

E. Statutory Mandates

Section 2110 of FESSA, revised by section 576 of FAARA, requires either the marking of covered towers as defined in section 2110, which includes meteorological towers, consistent with AC 70/7460–1L or their inclusion within a database, except for meteorological towers. Section 2110 requires all meteorological towers be marked and included in a database. Congress also mandated that the database conform to additional provisions to ensure data security and accuracy.

Section 355 of the FAA Reauthorization Act of 2024 requires that the FAA publish an NPRM within one year of the date of enactment of the 2024 Act.

F. Industry Engagement

The NAAA expressed concerns to the FAA regarding the visibility of meteorological towers less than 200 feet AGL not currently subject to notice requirements, stating that these towers are particularly hazardous to pilots of low-flying aircraft in remote and rural areas.²⁶ The NAAA referenced its 2019

survey²⁷ and reported that agricultural operators and pilots considered power lines, communication towers, and meteorological towers as the top three occupational hazards. Additionally, 52 percent of the respondents encountered a wind turbine or an unmarked meteorological tower when making aerial applications.

The NAAA continues to urge the FAA to expand tower marking guidance to include all guy wire and freestanding towers more than 50 feet in height. Further, NAAA asked the FAA to require tower marking and lighting, if feasible.

G. The 2022 Airborne Wind Energy Systems Policy Statement

As noted previously, on December 7, 2011, the FAA published the Notification for Airborne Wind Energy Systems (AWES) notice of policy and request for information in the **Federal Register**.²⁸ The 2011 notice established policy related to airborne wind energy systems. The 2011 notice also stated that given the altitudes in which airborne wind energy systems can operate and their operating characteristics, the FAA concluded that they should be studied and the potential impacts to the navigable airspace must be identified and addressed.

Accordingly, in the 2011 notice the FAA announced that the provision of part 77 will apply to temporary airborne wind energy systems proposals for data collection purposes. At that time, the FAA found that it could apply the provisions of 14 CFR part 77 to these “structures” without the need to amend the regulations. The FAA stated that permanent and operational airborne wind energy systems may be addressed in the future, once further evaluations and risk assessments are performed.

To facilitate the timely manner in which airborne wind energy systems proposals were reviewed, the FAA, in the 2011 proposal, requested airborne wind energy systems developers and operators to limit temporary operations to the following:

- (1) Airborne operations of airborne wind energy systems should be temporary in nature for testing and data collection purposes only;
- (2) Single airborne wind energy system devices only (e.g., no “farms” or multiple simultaneous testing);
- (3) Airborne wind energy systems should be limited to a single fixed

location (e.g., no mobile ground facilities);

(4) Testing is confined to heights at or below 499 feet AGL;

(5) Airborne flight testing of airborne wind energy systems will only occur during daylight hours; and,

(6) Airborne wind energy systems will be made conspicuous to the flying public.

The FAA sought comments on revising its policy regarding the application of 14 CFR part 77 to airborne wind energy systems. In addition, the notice requested information from airborne wind energy system developers and the public related to these systems so that the FAA could comprehensively analyze the airborne wind energy systems and their integration into the NAS.

On December 23, 2022, the FAA published the Airborne Wind Energy (AWES) Policy Statement in the **Federal Register** in response to the 2011 statement.²⁹ The 2022 policy summarized and discussed the comments received in response to the 2011 notice. In the 2022 policy statement, the FAA amended the policy set forth in the 2011 notice and stated it will consider part 77 applications for all airborne wind energy systems, including permanent and operational systems. Those entities proposing construction of an AWES that exceeds the parameters in § 77.9 (e.g., an airborne wind energy system constructed at more than 200 feet AGL at its site) must file advance notice with the FAA.

III. The Proposed Rule

A. Requirements Related to Meteorological Towers

1. Definition of Meteorological Tower (§ 77.3)

The FAA proposes to define a meteorological tower in § 77.3 as “a skeletal or pole-type structure, either freestanding or anchored with guy wires, configured with components to measure wind speed and wind direction at different heights above ground level to assess local wind energy resources.” The proposed definition incorporates skeletal or pole-type structures, common elements of meteorological towers. There are single tower masts, self-supporting antenna towers, guyed telescopic towers, or telescopic un-guyed towers that can rapidly deploy to heights more than 100 feet AGL. There are also stand-alone towers that do not

²⁴ FAA letter to NASAO (October 27, 2011).

²⁵ 49 U.S.C. 40103(b) and 44718.

²⁶ NAAA *Fact Sheet on the Dangerous Effects of Towers to Low-Level Aviators* (January 2020) and NAAA *Facts About the Aerial Application Industry* (available at <https://www.agaviation.org/industryfacts>).

²⁷ Per NAAA, 550 operators and 305 pilots responded to the survey, available at www.agaviation.org.

²⁸ *Notification for Airborne Wind Energy Systems (AWES)* notice of policy and request for information, 76 FR 76333 (Dec. 7, 2011).

²⁹ Airborne Wind Energy System (AWES) Policy Statement, 87 FR 78849 (Dec. 23, 2022).

use guy wires, all of which are covered by this definition.

The definition encompasses permanent and temporary meteorological towers, freestanding meteorological towers, and meteorological towers with guy wires due to the see and avoid safety risks they each pose. Under this proposed definition, the FAA would identify where these towers are located, publish the locations in a database, and have them marked where appropriate in an effort to increase safety at lower altitudes. Temporary towers can be erected in a matter of hours, creating an unexpected safety risk for pilots, even for those familiar with the area. The FAA is including meteorological towers with guy wires, which are freestanding structures with a tensioned cable designed to add stability because, depending upon the materials used, the guy wires may be difficult to see in certain atmospheric conditions.

2. Notice Requirements for Proposed or Altered Meteorological Towers With the Highest Point of the Structure at Least 50 Feet AGL Up to and Including 200 Feet AGL at Its Site (§§ 77.7, 77.9(a)(2))

Consistent with current practice, the FAA would require a sponsor of a meteorological tower with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site to file notice pursuant to § 77.7 before the start of construction or alteration or the date of application for a construction permit for any new meteorological tower, whichever is earlier.³⁰ Specifically, the sponsor would be required to electronically complete and submit FAA Form 7460–1, Notice of Proposed Construction or Alteration, or FAA Form 7460–2, Notice of Actual Construction or Alteration, via the internet at <https://oeaaa.faa.gov>. Except under limited circumstances, a sponsor required to provide notice would be required to submit FAA Form 7460–1 at least 45 days before the start date of the proposed construction or alteration, or the date an application for a construction permit is filed, whichever is earlier.

The FAA proposes to add a new paragraph (a)(2) to § 77.9 to require notice of the construction or alteration of meteorological towers with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site in order to allow for the tower's inclusion within the FAA's publicly available database; additional study of the structure pursuant to part 77; and the marking of those towers.

³⁰ § 77.7(a) and (b).

The FAA would also add a new § 77.5(d) to make clear that a sponsor proposing any construction or alteration of a meteorological tower with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site must provide adequate notice to the FAA of that construction or alteration pursuant to § 77.7(b).

If the FAA does not receive a notice, it cannot study the structure or include it in the FAA's public (DOF) database.³¹ If the FAA does not include in its DOF database a meteorological tower with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site, operators of low-flying aircraft, including agricultural operators or first responders, may not be aware of the locations of the same. This proposal would direct sponsors to file notice and provide detailed information concerning meteorological towers with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site. Filing notice would enable the FAA to provide this information to the public via a publicly available database. Pilots of agricultural and other low-flying aircraft operators (e.g., emergency medical services aircraft, firefighting aircraft, utility patrol and maintenance aircraft, fish and wildlife service aircraft, aerial survey aircraft, and military aircraft) would have the ability to obtain this information for preflight planning purposes pursuant to § 91.103, which requires each pilot in command to become familiar with all available information concerning that flight.

While markings are critical features that assist pilots of low-flying aircraft to see obstacles in their flightpath, the FAA concludes it is crucial to provide a database of known obstacles for pilots to use during flight planning to increase pilots' situational awareness. Given the number of competing elements for pilot attention during low-altitude flight, whether during routine operations or when experiencing an in-flight anomaly or emergency with limited time to respond safely, a database providing the accurate locations of meteorological

³¹ The FAA may include some structures or obstacles on aeronautical charts. In cases where a structure is charted and noted in the FAA database, pilots are responsible for entering the relevant location information in their navigation system. Although Global Positioning System (GPS) equipment is not required by the FAA for visual flight rules (VFR) flight, the FAA believes that most agricultural operators equipped their aircraft with GPS, based on a 2019 NAAA industry survey. This survey also showed that 99% of respondents reported that they use a GPS device for swath guidance. A GPS display can also show the pilot the aircraft's location when the spray was turned on or off and can enable the marking of boundaries, obstacles, and other user-defined inputs.

towers with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site may reduce the risk of collision accidents to low-flying aircraft. To include meteorological towers in the database for public and pilot awareness, sponsors must file notice with the FAA.

Therefore, the FAA determined it is appropriate to propose to amend the current provisions of part 77 to require all sponsors of newly constructed and altered meteorological towers with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site to file advance notice with the FAA on a mandatory basis.

Expanding the existing notice requirement to include existing meteorological towers with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site would also enable the FAA to conduct an aeronautical study. The FAA may issue a part 77 determination. If the FAA issues a determination, pursuant to § 77.12, the FAA would only issue recommended conditions and limitations.

The FAA is proposing notice of meteorological towers with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site. The FAA considered proposing to require notice of a meteorological tower at any height but determined that such a proposal would be unnecessarily broad based on accident data specific to meteorological towers. The FAA excluded towers under 50 feet AGL from this rulemaking as the risk of inadvertent collision is minimal due to the low number of operations that occur at those altitudes. Outside of takeoff and landing as well as crop dusting, few operations occur below 50 feet AGL. Finally, from the data provided by the NTSB, none of the accidents they investigated occurred below 50 feet AGL.

3. Notice Requirements for Existing Meteorological Towers Constructed With the Highest Point of the Structure at Least 50 Feet AGL Up to and Including 200 Feet AGL at Its Site (§§ 77.7(d) and 77.9(b))

Existing meteorological towers with a height at or below 200 feet AGL generally do not meet notice criteria in § 77.9 unless they exceed an imaginary surface or are constructed on an airport under current § 77.9(b) and (d).³² The

³² Some sponsors of meteorological towers with a height less than 200 feet AGL submitted voluntary notifications to the FAA. Because these structures do not meet or exceed the current notification requirements in part 77, the FAA issued a

FAA proposes amending § 77.7 by adding paragraph (d) and adding § 77.9(b), requiring sponsors of existing meteorological towers with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site to file notice with the FAA within 90 days of the effective date of a final rule. As proposed in § 77.7(d), sponsors would be required to complete and submit notice of existing towers electronically via the internet at <https://oeaaa.faa.gov> using FAA Form 7460–1.

The FAA intends to require the sponsors of any existing meteorological tower, whether in use or not but still standing, to provide the FAA notice of its existence. The FAA determined that existing meteorological towers at the same heights will continue to pose an undue risk to low-flying aircraft unless sponsors file notice with the FAA or dismantle the tower. Upon receiving a notice as proposed, the FAA would create a public record of the meteorological tower in the DOF database, detailing the tower's location, height, and marking or lighting. This database inclusion would ensure availability of the most current information available for pilots to use in preflight planning.

The FAA considers 90 days as a reasonable time for industry to file notice of existing meteorological towers because it will allow for sponsors to dismantle any temporary towers and for the sponsors to gather information. The purpose of requiring existing towers to file is to ensure inclusion of these towers in the FAA's publicly available database as soon as practicable.

The proposed amendment would also subject existing meteorological towers to the provisions in subparts C and D of part 77, such as the requirement to notify the FAA when the structure is abandoned or dismantled in accordance with current § 77.11 (proposed § 77.10). Including these subparts would ensure the FAA's ability to remove the structure from its database when supplemental notice is received by the FAA, thereby increasing the accuracy of information provided to the public.

The FAA also proposes to revise § 77.5(e) to make clear that the FAA would use the notice provided by a sponsor to evaluate the effect of a meteorological tower in existence before the effective date of a final rule on safety in air commerce and the efficient use and preservation of the navigable airspace and of airport traffic capacity at

Determination of No Hazard without any marking and/or lighting conditions. However, the FAA encourages sponsors to voluntarily comply with marking and lighting standards in FAA AC 70/7460–1.

public use airports. The notice would also be used by the FAA to determine whether the effect of a meteorological tower in existence before the effective date of a final rule is a hazard to air navigation. The FAA will study these notices, and the FAA may issue a part 77 determination. If the FAA issues a determination, pursuant to § 77.12, the FAA would only issue recommended conditions and limitations.

Amending part 77 to require notice from sponsors of existing meteorological towers constructed at least 50 feet AGL up to and including 200 feet AGL at their sites, regardless of location, would reduce the potential collision risk with unmarked meteorological towers or their guy wires for pilots of low-flying VFR aircraft. If the FAA adopts the proposed amendment, a pilot or operator would be able to search the FAA's public database, access meteorological tower pertinent information for preflight planning purposes, and input the information into their GPS system (if equipped) to provide additional situational awareness of the tower while airborne.

With this data, agricultural and other low-flying aircraft operators could better manage the risk associated with potential obstacle collisions by exercising pre-flight planning procedures. For that reason, it is particularly important that pilots engaged in low-flying aircraft operations routinely check the FAA's public DOF database for use during pre-flight planning to confirm existing structures or identify new structures where they plan to operate. The FAA urges pilots to use GPS systems to track all obstructions contained in the database. Similarly, the FAA recommends that pilots incorporate obstacle analysis tasks into preflight planning to identify obstacles before conducting survey flights of the area. In fact, the NTSB noted that "pilots involved in collision accidents in 2013 reported that they performed survey flights but did not see the obstacles that the aircraft eventually hit."³³

B. Partial Implementation of the FESSA

1. Meteorological Towers

The FAA proposes to partially implement section 2110 of FESSA, as amended by section 576 of FAARA of 2018. Section 2110 requires the FAA to have all "covered towers" marked consistent with applicable guidance in the advisory circular of the FAA issued December 4, 2015 (AC 70/7460–IL) or entered into a database (meteorological

towers must be marked and entered into a database). Congress defined a covered tower as a meteorological tower, self-standing tower, or tower supported by guy wires and ground anchors with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site that meet certain criteria. The FAA is not proposing to require all self-standing towers or all towers supported by guy wires and ground anchors with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site to be marked or be included in a database. The data from the NTSB show that very few accidents involve self-standing towers or towers supported by wires and ground anchors with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site that do not also involve a meteorological tower or a tower that supports electric utility transmission or distribution lines, the latter of which section 2110 excludes. Due to the minimal number of accidents involving towers not excluded by section 2110, the FAA is proposing to limit the tower marking and database requirements to meteorological towers.

Section 2110 sets forth criteria that narrows which towers are considered covered towers. Specifically, Congress stated that a tower should be captured if it meets the following:

- Is 10 feet or less in diameter at the above ground base, excluding concrete footing;
- Has accessory facilities on which an antenna, sensor, camera, meteorological instrument, or other equipment is mounted; and,
- Is located on land that is in a rural area and used for agricultural purposes or immediately adjacent to such land.

The FAA captures these towers but, because the NTSB data demonstrated the majority of the incidents involved meteorological towers regardless of equipment, diameter, or location, expanded its definition to include meteorological towers of all sizes, equipage, and location.

Section 2110 also sets forth those towers that are not considered covered towers. NTSB data demonstrated that the majority of the incidents involved meteorological towers regardless of equipment, diameter, or location. As such, in order to improve safety, the FAA is not proposing to adopt the following exclusions:

- Is adjacent to a house, barn, electric utility station, or other building;
- Is within the curtilage of a farmstead or adjacent to another building or visible structure; or,

³³ NTSB/SIR–14/01.

- Is located within the right-of-way of a rail carrier, including within the boundaries of a rail yard, and is used for a railroad purpose.

The FAA is also proposing to not include the following exclusion for towers:

- Has already mitigated any hazard to aviation safety in accordance with FAA guidance or as otherwise approved by the FAA Administrator.

Congress mandated that meteorological towers be entered into a database as well as marked. As supported by NTSB data, the entry into a database via notice to the FAA would ensure aircraft operators are aware in advance of the location of the towers. As such, the FAA is not proposing to exclude these towers if they are independently marked or if the FAA receives notice of a tower to enable inclusion within the FAA's database. Moreover, the FAA wants the opportunity to study each tower and to assess the proper marking and potential lighting requirements. The FAA also wants to be kept abreast of any changes. Without covering these meteorological towers, the FAA will not be able to make an independent assessment about what terms and conditions should apply to ensure safety and the sponsor would not be subject to the ongoing obligations to update the FAA.

This proposal also would not implement section 2110's requirement that sponsors mark meteorological towers that exist at the time of the final rule's effective date. The FAA would require that sponsors of existing meteorological towers file notice with the FAA within 90 days of the effective date of a final rule using FAA Form 7460-1. These notices would enable the FAA to study those towers. Existing meteorological towers at least 50 feet AGL up to and including 200 feet AGL are required to file notice with the FAA within 90 days of the effective date of a final rule. The FAA will study these notices, and the FAA may issue a part 77 determination. If the FAA issues a determination, pursuant to § 77.12, the FAA would only issue recommended conditions and limitations. If a sponsor alters an existing tower, the FAA proposes to then impose marking requirements. The FAA is not proposing to impose retroactive marking requirements as existing towers would already be in the DOF to alert aircraft operators of their presence, sponsors will have marking recommendations, and sponsors will be required to mark a tower if the tower is altered or file notice when dismantling a tower so the FAA may remove it from the DOF database. Finally, in the interest of

safety, the FAA is not including section 2110's exclusion and waiver provisions in this proposal due to the need for all meteorological towers at least 50 feet AGL up to and including 200 feet AGL at their sites to be studied and added to the DOF.

The FAA proposes to implement only those provisions of section 2110 applicable to meteorological towers supported by safety data and aviation accidents involving meteorological towers with the highest point of the structure below 201 feet AGL. However, this limitation does not address the risk to the larger population of low-flying aircraft operators identified by NTSB that the FAA seeks to mitigate with this proposal, including the risk to helicopter emergency medical services, law enforcement, animal damage control, fish and wildlife surveys, and aerial fire suppression.³⁴ The FAA agrees with NTSB that the demonstrated risk to low-flying aviation, as a whole, posed by unmarked meteorological towers justifies requiring notice of meteorological towers regardless of location.³⁵ The proposal also partially addresses NTSB's 2013 safety recommendations A-13-16 and A-13-17, issued in 2013. In sum, it would provide the FAA with information that will improve the safety of low-flying aircraft.

Newly filed proposed and altered meteorological towers with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at their sites would be subject to the marking requirement. Meteorological towers can come from the manufacturer painted, reducing the burden of painting the structure after delivery. Dismantling an existing tower to paint it would be costly, considering the average deployment of one to three years. Regardless of marking, the existing towers would be included in the database.

2. Database

The FAA plans to partially implement section 2110's database requirement without making regulatory changes beyond those already discussed. Section 2110 requires the FAA to develop or utilize an existing database that contains the location and height of covered towers and to keep the database current to the extent practicable. The agency also must ensure that any proprietary information in the database is protected

³⁴ <https://www.nts.gov/safety/safety-recs/RecLetters/A-13-016-017.pdf>.

³⁵ NTSB accident number SEA04LA027 (December 15, 2003): Accident when an aircraft operating for personal flight collided with an unmarked meteorological tower (164 feet AGL).

from disclosure in accordance with law. In addition, the FAA Administrator must ensure that, by virtue of accessing the database, users agree and acknowledge that information in the database may only be used for aviation safety purposes and may not be disclosed for purposes other than aviation safety, regardless of whether or not the information is marked or labeled as proprietary or with a similar designation. Further, the section directs the FAA to ensure that tower information in the database is de-identified and that the information only includes the location, height, and presence of guy wires. The FAA must ensure the information in the dataset is encrypted at rest and in transit and is protected from unauthorized access and acquisition. Additionally, the FAA must ensure registration of towers, database inclusion of proposed towers before construction, and database availability for pilots who intend to conduct low-altitude operations so they may consult the database before flight operations. Lastly, section 2110 states that the database must be available for use within 1 year of the effective date of the rule. The FAA plans to use the existing OE/AAA system to partially implement section 2110's database requirement. The FAA would include any structure filing notice under current regulations, those giving notice pursuant to proposed changes applicable to meteorological towers with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site, and wind turbines in the database.

The existing OE/AAA system meets section 2110's general intent to make information concerning structures that may pose a hazard to aviation available to the flying public. The available data includes structure type, location, latitude, longitude, height, elevation, marking, lighting, and proximity to the nearest town and airport. The information available on the OE/AAA website³⁶ depicts accurate information received from filed notices of proposed structures that require issuance of an FAA determination.³⁷

Although pilots can search for known meteorological towers on the OE/AAA website without having a user account, any interested party can register for, and establish, a user account. Once registered, the interested party can subscribe to receive email notifications

³⁶ <https://oeaaa.faa.gov>.

³⁷ The FAA conducts studies on more than 100,000 structures annually. However, the database is limited to those structures located in close proximity to a public-use airport.

when the FAA receives a request for obstacle construction or modification within a geographic area defined by the user. The OE/AAA website also provides a tool that allows a user to find all obstacles of notice received within a user-defined radius from a location. Source information for this tool comes from a combination of the notices of proposed construction or alteration submitted to the FAA's Obstruction Evaluation Group and the DOF.³⁸

Consistent with section 2110, the FAA would update the system to include meteorological towers and create an ability to search for known meteorological towers via the FAA's public OE/AAA website. This update would allow pilots to obtain a list of meteorological towers by location (e.g., state) from the FAA's database. As proposed, filers would also be required to notify the FAA if the structure is dismantled or abandoned³⁹ to enable the FAA to update its database. In addition, the FAA would add disclaimers to the site consistent with section 2110 to reflect the limits on the use of the available information for aviation safety purposes, and that the information may not be disclosed for purposes other than aviation safety, regardless of whether the information is marked or labeled as proprietary or with a similar designation. The FAA intends to modify the OE/AAA system to coincide with the effective date of the final rule.

The FAA would maintain and update the existing OE/AAA system to meet the objectives of section 2110. This would fully address NTSB 2013 safety recommendation A-13-17. Section 2110's requirement to ensure pilots conducting low-altitude operations consult the relevant parts of the database is outside the scope of this rulemaking and falls under 14 CFR part 91. The FAA recommends that pilots use the DOF database to obtain the most up-to-date information prior to flight.

3. Exclusion and Waiver Authorities

Section 2110 authorizes the FAA administrator to exclude a class, category, or type of tower that is determined to not pose a hazard to aviation safety after public notice and comment. It also directs the FAA to establish a process to waive specific towers from marking requirements if the agency determines the tower does not pose a hazard to aviation safety. Section 2110 requires the Administrator to

consider specific factors that may mitigate risk and to consider excluding towers located in a state that has enacted tower marking requirements. As explained earlier, the FAA is limiting this proposal to those towers for which it has accident data to support the regulation. In this case, the proposal applies to meteorological towers with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site. Because the agency determined the expanded definition of a covered tower would include those that do not pose a hazard to aviation safety given the FAA has no accident data involving these structures, the FAA would exclude other structures (a self-standing tower or tower supported by guy wires and ground anchors) meeting the section 2110 definition of a covered tower.

Section 2110 requires the Administrator to consider specific factors that may mitigate risk and to consider excluding towers located in a state that has enacted tower marking requirements. As explained above, the FAA issued a letter reiterating that the Federal Government occupies the entire field of airspace management and aviation safety, preempting state and local regulation related to the marking and lighting of structures for aviation safety purposes. The FAA is vested with plenary authority to regulate the use of the airspace as necessary to ensure the safety of aircraft and the efficient use of airspace.

C. Wind Energy Systems

1. Definition of Wind Energy System and Airborne Wind Energy System (§ 77.3)

The FAA proposes to define a wind energy system in § 77.3 to mean "structures that convert kinetic energy in the wind to electrical energy. A wind energy system may consist of a single structure or a group of structures." This definition is inclusive of all wind energy systems (e.g., airborne wind energy systems (AWES) or wind turbines generally composed of a horizontal turbine nacelle, mounted on a fixed vertical structure or tower or AWES). This definition would provide additional clarity and context for the proposed changes directed exclusively at wind energy systems.

Further, the FAA proposes to define "airborne wind energy system (AWES)" in § 77.3, consistent with the FAA's 2022 final notice of policy.⁴⁰ AWES would mean a structure, which consists of a self-supported airborne system

tethered to a ground station, with an airborne or ground-mounted drivetrain used to convert kinetic energy in the wind to mechanical power for the purpose of generating electricity.

2. Proposal for 90-Day Advance Notice of Construction or Alteration of Wind Energy Systems (§ 77.7(c))

Currently, a sponsor must submit notice 45 days before the start date of the proposed construction or alteration, or the date an application for a construction permit is filed, whichever is earlier. The FAA proposes to add § 77.7(c) requiring sponsors to submit notice of the proposed construction or alteration of a wind energy system with a proposed height greater than 200 feet AGL at least 90 days before the start date of the proposed construction or alteration, or the date an application for construction or alteration permit is filed, whichever is earlier. The FAA would redesignate the provisions currently codified in §§ 77.7(c) and (d) as §§ 77.7(b)(1) and (2), respectively. As part of this proposal, the FAA would clarify that a meteorological tower is associated with a wind energy system when it is included in a wind energy systems project and is intended to be permanent. A meteorological tower is permanent when it is intended to remain in place for the duration of its lifecycle.

Due to the unique physical characteristics of wind energy systems, specifically wind turbine structures, their potential impact to communication, air navigation, and surveillance systems as well as the increasing number of proposals requiring an aeronautical study, the FAA requires additional time to conduct studies of wind turbines and determine potential NAS impacts. This proposal would realistically represent the time it currently takes the FAA to study these complex structures. Provided with a more realistic representation of the obstruction evaluation processes duration, sponsors can better plan their projects.

Wind energy system proposals are significantly more complex than other traditional structures, such as buildings, and more frequently require an in-depth study to analyze their potential effects on air navigation facilities and equipment. The FAA OE/AAA metrics confirm the duration of aeronautical studies for proposed wind turbines exceeds those for other structure types due to air traffic, communication, air navigation, and surveillance (e.g., radar) considerations. While the FAA has made considerable progress in identifying mitigation solutions

³⁸ www.faa.gov/air_traffic/flight_info/aeronav/digital_products/dof.

³⁹ The FAA considers a structure dismantled when it is taken down and abandoned when a proposed structure is not built.

⁴⁰ Airborne Wind Energy Systems (AWES) Policy Statement, 87 FR 78849 (Dec. 23, 2022).

required to issue a Determination of No Hazard to Air Navigation for proposed wind turbines, the current 45-day notice requirement in § 77.7(b) does not allow the FAA adequate time to gather the data and model potential impacts of proposed wind turbine(s) on NAS air navigation facilities and equipment. Additionally, 45 days does not adequately represent the time required to work with the sponsor and identify mitigations necessary to complete the study.

The number of new wind turbine proposals processed by the FAA has increased substantially since the enactment of the Energy Policy Act of 2005⁴¹ that provided the Wind Energy Production Tax Credit to stimulate investment in wind energy. In 2004, the FAA received and conducted 3,030 wind turbine aeronautical studies. Since then, the FAA received an average of 21,148 wind turbine cases per year, with the highest being 33,396 cases in 2010. According to the Department of Energy's (DOE) 2015 *Wind Vision Report*,⁴² which expands upon its 2008 report titled *20% Wind Energy by 2030*,⁴³ DOE continues to target wind energy as contributing to 20 percent of the U.S. electrical supply by 2030, compared to more than 4.5 percent at the time of publication. Per DOE data, wind electricity generation accounts for 8.4 percent of the total U.S. generation as of 2020.⁴⁴ Hence, the FAA expects the demand to evaluate proposed construction and altered wind energy systems will continue and may increase.

Furthermore, the proposed timeline would allow the FAA to request additional information from sponsors as needed for review per the proposed § 77.11 language. While sponsors of proposed wind turbines would provide earlier notification prior to construction or alteration, the FAA expects that the total time for review would remain the same as it does today. The benefits from potentially reducing any delays in construction would likely offset any costs associated with the sponsor providing earlier notification. The FAA also proposes to amend current § 77.7(c) (proposed to be redesignated as § 77.7(e)) by clarifying that the 90-day advance notice requirement applicable to wind turbines is also eligible for a waiver because of an emergency

involving essential public services, public health, or public safety.

3. Proposal for Extended Effectiveness Period for Wind Turbine Determinations (§ 77.33(c))

The FAA proposes to amend § 77.33 by extending the effective period for a Determination of No Hazard involving wind turbines and any associated meteorological tower from 18 to 36 months. The FAA would redesignate the provision currently codified in § 77.33(c) as § 77.33(d).

Wind energy systems developers often file notice with the FAA years before their target date to begin construction. They file early to allow time to address environmental and other local land-use requirements, secure financing, acquire materials, and complete tests at proposed locations using meteorological towers to validate the potential benefits of a particular location. As a result, wind turbine project developers routinely ask the FAA for a one-time 18-month extension of the Determination of No Hazard to Air Navigation in accordance with the FAA regulations pursuant to § 77.35(c). However, even with an 18-month extension, the project may not be built within that 3-year period, causing the developer to refile notice with the FAA, essentially starting the process again. Extending the wind turbine determination period from 18 to 36 months would allow industry additional time to validate and begin projects.

Under the current § 77.33(b), each Determination of No Hazard to Air Navigation issued under part 77 expires 18 months after the effective date of the determination, unless extended, revised, or terminated. Due to the increasing size of individual wind turbines and the number of wind turbines needed to accomplish renewable energy goals, the duration to construct wind turbine farms can take considerably more time to construct than single structures. The 18-month effectiveness period is frequently insufficient to allow the sponsor enough time to complete construction, even with a one-time extension. In alignment with proposing to extend wind turbine determination periods, the FAA also proposes to extend determination periods for meteorological towers associated with a wind energy system project from 18 to 36 months. A meteorological tower is associated with a wind energy system when it is included in a wind energy systems project and is intended to be permanent. A meteorological tower is permanent when it is intended to remain in place for the duration of its lifecycle.

D. Other Clarifications Related to the Filing of Notice (§§ 77.10, 77.11, 77.27)

The FAA proposes to redesignate § 77.11 as § 77.10 and amend it to identify the form, FAA Form 7460–2, Notice of Actual Construction or Alteration, sponsors currently use to provide supplemental notice. The revision also makes clear that a sponsor must file supplemental notice if otherwise requested by the FAA.

The FAA proposes to add a new § 77.11 to affirmatively require that if the FAA requests additional information during any part of the aeronautical study process, pre- or post-determination, the sponsor must provide that information within 30 days. The FAA needs this information to conduct complete aeronautical studies and issue accurate determinations.

The FAA proposes to revise § 77.27 to clarify when the FAA would conduct an aeronautical study. Specifically, the FAA will conduct an aeronautical study when: (1) notice required under § 77.9 has been received, or (2) the FAA determines a study is necessary. All other notices filed by the public outside of these parameters, meaning notice is neither requested by the FAA nor required under § 77.9, will be screened within the automated OE/AAA system and, if appropriate, provided an electronic letter response that indicates that no notice is required for the said proposal or alteration, and thus the FAA has no objections to the proposal at this time. This process would reduce the workload burden on the FAA and still provide the public with documentation for local and state requirements at an accelerated rate.

E. General Changes

The FAA proposes to add § 77.12 to formalize the FAA's requirement for sponsors of structures, except for structures that have received an FAA Determination of No Hazard to Air Navigation prior to the effective date of a final rule or any meteorological tower with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site for which construction is complete prior to the effective date of a final rule, to comply with the conditions and limitations contained in a Determination of No Hazard to Air Navigation. The FAA provides conditions and limitations, including marking, in its determinations. Currently, the FAA recommends that sponsors conform with the standards in the AC 70/7460–1. In this rulemaking, the FAA is clarifying that the conditions and

⁴¹ Public Law 109–58, 119 Stat. 594 (Aug. 8, 2005).

⁴² <https://www.energy.gov/eere/wind/wind-vision>.

⁴³ <https://www.energy.gov/eere/wind/20-wind-energy-2030-increasing-wind-energys-contribution-us-electricity-supply>.

⁴⁴ <https://www.eia.gov/energyexplained/wind/electricity-generation-from-wind.php>.

limitations themselves are mandatory except for structures that have received an FAA Determination of No Hazard to Air Navigation prior to the effective date of a final rule or any meteorological tower with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site for which construction is complete prior to the effective date of a final rule. This clarifying amendment is necessary to eliminate safety risks that were identified as a result of previous instances of non-compliance. Consistent application of marking requirements ensures the pilot's ability to properly recognize the obstructions and mitigate risk.

Each newly constructed or altered meteorological tower with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site would receive conditions and limitations that include, at a minimum, marking requirements based upon AC 70/7460-1. Under the current part 77, proposed structures that meet notice criteria are subject to an FAA aeronautical study to assess potential impacts on the NAS. When the FAA completes an aeronautical study and issues a determination to the sponsor of a proposed or altered structure, the determination would contain conditions and limitations that include, at a minimum, marking requirements for meteorological towers with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site.

Part 77 does not currently require marking unless recommended by an aeronautical study. Current meteorological towers taller than 200 feet AGL fall under the current regulatory scheme requiring notice, an aeronautical study, and implementation of any FAA-specified risk-mitigation measures. If adopted, the FAA's new rule would require the marking of all proposed and altered meteorological towers with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site in accordance with AC 70/7460-1. Meteorological towers can be erected in a matter of hours. As such, an operator who is familiar with the terrain may unexpectedly encounter a temporary structure. Moreover, depending on the materials used, a meteorological tower may be difficult to see in certain atmospheric conditions. The FAA determined that marking, such as painting towers, adding marker balls or sleeves to guy wires, and, if warranted, lighting new or altered meteorological towers would enhance their conspicuity to pilots who operate at low altitudes,

such as agricultural operators, thereby reducing the likelihood of incidents and accidents.

Moreover, although the states discussed in section III.D of this preamble have notice and marking requirements similar in some aspects to this FAA proposal, a NAS-wide application of standards will increase aviation safety, especially for those pilots operating at lower altitudes across state lines where meteorological tower standards may be inconsistent. Consistency may reduce confusion and increase a pilot's ability to see and avoid obstacles, either visually or with onboard electronics, regardless of what state they are flying in. The FAA proposed § 77.32 to codify the existing process contained in the AC 70/7460-1 for requesting modifications to the marking and lighting conditions and limitations. The FAA is updating the process for requesting a deviation by requiring a sponsor to submit FAA Form 7460-1 in the OE/AAA system for processing. The FAA is making this change to standardize the approval process. The proposed § 77.32 would codify this updated process. This change would be necessary if the conditions and limitations become requirements as proposed in this NPRM so that sponsors have a mechanism to seek changes to the requirements after the issuance of a determination.

The FAA proposes to define "sponsor" in § 77.3 as the owner of a structure for which notice is required under part 77. This would clarify the person that is required to provide the FAA with notice and is responsible for meeting the requirements of this proposed rule. A sponsor may allow a legally designated representative to fulfill the notice or other part 77 requirements on their behalf; however, the FAA must receive proper notice on the forms submitted to the FAA.

The FAA proposes to revise references to "Airport/Facility Directory, Alaska Supplement, or Pacific Chart Supplement" to "Chart Supplement U.S., Chart Supplement Alaska, or Chart Supplement Pacific" throughout part 77 for consistency with the publications' current name.

The FAA proposes to change all references throughout part 77 from "marking and lighting recommendations" to "marking and lighting requirements" for consistency with proposed § 77.12.

Throughout the sections proposed to be revised in this NPRM (including §§ 77.29(b), and 77.35(a) and (c)(1) through (3)), the FAA proposes to change references from "you" to

"sponsor" to clarify to whom "you" refers.

F. Proposed Effective Date

The FAA proposes to make these changes effective 30 days after the final rule is published in the **Federal Register**. This rule would also require sponsors of existing meteorological towers with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site to file notice within 90 days of the final rule's effective date pursuant to § 77.9.

IV. Agency Guidance

If this rule is finalized as proposed, the FAA would make changes to FAA AC 70/7460-1 to reflect that all conditions and limitations in a Determination of No Hazard to Air Navigation are mandatory pursuant to § 77.12, including marking requirements for meteorological towers with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site, except for structures that have received an FAA Determination of No Hazard to Air Navigation prior to the effective date of a final rule or any meteorological tower with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site for which construction is complete prior to the effective date of a final rule. FAA AC 70/7460-1 marking standards would continue to be recommendations when not part of a determination.

The revised AC 70/7460-1 would direct sponsors to the most effective marking standards identified by the agency unless the FAA accepts an equally effective alternative. Revisions to AC 70/7460-1 would contain the most effective painting and marking approaches identified by the FAA. For instance, meteorological towers would need to use spherical markers or cable balls, sleeves, and the identified painting scheme unless the sponsor presents an equally effective alternative accepted by the FAA. The AC would direct sponsors of newly proposed meteorological towers with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site to comply with existing painting standards establishing color and pattern requirements. The AC would also suggest placing a total of 8 high-visibility aviation orange spherical markers or cable balls, 4 attached to guy wires at the top of the tower no further than 15 feet from the top wire connection and 4 at or below the mid-point of the structure on the outer guy wires. The AC would also suggest the placement of two high-visibility sleeves

on each guy wire, one as close to the anchor point as possible and a second midway between the lower sleeve and the connection between wire and tower. The guidance would explain that sponsors may present alternate marking approaches should the FAA deem them equally effective. A copy of the proposed revised AC has been placed in the docket for this rulemaking. The FAA seeks comments on this draft revised AC.

Finally, the FAA is updating the process for requesting a deviation from the marking and lighting standards in the AC during this rulemaking process.

V. Regulatory Notices and Analyses

Federal agencies consider impacts of regulatory actions under a variety of executive orders and other requirements. First, Executive Order 12866, Executive Order 13563, and Executive Order 14094 (“Modernizing Regulatory Review”) direct that each Federal agency propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify the costs. Second, the Regulatory Flexibility Act of 1980 (Pub. L. 96–354) requires agencies to analyze the economic impact of regulatory changes on small entities. Third, the Trade Agreements Act (Pub. L. 96–39) prohibits agencies from setting standards that create unnecessary obstacles to the foreign commerce of the United States. Fourth, the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4) requires agencies to prepare a written assessment of the costs, benefits, and other effects of proposed or final rules that include a Federal mandate that may result in the expenditure by State, local, and Tribal governments, in the aggregate, or by the private sector, of \$100,000,000 or more (adjusted annually for inflation) in any one year. The current threshold after adjustment for inflation is \$183 million, using the most current (2023) Implicit Price Deflator for the Gross Domestic Product. The FAA has provided a detailed Regulatory Impact Analysis (RIA) in the docket for this rulemaking. This portion of the preamble summarizes the FAA’s analysis of the economic impacts of this rule.

In conducting these analyses, the FAA has determined that this rule: is not a “significant regulatory action” as defined in section 3(f)(1) of Executive Order 12866 as amended by Executive Order 14094; may have a significant economic impact on a substantial number of small entities; will not create unnecessary obstacles to the foreign commerce of the United States; and will not impose an unfunded mandate on

State, local, or Tribal governments, or on the private sector.

A. Summary of the Regulatory Evaluation

Congress mandated that the FAA issue regulations to require marking of covered towers and inclusion of covered towers in a public database. The proposed rule would amend part 77 notice requirements as applicable to the construction or alteration of meteorological towers and wind turbines. The proposed rule responds to recommendations from the NTSB and aerial applicator organizations concerning fatal collisions between aerial applicators, private aircraft, and meteorological towers. The proposed rule also includes amendments that would allow the FAA to better study and determine potential impacts to the NAS from wind turbines.

Consistent with the direction provided in section 2110 of FESSA, the FAA proposes to add § 77.12 to require sponsors of new meteorological towers, constructed with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site, to mark the towers in accordance with the determination except for structures that have received an FAA Determination of No Hazard to Air Navigation prior to the effective date of a final rule or any meteorological tower with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site for which construction is complete prior the effective date of a final rule. The FAA notes that the 2018 FAA Reauthorization Act requires the marking of meteorological towers constructed within 18 months after the enactment of the statutory mandate, or when the database is completed, whichever is first. Therefore, in the proposed § 77.12, the FAA proposes to make the terms and conditions of a determination mandatory, which would include, at a minimum, sponsors to mark new or altered towers by the time construction is complete for meteorological towers with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site.

The primary costs of the proposed rule to industry would be the costs to mark new and altered meteorological towers. The estimated additional costs to mark new or altered towers is about \$14,300. This cost includes equipment costs for marker balls and sleeves and installing them to new and altered towers, buying a new pre-painted tower, and dismantling a tower. This also includes the cost to provide the FAA

notifications of both existing and dismantling of out-of-service meteorological towers. The FAA would process notifications of existing and new meteorological towers, including notifications of dismantled out-of-service meteorological towers. Processing these notifications would cost the FAA about \$41 per existing notification and about \$163 per dismantling notification. The primary benefit of the proposed rule would be enhanced conspicuity to prevent agricultural pilots from colliding with meteorological towers with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site.

B. Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA) of 1980 (5 U.S.C. 601–612), as amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (Pub. L. 104–121) and the Small Business Jobs Act of 2010 (Pub. L. 111–240), requires Federal agencies to consider the effects of the regulatory action on small business and other small entities and to minimize any significant economic impact. The term “small entities” comprises small businesses, not-for-profit organizations that are independently owned and operated and are not dominant in their fields, and governmental jurisdictions with populations of less than 50,000.

The FAA is publishing this Initial Regulatory Flexibility Analysis (IRFA) to aid the public in commenting on the potential impacts to small entities from this proposal. The FAA invites interested parties to submit data and information regarding the potential economic impact that would result from the proposal. The FAA will consider comments when making a determination or when completing a Final Regulatory Flexibility Analysis.

Under Section 603(b) and (c) of the RFA, an IRFA must contain the following:

(1) A description of the reasons why the action by the agency is being considered;

(2) A succinct statement of the objective of, and legal basis for, the proposed rule;

(3) A description of and, where feasible, an estimate of the number of small entities to which the proposed rule will apply;

(4) A description of the projected reporting, recordkeeping, and other compliance requirements of the proposed rule, including an estimate of the classes of small entities that will be subject to the requirement and the type

of professional skills necessary for preparation of the report or record;

(5) An identification, to the extent practicable, of all relevant Federal rules that may duplicate, overlap, or conflict with the proposed rule; and

(6) A description of any significant alternatives to the proposed rule that accomplish the stated objectives of applicable statutes and which minimize any significant economic impact of the proposed rule on small entities.

1. Reasons the Action Is Being Considered

This rulemaking proposes to amend part 77 as it applies to the proposed construction or alteration of meteorological towers and wind energy systems. The proposed changes applicable to meteorological towers address safety recommendations from the NTSB and industry recommendations.

This proposal also partially implements the statutory requirements in section 2110 of FESSA. Specifically, the FAA proposes these amendments applicable to meteorological towers:

- Extend notice requirements to the proposed construction or alteration of meteorological towers with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site. Sponsors would be required to file a notice of construction with the FAA within the current timeframe in § 77.7(b);⁴⁵ and,

- Extend notice requirements to existing meteorological towers at least 50 feet AGL up to and including 200 feet AGL at its site. Sponsors would be required to file a notice with the FAA within 90 days of the final rule's effective date.

In addition, the FAA proposes the following amendments applicable to wind energy systems to clarify and accurately reflect circumstances unique to these structures:

- Require the earlier filing of notice for the proposed construction or alteration of wind energy systems. Notice would be due 90 days before, as opposed to the current 45 days before, the start date of the proposed construction or alteration, or the date an application for a construction permit is filed, whichever is earlier; and

- Increase the duration of a Determination of No Hazard to Air Navigation with regard to wind energy systems and associated meteorological towers proposals from the current 18 months to 36 months.

Finally, this proposed rule would make additional non-substantive changes to clarify agency practice as a result of the proposed substantive changes. These changes would:

- Amend purpose in § 77.1 to reflect that part 77 would include requirements for marking proposed meteorological towers;

- Define “airborne wind energy system (AWES)” in § 77.3 consistent with the FAA’s 2022 final notice of policy. AWES would mean a structure, which consists of a self-supported airborne system tethered to a ground station, with an airborne or ground-mounted drivetrain used to convert kinetic energy in the wind to mechanical power for the purpose of generating electricity;

- Define “sponsor” in § 77.3 as the owner of a structure for which notice is required under part 77. This would clarify the person that is required to provide the FAA with notice and is responsible for meeting the requirements of part 77. A sponsor may allow a legally designated representative to fulfill the notice or other part 77 requirements on its behalf; however, the FAA must receive proper notice on the forms submitted to the FAA.

- Redesignate § 77.11 as § 77.10 and clarify the FAA’s current practice with regard to supplemental notice. The proposed amendment also identifies the form (FAA Form 7460–2, Notice of Actual Construction or Alteration) sponsors currently use to provide supplemental notice.

- Add § 77.11 to require the sponsor to provide specific data to the FAA after filing a notice of construction when the FAA determines that additional information is necessary to properly complete an aeronautical study.

- Add § 77.12 to require all sponsors to comply with the conditions and limitations contained in their determination except for structures that have received an FAA Determination of No Hazard to Air Navigation prior to the effective date of a final rule or any meteorological tower with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site for which construction is complete prior to the effective date of a final rule. This would require, at a minimum, proposed or altered meteorological towers with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site to mark towers consistent with the conditions and limitations of the determination.

- Add § 77.32 to require sponsors to request a modification from the marking and lighting requirements in a

determination to submit FAA Form 7460–1, Notice of Proposed Construction or Alteration.

2. Objectives and Legal Basis of the Proposed Rule

The FAA’s authority to issue rules on aviation safety is found in 49 U.S.C. Subtitle I, section 106 describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the agency’s authority.

This rulemaking is issued under the authority described in 49 U.S.C. 40103(b), which vests the administrator with broad authority to prescribe regulations to ensure the safety of aircraft and the efficient use of airspace, and 49 U.S.C. 44701(a)(5), which requires the Administrator to promulgate regulations and minimum standards for other practices, methods, and procedures necessary for safety in air commerce and national security. This rulemaking is also consistent with: the authority in 49 U.S.C. 44718(a), which directs the Secretary of Transportation to require a person to give adequate public notice of the construction, alteration, establishment, or expansion, or the proposed construction, alteration, establishment, or expansion, of a structure or sanitary landfill in furtherance of safety in air commerce and the efficient use and preservation of the navigable airspace and of airport traffic capacity at public-use airports; section 44718(b), which requires the Secretary to conduct an aeronautical study to decide the extent of any adverse impact on the safe and efficient use of the airspace, space navigation facilities, or equipment if the secretary decides that constructing or altering a structure may result in an obstruction of the navigable airspace or an interference with air navigation facilities and equipment or the navigable airspace; and section 44718(c), which requires that in carrying out laws related to a broadcast application and conducting an aeronautical study related to broadcast towers, the FAA Administrator and the FCC shall take action necessary to coordinate efficiently the receipt and consideration of, and action on, the application; and the completion of any associated aeronautical study. These proposed amendments to part 77, applicable to the construction or alteration of meteorological towers and wind energy systems, are within the scope of this authority.

Authority for this rulemaking is further derived from the FAA Reauthorization Act of 2018, section 576, which revised section 2110 of the

⁴⁵ Notice requirements for meteorological towers are necessary to give effect to section 2110 that requires inclusion of all meteorological towers in the FAA’s public DOF database.

FAA Extension, Safety, and Security Act of 2016. Section 2110 requires that the FAA issue regulations to require the marking of meteorological towers. Moreover, section 2110 requires that all covered towers constructed on or after the date on which such regulations take effect be marked or included in the database. Further, the section requires the marking of meteorological towers and their inclusion within an FAA database. Section 2110 also directs the FAA to “develop a database that contains the location and height of each covered tower [including meteorological towers];” keep the database current to the extent practicable; and ensure that any proprietary information in the database is protected from disclosure in accordance with the law. This section also requires that by virtue of accessing the database, users agree and acknowledge that information in the database may only be used for aviation safety purposes and may not be disclosed for purposes other than aviation safety, regardless of whether the information is marked or labeled as proprietary or with a similar designation. Publication of this NPRM also satisfies the requirements in 355 of the FAA Reauthorization Act of 2024, which requires the FAA to publish this notice of proposed rulemaking within one year of the date of enactment of the 2024 Act.

3. Description and Estimate of the Number of Small Entities

The FAA used the definition of small entities in the RFA for this analysis. The RFA defines small entities as small businesses, small governmental jurisdictions, or small organizations. In 5 U.S.C. 601(3), the RFA defines “small business” to have the same meaning as “small business concern” under section 3 of the Small Business Act. The Small Business Act authorizes the Small Business Administration (SBA) to define “small business” by issuing regulations. SBA (2023) has established size standards for various types of economic activities or industries under the North American Industry Classification System (NAICS).⁴⁶ These size standards generally define small businesses based on the number of employees or annual receipts. Note that the SBA definition of a small business applies to the parent company and all affiliates as a single entity.

To identify small entities, the FAA first identified the primary NAICS of the

parent company and then used data from different sources (e.g., company annual reports, Bureau of Transportation Statistics, etc.) to determine whether the parent company meets the applicable size standard. Businesses affected by this rule are classified using the 2022 NAICS⁴⁷ under NAICS code 221115 “Wind Electric Power Generation.” This industry comprises establishments primarily engaged in operating wind electric power generation facilities. These facilities use wind power to drive a turbine and produce electric energy. The electric energy produced in these establishments is provided to electric power transmission systems or electric power distribution systems. The U.S. SBA defines entities in this industry as “small”—those that employ fewer than 1,150 employees.⁴⁸ With limited information and incomplete data on employment sizes for each of the affected meteorological tower operators, the FAA is uncertain as to how many entities would meet the SBA’s small-entity criteria. Furthermore, the FAA is uncertain as to how the burden associated with the proposed rule would be distributed across meteorological tower companies. The FAA requests comments and data on the average annual sales revenues for the affected small businesses and to what extent the costs would impact these entities.

For purposes of this IRFA, the FAA assumes that the private sector costs of this proposed rule would fall entirely on the sponsors of meteorological towers. In the absence of data on annual receipts specific to this industry, the FAA relies on the most recent data available on average revenues for all businesses classified under NAICS 221115 “Wind Electric Power Generation” from the 2017 Census Bureau’s Statistics of U.S. Businesses (SUSB)⁴⁹ to inform the analysis. The data indicates 98 firms with 611 entities in this NAICS.

The proposed rule would affect sponsors, or legally designated representatives, of any proposed meteorological tower, altered meteorological tower, or existing meteorological tower if the highest point of the structure is at least 50 feet AGL

up to and including 200 feet AGL at its site. From 2021 to 2023, 39 states submitted 391 voluntary new filings for proposed meteorological towers at least 50 feet AGL up to and including 200 feet AGL at its site to the FAA.

In the absence of more financial data from small entities and the profile of small entities, the FAA is unable to assess the proposed rule’s economic impact on them.

4. Projected Reporting, Recordkeeping, and Other Compliance Requirements

In absence of more detailed data on small entities, it is difficult to estimate the number of meteorological towers they own. The FAA assumes that small entities own about two to five meteorological towers per entity. The below estimates the paperwork burden cost to file a notice with the FAA. The FAA estimates a sponsor of a new meteorological tower would incur \$14,301 in additional costs per new tower due to the proposed rule.

New meteorological towers would have to be painted and marked. It likely is more economical to purchase a pre-painted meteorological tower, about an additional \$2,800, instead of painting a non-marked tower. Eight marker balls costing about \$2,000 and eight sleeves costing about \$101 would have to be installed as part of the marking requirements.⁵⁰ The FAA assumes the installation cost per tower for the marker ball and sleeves to take four hours and cost \$390.⁵¹ Based on the industry’s experience, the FAA expects minimal additional labor cost for sponsors of new meteorological towers to comply with the proposed rule’s marking requirement, because marker balls and sleeves could be attached to the guy wires before raising the new meteorological tower as opposed to incurring costs to lower, mark, and raise the meteorological tower. The FAA estimates that it would take two contractors about two hours to attach marker balls and sleeves to the new meteorological tower. The total hourly compensation per contractor is \$97.62.⁵²

⁵⁰ Cost estimates based on a call with NRG Systems on 4/1/2023.

⁵¹ Labor cost to install marker balls/sleeves = (T × W), where T is the total time it would take for contractors to install marker balls and sleeves (T=4 hours); and W is the hourly wage rate for a contractor (W=\$97.62).

⁵² The hourly wage rate (\$63.50) was provided by National Association of Tower Erectors (NATE) on 11/1/2017 and updated with the GDP deflator from 2017 to 2022, 18.8%. U.S. Bureau of Economic Analysis, “Table 1.1.7. Percent Change From Preceding Period in Prices for Gross Domestic Product” (accessed on 2/7/2024). The benefit rate

⁴⁶ Small Business Administration (SBA). 2023. Table of Size Standards. Effective March 17, 2023. <https://www.sba.gov/document/support-table-size-standards>.

⁴⁷ North American Industry Classification System (NAICS) U.S. Census Bureau <https://www.census.gov/naics/?input=221115&year=2022&details=221115>.

⁴⁸ https://www.sba.gov/sites/default/files/2023-06/Table%20of%20Size%20Standards_Effective%20March%2017%2C%202023%20%282%29.pdf.

⁴⁹ Available at: <https://www.census.gov/data/tables/2017/econ/susb/2017-susb-annual.html>, retrieved on April 15, 2023.

The cost to dismantle a meteorological tower is between \$5,000 and \$22,500. The FAA estimates the most likely cost would be around \$9,000.⁵³ Sponsors of out-of-service meteorological towers would choose to dismantle them because the recurring costs to comply with the proposed rule outweigh the costs to dismantle them.

Under § 77.9, the proposed rule would require sponsors of both existing and proposed construction and altered meteorological towers with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site to file notice with the FAA. In addition, § 77.11 would also require sponsors to file FAA Form 7460–2 after dismantling meteorological towers.

To comply with these requirements, an office worker would complete the submission of information required for the FAA aeronautical study, provided they have all the relevant meteorological tower data and the management has all the critical data on the meteorological tower(s). The FAA estimates the fully loaded hourly average wage rate for an office worker to be \$28.34.⁵⁴

Respondents: The FAA is unable to estimate the number of existing meteorological towers and the annual number of new meteorological towers with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site due to the lack of federal regulations governing these meteorological towers.

Frequency: Sponsors of all existing meteorological towers with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site would have to file notice to the FAA 90 days after the effective date of a final rule. In addition, sponsors would submit another notice to the FAA whenever they propose to construct or alter meteorological towers. When sponsors decide to dismantle a meteorological tower, the proposed rule would require them to file FAA Form 7460–2.

Annual Burden Estimate: The FAA estimates that it would take a sponsor of a meteorological tower with the highest

point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site 0.25 hours (or 15 minutes) to file FAA Form 7460–1 electronically. Similarly, FAA Form 7460–2 would take about 0.1 hours (6 minutes) to file notice electronically. The FAA estimates that it would cost about \$7 to file Form 7460–1 ($\28.34×0.25 hours) and \$3 to file Form 7460–2 ($\28.34×0.10 hours).

5. All Federal Rules That May Duplicate, Overlap, or Conflict

There are no Federal rules that may duplicate, overlap, or conflict with the proposed rule.

6. Significant Alternatives Considered

To comply with the proposed rule, the impacted small entities would have to incur a small cost to file notices with the FAA. The FAA found no other alternatives that could meet the objectives of the proposed rule with less burden on these small entities.

C. International Trade Impact Assessment

The Trade Agreements Act of 1979 (Pub. L. 96–39), as amended by the Uruguay Round Agreements Act (Pub. L. 103–465), prohibits Federal agencies from establishing standards or engaging in related activities that create unnecessary obstacles to the foreign commerce of the United States. Pursuant to these Acts, the establishment of standards is not considered an unnecessary obstacle to the foreign commerce of the United States, so long as the standard has a legitimate domestic objective, such as the protection of safety, and does not operate in a manner that excludes imports that meet this objective. The statute also requires consideration of international standards and, where appropriate, that they be the basis for U.S. standards. The FAA has assessed the potential effect of this rule and determined that it will only have a domestic impact and, therefore, no effect on international trade.

D. Unfunded Mandates Assessment

The Unfunded Mandates Reform Act of 1995 (2 U.S.C. 1531–1538) governs the issuance of Federal regulations that require unfunded mandates. An unfunded mandate is a regulation that requires a State, local, or tribal government or the private sector to incur direct costs without the Federal government having first provided the funds to pay those costs. The FAA determined that the proposed rule will not result in the expenditure of \$183 million or more by State, local, or Tribal

governments, in the aggregate, or the private sector, in any one year.

E. Paperwork Reduction Act

The Paperwork Reduction Act of 1995 (44 U.S.C. 3507(d)) requires that the FAA consider the impact of paperwork and other information collection burdens imposed on the public. According to the 1995 amendments to the Paperwork Reduction Act (5 CFR 1320.8(b)(2)(vi)), an agency may not collect or sponsor the collection of information, nor may it impose an information collection requirement unless it displays a currently valid Office of Management and Budget (OMB) control number. The FAA routinely renews its ongoing information collection under OMB Control Number 2120–0001 and intends to continue to collect notice information via the OMB-approved FAA Forms 7460–1 and 7460–2, which are the instruments of the information collection.

Under § 77.9, the proposed rule would require owners of both existing and proposed construction and altered meteorological towers with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site to file notice with the FAA using Form 7460–1. In addition, § 77.10 would also require owners to file FAA Form 7460–2 after dismantling meteorological towers.

To comply with these requirements, an office worker would complete the submission of information required for the FAA aeronautical study, provided they have all the relevant meteorological tower data and the management has all the critical data on the meteorological tower(s). The FAA estimates the fully loaded hourly average wage rate for an office worker to be \$28.34.⁵⁵

Respondents: The FAA cannot estimate the additional number of existing meteorological towers and the annual number of new meteorological towers with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site due to the lack of federal regulations governing these meteorological towers.

Frequency: Sponsors of existing all meteorological towers with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL

of 29.4% was also added to estimate the fully loaded hourly wage rate. https://www.bls.gov/news.release/archives/ecec_12152023.pdf, accessed on 1/29/2024.

⁵³ Cost estimate based on a conference call with NATE on 11/1/2017.

⁵⁴ Fully loaded Hourly Wage Rate = hourly wage rate + (benefit rate × hourly wage rate). U.S. Bureau of Labor Statistics: Office and Administrative Support Occupations, \$21.90 mean hourly wage rate. https://www.bls.gov/oes/2022/may/oes_nat.htm#43-0000, accessed on 4/10/2023. 29.4% benefit rate: https://www.bls.gov/news.release/archives/ecec_12152023.pdf, accessed on 1/29/2024.

⁵⁵ Fully loaded Hourly Wage Rate = hourly wage rate + (benefit rate × hourly wage rate). U.S. Bureau of Labor Statistics: Office and Administrative Support Occupations, \$21.90 mean hourly wage rate. https://www.bls.gov/oes/2022/may/oes_nat.htm#43-0000, accessed on 4/10/2023. 29.4% benefit rate: https://www.bls.gov/news.release/archives/ecec_12152023.pdf, accessed on 1/29/2024.

at its site would have to file notice to the FAA 90 days after the effective date of a final rule. In addition, sponsors would submit another notice to the FAA whenever they propose to construct or alter a meteorological tower. When sponsors decide to dismantle a meteorological tower, the proposed rule would require them to file FAA Form 7460–2.

Annual Burden Estimate: The FAA estimates that it would take a sponsor of a meteorological tower with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site 0.25 hours (or 15 minutes) to file a notice electronically. Similarly, FAA Form 7460–2 would take about 0.1 hours (6 minutes) to file notice electronically. The FAA estimates that it would cost about \$7 to file Form 7460–1 ($\28.34×0.25 hours) and \$3 to file Form 7460–2 ($\28.34×0.10 hours).

The FAA is soliciting comments to—

(1) Evaluate whether the proposed information requirement is necessary for the proper performance of the functions of the FAA, including whether the information will have practical utility;

(2) Evaluate the accuracy of the FAA's estimate of the burden;

(3) Enhance the quality, utility, and clarity of the information to be collected; and

(4) Minimize the burden of collecting information on those who are to respond, including by using appropriate automated, electronic, mechanical, or other technological collection techniques or other forms of information technology.

Individuals and organizations may send comments on the information collection requirement to the address listed in the **ADDRESSES** section at the beginning of this preamble by January 17, 2025. Comments also should be submitted to the Office of Management and Budget, Office of Information and Regulatory Affairs, Attention: Desk Officer for FAA, New Executive Office Building, Room 10202, 725 17th Street NW, Washington, DC 20053.

F. International Compatibility and Cooperation

In keeping with U.S. obligations under the Convention on International Civil Aviation, it is FAA policy to conform to International Civil Aviation Organization (ICAO) Standards and Recommended Practices to the maximum extent practicable. The FAA determined that there are no ICAO Standards and Recommended Practices that correspond to these regulations.

G. Environmental Analysis

FAA Order 1050.1F identifies FAA actions that are categorically excluded from preparation of an environmental assessment or environmental impact statement under the National Environmental Policy Act in the absence of extraordinary circumstances. The FAA determined this rulemaking action qualifies for a categorical exclusion per paragraph 5–6.6f for regulations and involves no extraordinary circumstances.

VI. Executive Order Determinations

A. Executive Order 13132, Federalism

The FAA analyzed this proposed rule under the principles and criteria of Executive Order 13132, Federalism. The agency determined that this action would not have a substantial direct effect on the States, or the relationship between the Federal Government and the States, or on the distribution of power and responsibilities among the various levels of government and, therefore, would not have Federalism implications.

B. Executive Order 13211, Regulations That Significantly Affect Energy Supply, Distribution, or Use

The FAA analyzed this proposed rule under Executive Order 13211, Actions Concerning Regulations that Significantly Affect Energy Supply, Distribution, or Use. The agency determined that this action would not be a “significant energy action” under the executive order and would not be likely to have a significant adverse effect on the supply, distribution, or use of energy.

C. Executive Order 13609, International Cooperation

Executive Order 13609, Promoting International Regulatory Cooperation, promotes international regulatory cooperation to meet shared challenges involving health, safety, labor, security, environmental, and other issues and to reduce, eliminate, or prevent unnecessary differences in regulatory requirements. The FAA analyzed this proposed rule under the policies and agency responsibilities under the executive order and determined that this action would have no effect on international regulatory cooperation.

VII. Additional Information

A. Comments Invited

The FAA invites interested persons to participate in this rulemaking by submitting written comments, data, or views. The FAA also invites comments relating to the economic, environmental,

energy, or federalism impacts that might result from adopting the proposals in this document. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. To ensure the docket does not contain duplicate comments, commenters should submit only one time if comments are filed electronically, or commenters should send only one copy of written comments if comments are filed in writing.

The FAA will file in the docket all comments it receives, as well as a report summarizing each substantive public contact with FAA personnel concerning this proposed rulemaking. Before acting on this proposal, the FAA will consider all comments it receives on or before the closing date for comments. The FAA will consider comments filed after the comment period has closed if it is possible to do so without incurring expense or delay. The FAA may change this proposal in light of the comments it receives.

Privacy: In accordance with 5 U.S.C. 553(c), DOT solicits comments from the public to better inform its rulemaking process. DOT posts these comments, without edit, including any personal information the commenter provides, to <https://www.regulations.gov>, as described in the system of records notice (DOT/ALL–14 FDMS), which can be reviewed at <https://www.dot.gov/privacy>.

B. Confidential Business Information

Confidential Business Information (CBI) is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to the person in the **FOR FURTHER INFORMATION CONTACT** section of this document. Any commentary that the FAA receives that is not specifically designated as CBI will be placed in the public docket for this rulemaking.

C. Electronic Access and Filing

A copy of this NPRM, all comments received, any final rule, and all background material may be viewed online at <https://www.regulations.gov> using the docket number listed above. A copy of this proposed rule will be placed in the docket. Electronic retrieval help and guidelines are available on the website. It is available 24 hours each day, 365 days each year. An electronic copy of this document may also be downloaded from the Office of the Federal Register's website at <https://www.federalregister.gov> and the Government Publishing Office's website at <https://www.govinfo.gov>. A copy may also be found on the FAA's Regulations and Policies website at https://www.faa.gov/regulations_policies.

Copies may also be obtained by sending a request to the Federal Aviation Administration, Office of Rulemaking, ARM-1, 800 Independence Avenue SW, Washington, DC 20591, or by calling (202) 267-9677. Commenters must identify the docket or notice number of this rulemaking.

All documents the FAA considered in developing this proposed rule, including economic analyses and technical reports, may be accessed in the electronic docket for this rulemaking.

List of Subjects in 14 CFR Part 77

Aeronautical study, Air Navigation, Airspace, Aviation safety, Construction or Alteration, Determination, Notice, Obstruction, Reporting and recordkeeping requirements.

The Proposed Amendment

In consideration of the foregoing, the Federal Aviation Administration proposes to amend chapter I of title 14, Code of Federal Regulations as follows:

PART 77—SAFE, EFFICIENT USE, AND PRESERVATION OF THE NAVIGABLE AIRSPACE

■ 1. The authority citation for part 77 is revised to read as follows:

Authority: 49 U.S.C. 106(f), 40103, 40113–40114, 44502, 44701, 44718, 46101–46102, 46104; Sec. 2110 of Pub. L. 114–190, 130 Stat. 623 (49 U.S.C. 44718 note); Sec. 576 of Pub. L. 115–254, 132 Stat. 3391 (49 U.S.C. 44718 note); Sec. 355 of Pub. L. 118–63.

■ 2. Revise § 77.1 to read as follows:

§ 77.1 Purpose.

This part establishes:

(a) The requirements to provide notice to the FAA of the proposed construction, alteration, or existence of certain structures;

(b) The standards used to determine obstructions to air navigation and navigational and communication facilities or equipment;

(c) The process for aeronautical studies of obstructions to air navigation or navigational facilities to determine the effect on the safe and efficient use of navigable airspace, air navigation facilities, or equipment;

(d) The process to petition the FAA for discretionary review of determinations, revisions, and extensions of determinations; and

(e) The requirement to comply with the conditions and limitations contained in a Determination of No Hazard to Air Navigation, including the requirement to mark newly constructed or altered meteorological towers with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site.

■ 3. Amend § 77.3 by adding definitions for “airborne wind energy system (AWES),” “meteorological tower,” “sponsor,” and “wind energy system” in alphabetical order to read as follows:

§ 77.3 Definitions.

* * * * *

Airborne wind energy system (AWES) means a structure, which consists of a self-supported airborne system tethered to a ground station, with an airborne or ground-mounted drivetrain used to convert kinetic energy in the wind to mechanical power for the purpose of generating electricity.

Meteorological tower means a skeletal or pole-type structure, either freestanding or anchored with guy wires, configured with components to measure wind speed and wind direction at different heights above ground level to assess local wind energy resources.

* * * * *

Sponsor means the owner of a structure for which notice is required under this part.

* * * * *

Wind energy system means a structure that converts kinetic energy in the wind to electrical energy. A wind energy system may consist of a single structure or a group of structures.

■ 4. Revise the heading of subpart B to read as follows:

Subpart B—Notice and Determination Requirements

■ 5. Revise § 77.5 to read as follows:

§ 77.5 Applicability.

(a) A sponsor of a meteorological tower in existence before the effective date of a final rule must provide notice consistent with § 77.7(d).

(b) A sponsor proposing any construction or alteration described in § 77.9 must provide adequate notice to the FAA of that construction or alteration.

(c) If requested by the FAA, a sponsor must file supplemental notice before the start date and upon completion of certain construction or alterations described in § 77.9.

(d) A sponsor proposing any construction or alteration of a meteorological tower with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site must provide adequate notice to the FAA of that construction or alteration pursuant to § 77.7(b).

(e) Notice received by the FAA under this subpart is used to:

(1) Evaluate the effect of the proposed construction or alteration on safety in air commerce and the efficient use and preservation of the navigable airspace and of airport traffic capacity at public use airports;

(2) Determine whether the effect of proposed construction or alteration is a hazard to air navigation;

(3) Determine appropriate marking and lighting requirements using FAA Advisory Circular 70/7460–1, Obstruction Marking and Lighting.

(4) Determine other appropriate measures required for continued safety of air navigation;

(5) Notify the aviation community of the construction or alteration of objects that affect the navigable airspace, including the revision of charts, when necessary;

(6) Evaluate the effect of a meteorological tower in existence before the effective date of a final rule on safety in air commerce and the efficient use and preservation of the navigable airspace and of airport traffic capacity at public use airports; and

(7) Determine whether the effect of a meteorological tower in existence before the effective date of a final rule is a hazard to air navigation.

■ 6. Revise § 77.7 to read as follows:

§ 77.7 Form and time of notice.

(a) *Forms.* The sponsor must electronically complete and submit FAA Form 7460–1, Notice of Proposed Construction or Alteration, or FAA Form 7460–2, Notice of Actual Construction or Alteration, via the internet at <https://oeaaa.faa.gov>.

(b) *45-day notice.* Except as provided in paragraphs (c), (d), or (e) of this section, a sponsor required to provide notice under § 77.9 must submit FAA Form 7460–1 at least 45 days before the start date of the proposed construction or alteration, or the date an application

for a construction permit is filed, whichever is earlier.

(1) If a sponsor proposes construction or alteration that is also subject to the licensing requirements of the Federal Communications Commission (FCC), the sponsor must submit notice to the FAA on or before the date that the application is filed with the FCC.

(2) If a sponsor proposes construction or alteration to an existing structure that exceeds 2,000 feet in height AGL, the FAA presumes it to be a hazard to air navigation that results in an inefficient use of airspace. The sponsor must include details explaining both why the proposal would not constitute a hazard to air navigation and why it would not cause an inefficient use of airspace.

(c) *Wind energy system notice.* A sponsor must submit FAA Form 7460–1 for any proposed construction or alteration of a permanent wind energy system and associated meteorological tower at least 90 days before the start date of the proposed construction or alteration, or the date an application for a construction permit is filed, whichever is earlier. A meteorological tower is associated with a wind energy system when it is included in a wind energy systems project and is intended to be permanent. A meteorological tower is permanent when it is intended to remain in place for the duration of its lifecycle.

(d) *Existing meteorological tower notice.* A sponsor of a meteorological tower that exists prior to the effective date of a final rule with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site must submit FAA Form 7460–1 within 90 days of the effective date of a final rule.

(e) *Waiver.* The applicable notice requirement is waived if immediate construction or alteration is required because of an emergency involving essential public services, public health, or public safety. The sponsor may provide notice to the FAA by any available, expeditious means. The sponsor must file a completed FAA Form 7460–1 within 5 days of the initial notice to the FAA.

■ 7. Revise § 77.9 to read as follows:

§ 77.9 Notice requirement.

(a) If requested by the FAA, or if the sponsor proposes any of the following types of construction or alteration, a sponsor must file notice with the FAA of:

(1) Any construction or alteration of a structure that is more than 200 feet AGL at its site.

(2) Any construction or alteration of a meteorological tower with the highest

point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site.

(3) Any construction or alteration that exceeds an imaginary surface extending outward and upward at any of the following slopes:

(i) 100 to 1 for a horizontal distance of 20,000 feet from the nearest point of the nearest runway of each airport described in paragraph (d) of this section with its longest runway more than 3,200 feet in actual length, excluding heliports.

(ii) 50 to 1 for a horizontal distance of 10,000 feet from the nearest point of the nearest runway of each airport described in paragraph (d) of this section with its longest runway no more than 3,200 feet in actual length, excluding heliports.

(iii) 25 to 1 for a horizontal distance of 5,000 feet from the nearest point of the nearest landing and takeoff area of each heliport described in paragraph (d) of this section.

(4) Any highway, railroad, or other traverse way for mobile objects of a height which, if adjusted upward 17 feet for an Interstate Highway that is part of the National System of Military and Interstate Highways where overcrossings are designed for a minimum of 17 feet vertical distance, 15 feet for any other public roadway, 10 feet or the height of the highest mobile object that would normally traverse the road, whichever is greater, for a private road, 23 feet for a railroad, and for a waterway or any other traverse way not previously mentioned, an amount equal to the height of the highest mobile object that would normally traverse it, would exceed a standard of paragraphs (a)(1) through (3) of this section.

(5) Any construction or alteration on any of the following airports and heliports:

(i) A public use airport listed in the Chart Supplement U.S., Chart Supplement Alaska, or Chart Supplement Pacific of the U.S. Government Flight Information Publications;

(ii) A military airport under construction, or an airport under construction that will be available for public use;

(iii) An airport operated by a Federal agency or the DOD; or

(iv) An airport or heliport with at least one FAA-approved instrument approach procedure.

(b) If a sponsor has an existing meteorological tower with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site prior to the effective date of

a final rule, the sponsor must file notice consistent with § 77.7(d).

(c) No notice is required of the construction or alteration of:

(1) Any object that will be shielded by existing structures of a permanent and substantial nature or by natural terrain or topographic features of equal or greater height, and will be located in the congested area of a city, town, or settlement where the shielded structure will not adversely affect safety in air navigation;

(2) Any air navigation facility, airport visual approach or landing aid, aircraft arresting device, or meteorological device meeting FAA-approved siting criteria or an appropriate military service siting criteria on military airports, the location and height of which are fixed by its functional purpose;

(3) Any construction or alteration for which notice is required by any other FAA regulation.

(4) Any antenna structure of 20 feet or less in height, except one that would increase the height of another antenna structure.

§ 77.11 [Redesignated as § 77.10]

■ 8. Redesignate § 77.11 as § 77.10.

■ 9. Revise newly redesignated § 77.10 to read as follows:

§ 77.10 Supplemental notice requirements.

(a) A sponsor must file supplemental notice when requested by the FAA:

(1) Before the start of construction or alteration;

(2) After completing actual construction or alteration;

(3) If the proposed construction or alteration is abandoned within five days after the project is abandoned;

(4) If the construction or alteration is dismantled or destroyed, the sponsor must submit notice to the FAA within five days after the construction or alteration is dismantled or destroyed; or

(5) If otherwise requested by the FAA.

(b) The sponsor must submit the supplemental information using FAA Form 7460–2, Notice of Actual Construction or Alteration, to be received within the time limits specified in the FAA determination. If no time limit has been specified, the sponsor must submit the supplemental notice of construction to the FAA within five days after the structure reaches its greatest height.

■ 10. Add new § 77.11 to read as follows:

§ 77.11 Additional information.

If the FAA requests additional information during any part of the aeronautical study process, pre- or post-

any determination, the sponsor must provide that information within 30 days.

■ 11. Add § 77.12 to read as follows:

§ 77.12 Conditions and limitations requirements.

Except for structures that have received an FAA Determination of No Hazard to Air Navigation prior to the effective date of a final rule or any meteorological tower with the highest point of the structure at least 50 feet AGL up to and including 200 feet AGL at its site for which construction is complete prior to the effective date of a final rule, a sponsor must comply with the conditions and limitations contained in its Determination of No Hazard to Air Navigation.

■ 12. Amend § 77.15 by revising paragraph (e)(1) to read as follows:

§ 77.15 Scope.

* * * * *

(e) * * *

(1) Available for public use and is listed in the Chart Supplement U.S., Chart Supplement Alaska, or Chart Supplement Pacific of the U.S. Government Flight Information Publications; or

* * * * *

■ 13. Revise § 77.27 to read as follows:

§ 77.27 Initiation of studies.

The FAA will conduct an aeronautical study when:

(a) Notice is required under § 77.9 and has been received; or

(b) The FAA determines a study is necessary. All other Notices filed by the public outside of these parameters will be screened within the automated OE/AAA system and, if appropriate, provided an electronic letter response that indicates that no notice is required for the said proposal or alteration, and thus the FAA has no objections to the proposal at this time.

■ 14. Amend § 77.29 by revising paragraph (b) to read as follows:

§ 77.29 Evaluating aeronautical effect.

* * * * *

(b) If a sponsor withdraws the proposed construction or alteration or revises it so that it is no longer identified as an obstruction, or if no further aeronautical study is necessary, the FAA may terminate the study.

■ 15. Amend § 77.31 by revising paragraph (d)(4) to read as follows:

§ 77.31 Determinations.

* * * * *

(d) * * *

(4) Marking and lighting requirements, as appropriate.

* * * * *

■ 16. Add § 77.32 to read as follows:

§ 77.32 Marking and lighting requirements.

A sponsor may request a modification or deviation from the marking and lighting requirements in a determination by submitting FAA Form 7460-1, Notice of Proposed Construction or Alteration.

■ 17. Revise § 77.33 to read as follows:

§ 77.33 Effective period of determinations.

(a) The effective date of a determination not subject to discretionary review under § 77.37(b) is the date of issuance. The effective date of all other determinations for a proposed or existing structure is 40 days from the date of issuance, provided a valid petition for review has not been received by the FAA. If a valid petition for review is filed, the determination will not become final pending disposition of the petition.

(b) Except as provided in paragraphs (c) and (d) of this section, unless extended, revised, or terminated, each Determination of No Hazard to Air Navigation issued under this subpart expires 18 months after the effective date of the determination, or on the date the proposed construction or alteration is abandoned, whichever is earlier.

(c) Unless extended, revised, or terminated, each Determination of No Hazard to Air Navigation issued under this subpart regarding a proposed permanent wind energy system, including an airborne wind energy system and associated meteorological towers, expires 36 months after the effective date of the determination or on the date the proposed construction or alteration is abandoned, whichever is earlier. A meteorological tower is associated with a wind energy system when it is included in a wind energy systems project and is intended to be permanent. A meteorological tower is permanent when it is intended to remain in place for the duration of its lifecycle.

(d) A Determination of Hazard to Air Navigation has no expiration date.

■ 18. Amend § 77.35 by revising the introductory text of paragraph (a), and paragraphs (c)(1) through (3) to read as follows:

§ 77.35 Extensions, terminations, revisions, and corrections.

(a) A sponsor may petition the FAA to revise or reconsider the determination based on new facts or to extend the effective period of the determination, provided that:

* * * * *

(c) * * *

(1) The sponsor submits evidence that an application for a construction

permit/license was filed with the FCC for the associated site within six months of issuance of the determination; and

(2) The sponsor submits evidence that additional time is warranted because of FCC requirements; and

(3) Where the FCC issues a construction permit, a final Determination of No Hazard to Air Navigation is effective until the date prescribed by the FCC for completion of the construction. If a sponsor needs to extend the original FCC completion date, they must also request an extension of the FAA determination.

* * * * *

■ 19. Revise § 77.37 to read as follows:

§ 77.37 General.

(a) A petition for a discretionary review of a determination, revision, or extension of a determination issued by the FAA may be made by:

(1) The sponsor;

(2) Any person that provided a substantive aeronautical comment on a proposal in an aeronautical study;

(3) Any person that provided a substantive aeronautical comment on the proposal but was not given an opportunity to state it.

(b) A petition for discretionary review for a Determination of No Hazard that is issued for a temporary structure, marking and lighting requirements, or when a proposed structure or alteration does not exceed obstruction standards contained in subpart C of this part may not be filed by any person.

Issued under authority provided by 49 U.S.C. 106(f), 44701(a)(5) and 44718 in Washington, DC.

Alyce Hood-Fleming,

Vice President, Mission Support Services, Air Traffic Organization.

[FR Doc. 2024-26741 Filed 11-15-24; 8:45 am]

BILLING CODE 4910-13-P

DEPARTMENT OF LABOR

Employment and Training Administration

20 CFR Part 655

[DOL Docket No. ETA-2024-0001]

RIN 1205-AC15

Employer-Provided Survey Wage Methodology for the Temporary Non-Agricultural Employment H-2B Program

AGENCY: Employment and Training Administration, Department of Labor.

ACTION: Notice of proposed rulemaking.

SUMMARY: The Department of Labor (Department or DOL) proposes to amend