

proposed an option of adding light-emitting diode (LED) lights to the wing tips similar to those used on light aircraft. Makani explained that tether marking encumbers the tether and endangers the system during launching and landing. Therefore, Makani proposed to not mark or light the tether and instead mark the wing and ground station. Makani commented their prototype, at the time FAA published in its Notice, could not comply with current part 77 lighting requirements due to the mass and drag of the lights. However, Makani anticipated the utilization of lighting onboard the aloft portion that flashes at the top and bottom of each loop, emulating the appearance of a stationary radio tower and making the obstacle conspicuous to pilots. In an AWES farm setting, Makani proposed to light the wings in the manner of a traditional wind farm, with lights on the wings at the perimeter of the farm and on wings that are high spots.

SkySails said they could partly comply with marking and lighting requirements but did not provide any specific information. SkySails stated their system will be conspicuous to the flying public with the canopy made of yellow-colored fabric illuminated between sunset and sunrise at the center and wingtips by a spotlight situated on top of the control pod (suspended below the canopy). SkySails commented that if the illumination of the kites and registration in air traffic charts is not sufficient, wind farm arrays could be marked by tethered balloons placed on the outlines of the array. Balloons and mooring lines of the balloons will be marked and lighted according to existing requirements. SkySails did not comment on the policy, other than to provide specifics on their system.

Windlift commented they are fully committed to working with FAA and NAS users to ensure aviation safety during the development of their systems but did not specifically comment on the policy. Windlift commented that their fabric wings can have bright colors embedded with reflective elements to maximize visibility. During night operations, Windlift's proposed system planned to use a conductive cable strung with the tether or a battery to power lights. Windlift commented that tether marking is a challenge to system performance due to increased drag and placing multiple flags within 75 feet of the aloft portion could provide a visual signal of the tether for pilots. Windlift proposed the use of LED lights instead of lights with more weight.

## V. Additional Discussion

A 2021 Department of Energy (DOE) report discusses U.S. locations where there is an increase in average wind speed with altitude up to approximately 300 meters (985 feet), above which the wind speed profile becomes mostly flat up to 500 meters (1640 feet).<sup>8</sup> DOE finds that most AWES will operate below 500 meters. Aloft portions of an AWES, including the tether or similar device connecting it to a ground station, above 499 feet AGL would be in airspace available to general aviation and must be readily identifiable so a pilot can see and avoid it. As part of FAA's aeronautical study conducted under part 77 and the process defined in FAA Order JO 7400.2, FAA may include marking and lighting recommendations in its determination.

Advisory Circular 70/7460-1 describes the FAA's standards for marking and lighting structures to promote aviation safety. Based on individual AWES characteristics, FAA may require marking and lighting applicable to specific systems to ensure visibility during varying weather conditions or night operations. FAA continues to research and test alternative marking and lighting for use by all components of an AWES (to include the aloft portion and the tether or similar device). Once the FAA identifies an acceptable standard, it may include it in AC 70/7460-1. Additionally, FAA must evaluate each AWES and issue a technical note approving the system's marking and lighting prior to a proposed AWES deployment and part 77 analysis.

As part of the part 77 evaluation, FAA will coordinate the proposal with potentially impacted air traffic control (ATC) facilities for local analysis, as required. If FAA determines the need for local coordination, each affected facility performs an operational safety analysis of the potential effects or risks of AWES operations to local air traffic. This analysis may also include AWES-specific considerations, e.g., the aloft portion separating from the ground station or the duration required to recover the aloft portion to the ground station. If the local ATC facility discovers additional safety hazards, FAA may convene a local Safety Risk Management (SRM) panel to complete a safety analysis and document its findings in an SRM document. The SRM panel's findings could affect FAA's final determination. Additionally, FAA-issued final determinations for AWES

proposals may include conditions for marking and lighting to ensure the structure is visible to aircraft operating in proximity to an AWES.

## VI. Final Policy

Based on feedback received in response to the Notice, the FAA concludes that AWES may affect navigable airspace. As of the effective date of this policy statement, the FAA amends the policy set forth in the Notice and will consider part 77 applications for all AWES, including permanent and operational systems. Those entities proposing construction of an AWES that exceeds the parameters in section 77.9 (e.g., an AWES constructed at more than 200 feet AGL at its site) must file advance notice with FAA.

FAA receipt of part 77 notices of proposed construction from all AWES will enable the continued development of this emerging technology while allowing FAA to study the potential impacts of each individually proposed AWES on the safety and integrity of the NAS. Further, this action ensures inclusion of AWES information in the FAA's publicly searchable obstruction database.<sup>9</sup>

Issued in Washington, DC, on December 20, 2022.

**Michael R. Beckles,**  
*Director (A), Policy, AJV-P.*

[FR Doc. 2022-27993 Filed 12-22-22; 8:45 am]

**BILLING CODE 4910-13-P**

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 97

[Docket No. 31460; Amdt. No. 4037]

#### Standard Instrument Approach Procedures, and Takeoff Minimums and Obstacle Departure Procedures; Miscellaneous Amendments

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

**SUMMARY:** This rule establishes, amends, suspends, or removes Standard Instrument Approach Procedures (SIAPS) and associated Takeoff Minimums and Obstacle Departure Procedures (ODPs) for operations at certain airports. These regulatory actions are needed because of the adoption of new or revised criteria, or because of changes occurring in the National Airspace System, such as the commissioning of new navigational

<sup>8</sup> [www.energy.gov/sites/default/files/2021-12/report-to-congress-challenges-opportunities-airborne-wind-energy-united-states.pdf](https://www.energy.gov/sites/default/files/2021-12/report-to-congress-challenges-opportunities-airborne-wind-energy-united-states.pdf).

<sup>9</sup> <https://oeaaa.faa.gov/>.

facilities, adding new obstacles, or changing air traffic requirements. These changes are designed to provide safe and efficient use of the navigable airspace and to promote safe flight operations under instrument flight rules at the affected airports.

**DATES:** This rule is effective December 23, 2022. The compliance date for each SIAP, associated Takeoff Minimums, and ODP is specified in the amendatory provisions.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of December 23, 2022.

**ADDRESSES:** Availability of matters incorporated by reference in the amendment is as follows:

#### For Examination

1. U.S. Department of Transportation, Docket Ops–M30, 1200 New Jersey Avenue SE, West Bldg., Ground Floor, Washington, DC 20590–0001.

2. The FAA Air Traffic Organization Service Area in which the affected airport is located;

3. The office of Aeronautical Information Services, 6500 South MacArthur Blvd., Oklahoma City, OK 73169 or,

4. The National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email [fr.inspection@nara.gov](mailto:fr.inspection@nara.gov) or go to: <https://www.archives.gov/federal-register/cfr/ibr-locations.html>.

#### Availability

All SIAPs and Takeoff Minimums and ODPs are available online free of charge. Visit the National Flight Data Center at [nfdc.faa.gov](http://nfdc.faa.gov) to register. Additionally, individual SIAP and Takeoff Minimums and ODP copies may be obtained from the FAA Air Traffic Organization Service Area in which the affected airport is located.

#### FOR FURTHER INFORMATION CONTACT:

Thomas J. Nichols, Flight Procedures and Airspace Group, Flight Technologies and Procedures Division, Flight Standards Service, Federal Aviation Administration. Mailing Address: FAA Mike Monroney Aeronautical Center, Flight Procedures and Airspace Group, 6500 South MacArthur Blvd., Registry Bldg. 29, Room 104, Oklahoma City, OK 73169. Telephone (405) 954–4164.

**SUPPLEMENTARY INFORMATION:** This rule amends 14 CFR part 97 by establishing, amending, suspending, or removes SIAPs, Takeoff Minimums and/or ODPS. The complete regulatory

description of each SIAP and its associated Takeoff Minimums or ODP for an identified airport is listed on FAA form documents which are incorporated by reference in this amendment under 5 U.S.C. 552(a), 1 CFR part 51, and 14 CFR part 97.20. The applicable FAA Forms 8260–3, 8260–4, 8260–5, 8260–15A, 8260–15B, when required by an entry on 8260–15A, and 8260–15C.

The large number of SIAPs, Takeoff Minimums and ODPs, their complex nature, and the need for a special format make publication in the **Federal Register** expensive and impractical. Further, airmen do not use the regulatory text of the SIAPs, Takeoff Minimums or ODPs, but instead refer to their graphic depiction on charts printed by publishers or aeronautical materials. Thus, the advantages of incorporation by reference are realized and publication of the complete description of each SIAP, Takeoff Minimums and ODP listed on FAA form documents is unnecessary. This amendment provides the affected CFR sections and specifies the typed of SIAPs, Takeoff Minimums and ODPs with their applicable effective dates. This amendment also identifies the airport and its location, the procedure, and the amendment number.

#### Availability and Summary of Material Incorporated by Reference

The material incorporated by reference is publicly available as listed in the **ADDRESSES** section.

The material incorporated by reference describes SIAPs, Takeoff Minimums and/or ODPs as identified in the amendatory language for Part 97 of this final rule.

#### The Rule

This amendment to 14 CFR part 97 is effective upon publication of each separate SIAP, Takeoff Minimums and ODP as amended in the transmittal. Some SIAP and Takeoff Minimums and textual ODP amendments may have been issued previously by the FAA in a Flight Data Center (FDC) Notice to Airmen (NOTAM) as an emergency action of immediate flights safety relating directly to published aeronautical charts.

The circumstances that created the need for some SIAP and Takeoff Minimums and ODP amendments may require making them effective in less than 30 days. For the remaining SIAPs and Takeoff Minimums and ODPs, an effective date at least 30 days after publication is provided.

Further, the SIAPs and Takeoff Minimums and ODPs contained in this amendment are based on the criteria

contained in the U.S. Standard for Terminal Instrument Procedures (TERPS). In developing these SIAPs and Takeoff Minimums and ODPs, the TERPS criteria were applied to the conditions existing or anticipated at the affected airports. Because of the close and immediate relationship between these SIAPs, Takeoff Minimums and ODPs, and safety in air commerce, I find that notice and public procedure under 5 U.S.C. 553(b) are impracticable and contrary to the public interest and, where applicable, under 5 U.S.C. 553(d), good cause exists for making some SIAPs effective in less than 30 days.

The FAA has determined that this regulation only involves an established body of technical regulations for which frequent and routine amendments are necessary to keep them operationally current. It, therefore—(1) is not a “significant regulatory action” under Executive Order 12866; (2) is not a “significant rule” under DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979); and (3) does not warrant preparation of a regulatory evaluation as the anticipated impact is so minimal. For the same reason, the FAA certifies that this amendment will not have a significant economic impact on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

#### Lists of Subjects in 14 CFR Part 97

Air Traffic Control, Airports, Incorporation by reference, Navigation (Air).

Issued in Washington, DC, on November 25, 2022.

**Thomas J. Nichols,**

*Aviation Safety, Flight Standards Service, Manager, Standards Section, Flight Procedures & Airspace Group, Flight Technologies & Procedures Division.*

#### Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me, Title 14, Code of Federal Regulations, Part 97 (14 CFR part 97) is amended by establishing, amending, suspending, or removing Standard Instrument Approach Procedures and/or Takeoff Minimums and Obstacle Departure Procedures effective at 0901 UTC on the dates specified, as follows:

#### PART 97—STANDARD INSTRUMENT APPROACH PROCEDURES

■ 1. The authority citation for part 97 continues to read as follows:

**Authority:** 49 U.S.C. 106(f), 106(g), 40103, 40106, 40113, 40114, 40120, 44502, 44514, 44701, 44719, 44721–44722.

■ 2. Part 97 is amended to read as follows:

**Effective 29 December 2022**

Chandler, AZ, P19, RNAV (GPS) RWY 35, Orig  
 Chandler, AZ, P19, VOR-A, Amdt 1D, CANCELED  
 Bedford, IN, KBFR, VOR RWY 13, Amdt 10D  
 Dodge Center, MN, KTOB, VOR-A, Amdt 5  
 Kansas City, MO, KMCI, ILS OR LOC RWY 1L, Amdt 18  
 Kansas City, MO, KMCI, ILS OR LOC RWY 9, Amdt 16  
 Kansas City, MO, KMCI, ILS OR LOC RWY 19L, Amdt 4  
 Kansas City, MO, KMCI, ILS OR LOC RWY 19R, ILS RWY 19R (SA CAT I), ILS RWY 19R (CAT II), ILS RWY 19R (CAT III), Amdt 14  
 Kansas City, MO, KMCI, ILS OR LOC RWY 27, Amdt 6  
 Kansas City, MO, KMCI, RNAV (GPS) Y RWY 1L, Amdt 4  
 Kansas City, MO, KMCI, RNAV (GPS) Y RWY 1R, Amdt 4  
 Kansas City, MO, KMCI, RNAV (GPS) Y RWY 9, Amdt 4  
 Kansas City, MO, KMCI, RNAV (GPS) Y RWY 19L, Amdt 4  
 Kansas City, MO, KMCI, RNAV (GPS) Y RWY 19R, Amdt 4  
 Kansas City, MO, KMCI, RNAV (GPS) Y RWY 27, Amdt 4  
 West Milford, NJ, 4N1, RNAV (GPS) RWY 6, Amdt 1D  
 Hobbs, NM, KHOB, RNAV (GPS) RWY 21, Amdt 2  
 Hobbs, NM, KHOB, VOR OR TACAN RWY 21, Amdt 9E  
 Spokane, WA, KSFF, RNAV (GPS) RWY 4L, Amdt 1D  
 Minocqua-Woodruff, WI, KARV, LOC RWY 36, Amdt 2, CANCELED  
 Oshkosh, WI, KOSH, Takeoff Minimums and Obstacle DP, Amdt 1A

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**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 97**

[Docket No. 31461; Amdt. No. 4038]

**Standard Instrument Approach Procedures, and Takeoff Minimums and Obstacle Departure Procedures; Miscellaneous Amendments**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

**SUMMARY:** This rule amends, suspends, or removes Standard Instrument Approach Procedures (SIAPs) and associated Takeoff Minimums and Obstacle Departure Procedures for operations at certain airports. These regulatory actions are needed because of

the adoption of new or revised criteria, or because of changes occurring in the National Airspace System, such as the commissioning of new navigational facilities, adding new obstacles, or changing air traffic requirements. These changes are designed to provide for the safe and efficient use of the navigable airspace and to promote safe flight operations under instrument flight rules at the affected airports.

**DATES:** This rule is effective December 23, 2022. The compliance date for each SIAP, associated Takeoff Minimums, and ODP is specified in the amendatory provisions.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of December 23, 2022.

**ADDRESSES:** Availability of matter incorporated by reference in the amendment is as follows:

**For Examination**

1. U.S. Department of Transportation, Docket Ops-M30, 1200 New Jersey Avenue SE, West Bldg., Ground Floor, Washington, DC 20590-0001;

2. The FAA Air Traffic Organization Service Area in which the affected airport is located;

3. The office of Aeronautical Information Services, 6500 South MacArthur Blvd., Oklahoma City, OK 73169 or,

4. The National Archives and Records Administration (NARA).

For information on the availability of this material at NARA, email [fr.inspection@nara.gov](mailto:fr.inspection@nara.gov) or go to: <https://www.archives.gov/federal-register/cfr/ibr-locations.html>.

**Availability**

All SIAPs and Takeoff Minimums and ODPs are available online free of charge. Visit the National Flight Data Center online at [nfdc.faa.gov](http://nfdc.faa.gov) to register. Additionally, individual SIAP and Takeoff Minimums and ODP copies may be obtained from the FAA Air Traffic Organization Service Area in which the affected airport is located.

**FOR FURTHER INFORMATION CONTACT:**

Thomas J. Nichols, Flight Procedures and Airspace Group, Flight Technologies and Procedures Division, Flight Standards Service, Federal Aviation Administration. Mailing Address: FAA Mike Monroney Aeronautical Center, Flight Procedures and Airspace Group, 6500 South MacArthur Blvd., Registry Bldg. 29, Room 104, Oklahoma City, OK 73169. Telephone: (405) 954-4164.

**SUPPLEMENTARY INFORMATION:** This rule amends 14 CFR part 97 by amending the

referenced SIAPs. The complete regulatory description of each SIAP is listed on the appropriate FAA Form 8260, as modified by the National Flight Data Center (NFDCA)/Permanent Notice to Airmen (P-NOTAM), and is incorporated by reference under 5 U.S.C. 552(a), 1 CFR part 51, and 14 CFR 97.20. The large number of SIAPs, their complex nature, and the need for a special format make their verbatim publication in the **Federal Register** expensive and impractical. Further, airmen do not use the regulatory text of the SIAPs, but refer to their graphic depiction on charts printed by publishers of aeronautical materials. Thus, the advantages of incorporation by reference are realized and publication of the complete description of each SIAP contained on FAA form documents is unnecessary. This amendment provides the affected CFR sections, and specifies the SIAPs and Takeoff Minimums and ODPs with their applicable effective dates. This amendment also identifies the airport and its location, the procedure and the amendment number.

**Availability and Summary of Material Incorporated by Reference**

The material incorporated by reference is publicly available as listed in the **ADDRESSES** section.

The material incorporated by reference describes SIAPs, Takeoff Minimums and ODPs as identified in the amendatory language for Part 97 of this final rule.

**The Rule**

This amendment to 14 CFR part 97 is effective upon publication of each separate SIAP and Takeoff Minimums and ODP as amended in the transmittal. For safety and timeliness of change considerations, this amendment incorporates only specific changes contained for each SIAP and Takeoff Minimums and ODP as modified by FDC permanent NOTAMs.

The SIAPs and Takeoff Minimums and ODPs, as modified by FDC permanent NOTAM, and contained in this amendment are based on criteria contained in the U.S. Standard for Terminal Instrument Procedures (TERPS). In developing these changes to SIAPs and Takeoff Minimums and ODPs, the TERPS criteria were applied only to specific conditions existing at the affected airports. All SIAP amendments in this rule have been previously issued by the FAA in a FDC NOTAM as an emergency action of immediate flight safety relating directly to published aeronautical charts.