[20] No annual fee is charged for a materials license (or part of a materials license) that has transitioned to this fee category because the decommissioning costs will be recovered through 10 CFR part 170 fees, but annual fees may be charged for other activities authorized under the license that are not in decommissioning status.

[21] Licensees paying fees under 4.A., 4.B. or 4.C. are not subject to paying fees under 3.N. licenses that authorize services for other licensees authorized on the same license.

Dated: June 2, 2023.

For the Nuclear Regulatory Commission.

Howard K. Osborne,

Chief Financial Officer.

[FR Doc. 2023–12696 Filed 6–14–23; 8:45 am]

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 25

[Docket No.: FAA–2019–0218; Amdt. No. 25–148]

RIN 2120–AL15

High Elevation Airport Operations

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Final rule.

SUMMARY: This final rule amends certain airworthiness regulations applicable to cabin pressurization systems and oxygen dispensing equipment on transport category airplanes, to facilitate certification of those airplanes, systems, and equipment for operation at high elevation airports. This rule eliminates the need for certain equivalent level of safety findings and exemptions.

DATES: Effective July 17, 2023.

ADDRESSES: For information on where to obtain copies of rulemaking documents and other information related to this final rule, see ''How To Obtain Additional Information'' in the **SUPPLEMENTARY INFORMATION** section of this document.

FOR FURTHER INFORMATION CONTACT: Robert Hettman, Aircraft Systems Section, AIR–623, Technical Innovation Policy Branch, Policy and Innovation Division, Aircraft Certification Service, Federal Aviation Administration, 2200 S 216th Street, Des Moines, Washington, 98198; telephone and facsimile 206–231–3171; email *robert.hettman@faa.gov.*

SUPPLEMENTARY INFORMATION:

Authority for This Rulemaking

The FAA's authority to issue rules on aviation safety is found in Title 49 of the United States Code. 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 promulgated under the authority described in Subtitle VII, part A, subpart III, section 44701, ''General Requirements.'' Under that section, the FAA is charged with promoting safe flight of civil aircraft in air commerce by prescribing regulations and minimum standards for the design and performance of aircraft that the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority. It prescribes new safety standards for the design and operation of transport category airplanes.

I. Overview of Final Rule

This final rule amends two sections of title 14, Code of Federal Regulations (14 CFR), part 25.

First, the rule amends § 25.841, ''Pressurized cabins,'' for airplanes equipped with cabin pressurization systems intended for operations at airports with elevations at or above 8,000 feet. The FAA considers airports with elevations greater than 8,000 feet as ''high elevation airports.'' Section 25.841(a) still requires that cabin pressure altitudes do not exceed 8,000 feet under normal operating conditions, while the revisions allow cabin pressure altitudes to exceed 8,000 feet during takeoff and landing at high elevation airports. In addition, changes to § 25.841(b)(6) allow applicants to increase the threshold for activation of cabin pressure altitude warnings to altitudes above 10,000 feet, to prevent nuisance warnings to the flightcrew during takeoff and landing at high elevation airports.

Second, this rule amends § 25.1447, ''Equipment standards for oxygen dispensing units,'' for airplanes equipped with passenger oxygen systems intended for operations into or out of airports with elevations above 13,000 feet. The revisions to § 25.1447(c)(5) allow applicants to raise the automatic presentation altitude for oxygen masks located throughout the passenger cabin to altitudes above 15,000 feet while operating out of or into airports with elevations exceeding 13,000 feet.

This final rule affects manufacturers, modifiers, and operators of transport category airplanes. The amendments to §§ 25.841 and 25.1447 eliminate the burden on applicants and the FAA that results from the processing of project-specific equivalent level of safety (ELOS) findings and grants of exemption that are currently necessary for the FAA to approve the designs of cabin pressurization systems and oxygen dispensing units on airplanes intended to be used for operations into or out of high elevation airports.

II. Background

A. Summary of the Problem

Current FAA regulations require that the cabin pressure altitude on transport category airplanes remain at or below 8,000 feet in normal operating conditions, and that supplemental oxygen be automatically presented to passengers before the cabin pressure altitude reaches 15,000 feet. While these standards provide an acceptable level of safety for normal operating conditions, they can hinder or conflict with operations at high elevation airports.

To enable such operations, applicants develop specialized design modifications that often cannot comply with cabin pressurization and supplemental oxygen requirements in FAA regulations. In order to approve such modifications and enable operation into high elevation airports, the FAA typically must make and document an ELOS finding. The FAA must typically also grant an exemption from the automatic oxygen mask presentation requirements for operations into or out of airports with elevations at or above 13,000 feet.

Transport airplane operators currently utilize seven airports in the United States that have an elevation between 8,000 and 10,000 feet. While no airports in the U.S. supporting transport airplane operations are at an elevation higher than 10,000 feet, the FAA is aware of at least five airports in other parts of the world that support transport airplane operations and are at elevations that exceed 13,000 feet. Therefore, it is for operations at these airports that applicants seek either an ELOS or an exemption in order to obtain certification of cabin pressurization and oxygen systems.

B. Discussion of Current Regulatory Requirements

Current regulatory requirements for cabin pressurization systems of transport category airplanes are contained in § 25.841(a) and (b). Section 25.841(a) requires cabin pressurization systems to maintain the interior cabin pressure so that the maximum cabin

pressure altitude does not exceed 8,000 feet. While an airplane is operating on the ground before takeoff or after landing, however, the interior cabin pressure must be equal to the outside ambient air pressure, or airport pressure altitude. Otherwise, should the need for an emergency evacuation arise, the pressure differential between interior cabin and airport pressure altitude may be too high to allow cabin attendants to open the doors. For airports above 8,000 feet, the regulatory requirement of § 25.841(a) to equip the airplane to keep its cabin pressure altitude from exceeding 8,000 feet, and the practical requirement for cabin pressure altitude to equal the airport pressure altitude for takeoff and landing, are in direct conflict. This creates a need for specialized design modifications and certification approaches to accommodate these operations.

When a transport category airplane takes off from an airport with an elevation below 8,000 feet, its cabin pressure altitude does not normally exceed 8,000 feet. The cabin pressure nominally starts at the ambient pressure altitude of the airport, and gradually increases as the airplane climbs until the cabin pressure altitude stabilizes at an altitude not exceeding 8,000 feet.

However, when a transport category airplane takes off from an airport with an elevation at or above 8,000 feet, the cabin pressure altitude necessarily exceeds 8,000 feet. The cabin pressure starts at the airport's ambient pressure altitude at 8,000 feet or greater, and then, if it is equipped with a system that complies with § 25.841(a), decreases until it is not more than 8,000 feet. During the time between takeoff and the point when cabin pressure altitude reaches 8,000 feet, the airplane's pressurization system is not in compliance with the regulation. Similarly, when a transport category airplane is landing at a high elevation airport, the interior cabin pressure altitude will initially be at or below 8,000 feet, as required by § 25.841(a), and then rise as the airplane descends, until the interior cabin pressure altitude is the same as the ambient pressure altitude at the airport. Since the maximum cabin pressure altitude of 8,000 feet is exceeded to accommodate the operation into a high elevation airport, the cabin pressurization system would again briefly not comply with the 8,000 foot limit in § 25.841(a).

Furthermore, § 25.841(b)(6) requires a warning indication at the pilot or flight engineer station to indicate when the safe or preset pressure differential and cabin pressure altitude limits are exceeded. As described in § 25.841(b)(6), appropriate warning markings on the cabin pressure differential indicator meet the warning requirement for pressure differential limits, and an aural or visual signal (in addition to cabin altitude indicating means) meets the warning requirement for cabin pressure altitude limits, if they warn the flightcrew when the cabin pressure altitude exceeds 10,000 feet. To support high elevation airport operations and avoid nuisance alerts, airplane designers incorporate modifications to raise the cabin pressure altitude at which the cabin pressure high altitude warning indication occurs.

Currently, when an airplane designer applies to the FAA for certification of an airplane with a cabin pressurization system intended for operations at high elevation airports, the cabin pressurization and cabin pressure altitude warning systems cannot meet the design standards in § 25.841(a) and (b)(6). To obtain FAA approval of such designs, the airplane designer will typically include compensating elements that provide an equivalent level of safety to that intended by the regulations.[1] For the design standards provided by § 25.841(a) and (b)(6), the FAA has found that compensating factors such as the flightcrew's use of oxygen and minimizing the time that the cabin pressure altitude may be above 8,000 feet can provide an ELOS during high elevation airport operations. The FAA documents its finding in a memorandum that communicates the agency's rationale to the public.[2] Processing an ELOS finding (*i.e.,* evaluating the request, analyzing the design, making the determination, and creating the memorandum) creates an administrative burden on both the applicant and the FAA during the certification process.

Section 25.1447(c)(1) requires airplanes certified for operations above 30,000 feet to include oxygen dispensing equipment that is automatically presented to each of the airplane's occupants in the event of depressurization, before the cabin pressure altitude reaches 15,000 feet. To avoid unnecessary presentations of the supplemental oxygen equipment and the maintenance costs of servicing the system afterward, applicants typically incorporate design features to temporarily raise the automatic presentation altitude for oxygen masks during high elevation airport operations. Currently, applicants whose designs incorporate these features must submit a petition for an exemption from § 25.1447(c)(1).[3] This creates an administrative burden for both applicants who develop the petition and the FAA in the evaluation and analysis of each petition.

C. Summary of the Notice of Proposed Rulemaking (NPRM)

The FAA published an NPRM (84 FR 13565) on April 5, 2019, that proposed to amend §§ 25.841, ''Pressurized cabins,'' and 25.1447, ''Equipment standards for oxygen dispensing units.'' The FAA proposed these revisions to provide design standards for cabin pressurization systems and oxygen dispensing equipment on transport category airplanes intended for operation at airports with elevations at or above 8,000 feet, also referred to in this preamble as ''high elevation airports.''

In the NPRM, the FAA proposed adding new § 25.841(c), as an exception to § 25.841(a), for systems designed to support operations at high elevation airports. Proposed § 25.841(c) would have allowed the airplane's cabin pressure altitude to be equal to or less than the airport elevation while the airplane is at or below 25,000 feet, provided the cabin pressurization system is designed to minimize the time that passenger cabin occupants would be exposed to cabin pressure altitudes exceeding 8,000 feet in flight.

The FAA also proposed adding new § 25.841(d) as an exception to § 25.841(b)(6). This would have allowed an applicant to change the threshold for the cabin pressure altitude warning indication from 10,000 feet to either 15,000 feet or 2,000 feet above the airport elevation, whichever is greater, when operating into or out of a high elevation airport and the airplane is at or below 25,000 feet. The FAA proposed 2,000 feet above the airport elevation in order to allow for system flexibility while maintaining a level of safety consistent with previously issued ELOS determinations.

In the NPRM, the FAA also proposed to add new § 25.1447(c)(5) as an exception to § 25.1447(c)(1) to allow approval of passenger cabin oxygen dispensing units that automatically

[1] The authority for the agency to make an ELOS finding is provided in 14 CFR 21.21(b). Paragraph (b) of § 21.21 specifies that the FAA must find the proposed design meets the applicable airworthiness requirements of subchapter C of chapter I of title 14 of the Code of Federal Regulations or that any airworthiness provisions not complied with are compensated for by factors that provide an equivalent level of safety.

[2] ELOS memorandums are available electronically to the public in the FAA's Dynamic Regulatory System (DRS) at *https://drs.faa.gov/browse.*

[3] The Administrator's exemption authority is provided by 49 U.S.C. 44701(f) and implemented in accordance with 14 CFR part 11.

deploy at 15,000 feet, or 2,000 feet above the airport elevation, whichever is greater, during operations into or out of high elevation airports. Similarly, the FAA proposed a variation of 2,000 feet above the airport elevation to allow for system flexibility while maintaining a level of safety consistent with previously-issued exemptions and to harmonize with European Union Aviation Safety Agency (EASA) guidance.

The revisions proposed in the NPRM intended to eliminate administrative tasks and analyses associated with the preparation and processing of ELOS determinations and exemptions to accommodate transport category airplane operations at high elevation airports, without compromising safety. The FAA invited comments to the proposal, and the comment period closed on June 4, 2019.

D. General Overview of Comments

The FAA received ten sets of comments. Three commenters were airplane manufacturers: Boeing, Bombardier, and Embraer. The Aerospace Industries Association and the General Aviation Manufacturers Association (AIA/GAMA) commented collectively. One civil aviation authority, the Transport Canada Civil Aviation Authority (TCCA), provided comment. Three individuals commented, and three Health Sciences majors submitted a collective comment.

The majority of the comments from industry were requests to revise regulatory text for clarification and consistency. An individual also described the need to make clear distinctions and utilize consistent terminology. Another individual supported the economic cost savings, but requested further information on new airplane designs. The three Health Sciences majors opposed the proposed regulation because they stated that the health risks of flying into high elevation airports outweigh the economic benefits. Another commenter recommended not approving high elevation operations and proposed the removal of airports located at elevations greater than 7,500 feet for safety and environmental reasons. A detailed discussion of the comments and resulting regulatory changes is provided in section III.

E. Advisory Material

AIA/GAMA and Boeing suggested that the FAA develop and publish an Advisory Circular (AC) on high elevation airport operations to provide specific guidance on how to design cabin pressurization systems to minimize the amount of time that passenger cabin occupants are exposed to higher cabin pressure altitudes, to reduce the risk of hypoxia. The FAA is providing additional discussion of this topic in this final rule and does not consider it necessary to publish separate guidance.

III. Discussion of Public Comments and Final Rule

The FAA has made changes to this final rule in response to comments made by the public. Some of the changes are to terminology to improve clarity, while other changes are in response to technical comments related to design of cabin pressurization systems. Summaries of the comments and the FAA's responses are grouped by category in the following subsections.

A. Clarification of Terminology

Six commenters recommended that the FAA use the term ''cabin pressure altitude'' in the regulatory language and preamble, in lieu of the term ''cabin pressure'' as used in the NPRM including proposed changes to § 25.841. ''Cabin pressure'' is a measurement of pressure, typically pounds per square inch, while ''cabin pressure altitude'' is an equivalent measurement expressed in height above sea level, typically feet. The FAA agrees that the suggested change would promote clarity and consistency, and in this final rule uses ''cabin pressure altitude'' instead of ''cabin pressure'' when referring to the condition in the airplane cabin.

B. Cabin Pressure Altitude at the Maximum Operating Altitude

Section 25.841(a) limits the cabin pressure altitude to not more than 8,000 feet at the maximum operating altitude of the airplane under normal operating conditions. In the NPRM, the FAA proposed revising § 25.841(a) to remove the phrase ''at the maximum operating altitude of the airplane.'' As discussed in the NPRM, the FAA did not intend § 25.841(a) to imply that the cabin pressure altitude could exceed 8,000 feet under normal operating conditions provided the airplane was below the maximum operating altitude.

In response to the NPRM, TCCA asked if the FAA would update any advisory materials to clarify the intent of the term ''under normal operating conditions.'' The FAA does not intend to update or add any advisory materials for this rulemaking and notes that the term ''normal operating conditions'' currently in § 25.841(a) is not being changed by this rule. As the term relates to § 25.841(a), the FAA considers normal operating conditions to mean that the cabin pressurization system is operating normally, rather than under some alternative mode due to system failure. The FAA considers operating at the maximum operating altitude of the airplane a normal operating condition. In the context of this rulemaking, the FAA also considers operations into or out of a high elevation airport a normal operating condition.

C. Cabin Pressurization Limits

In the NPRM, the FAA proposed changes to § 25.841(a) related to operations at airports with elevations exceeding 8,000 feet. When issuing the NPRM, the FAA did not consider airports that may be planned or under construction which would exceed an elevation of 15,000 feet. AIA/GAMA and Boeing requested that the FAA add an exception to § 25.841(a) to account for probable pressurization failures that could occur while operating at airports with elevations exceeding 15,000 feet. When operating at such airports, a probable pressurization system failure could occur while the cabin pressure altitude is above 15,000 feet, and the airplane pressurization system would not comply with current § 25.841(a). The commenters suggested that the FAA should also consider the effects of probable failures of a cabin pressurization system during operations into or out of airports with elevations that exceed 15,000 feet.

The FAA agrees with the commenters. Under normal operating conditions into or out of airports with elevations near 15,000 feet, the cabin pressure altitude is likely to be near or above 15,000 feet for short durations. The FAA still considers any probable failure of the cabin pressurization system during this timeframe to be a system failure, even if the airplane's cabin pressure altitude is already above 15,000 feet due to operation at the airport. The closer the airplane is to the airport, the closer the cabin pressure altitude will be to the airport pressure altitude. If the cabin pressure altitude were already above 13,000 feet while the airplane is near the high elevation airport, a probable cabin pressurization failure would not result in significant changes in cabin pressure altitude that would increase passenger risk of hypoxia. The FAA is therefore adding in this final rule an exception to § 25.841(a)(1) to allow certification of systems despite probable cabin pressurization system failures [4] resulting in cabin pressure altitudes which exceed 15,000 feet. In the event

[4] A probable failure condition is a failure condition having an average probability per flight hour greater than the order of 1x10E–5.

of such failures, new § 25.841(c)(1) specifies that the cabin pressure altitude cannot exceed either 15,000 feet or 2,000 feet above the airport elevation, whichever is higher. These exceptions accommodate operations into or out of airports with elevations near 15,000 feet.

D. Cabin Pressure Altitudes Exceeding 8,000 Feet

In the NPRM, the FAA proposed new § 25.841(c)(1) to allow cabin pressure altitude during operations at high elevation airports to be equal to or less than the airport elevation provided the airplane is at or below 25,000 feet.

AIA/GAMA, Boeing, Bombardier, and TCCA suggested removing the proposed restriction of this allowance to altitudes at or below 25,000 feet, due to concerns over passenger discomfort that may result from the rapid changes in cabin pressure altitude that might occur with systems designed to meet this restriction. They noted that the restriction would limit design options and could inadvertently result in designs that employ rapid increases in cabin pressure altitude in excess of those typically necessary to accommodate operations into high elevation airports.

The commenters cited a scenario that assumed an average airplane descent rate of 2,500 ft/min, which results in a descent time of approximately four minutes from 25,000 feet to an airport with an elevation of 15,000 feet. Assuming an initial cabin pressure altitude of 8,000 feet when the airplane descends through 25,000 feet, the pressurization systems would begin commanding the cabin pressure altitude to increase to reach the airport elevation of 15,000 feet in this timeframe. This results in a cabin pressure altitude ascent rate in excess of 1,000 ft/min. A similar cabin pressure altitude descent rate would be required during the climb phase after takeoff from a 15,000-foot elevation airport.

While this rate of cabin pressure altitude change would meet the FAA's objective to minimize the time the cabin pressure altitude is above 8,000 feet, the FAA acknowledges that rapid changes in pressure could cause passenger discomfort, and injury to the eardrum, if the pressure difference between the middle and outer ear continues to rapidly increase. As discussed by the commenters, typical operations utilize a change in cabin pressure altitude on average around 500 ft/min. Although using a slower airplane descent or ascent rate may be a viable option for some high elevation airport operations, it is not always possible at some high elevation airports due to surrounding terrain, and may cause issues for air traffic control and flight planning.

For these reasons, the FAA agrees with the commenters, and in this final rule has revised proposed § 25.841(c)(1) to eliminate the restriction that the cabin pressure altitude may only be above 8,000 feet while the airplane is at or below 25,000 feet, when undertaking operations at high elevation airports. This decision is consistent with ELOS determinations made by the FAA in which the proposed design required the flightcrew to configure the cabin pressurization system for high elevation airport operations while the airplane was at the top of descent, rather than at or below 25,000 feet.

Conversely, three Health Sciences majors collectively expressed concern with increased health risks to passengers at cabin pressure altitudes above 8,000 feet. Another individual recommended not approving high elevation airport operations, and removal of airports over 7,500 feet for safety and to ''reduce development in these fragile zones.'' The group of three individuals suggested that the potential health risks outweigh the economic benefits to the airline industry from the proposed regulations. They noted that the flying public might not be aware of potential health issues associated with low cabin air pressure, and under this new rule may be less able to make fully informed choices about the potential risks posed to them by flying. They filed information concerning the health risks of high cabin pressure altitudes and the effects of hypoxia on primarily elderly and infants.

The FAA acknowledges the possibility of increased health risks to some passengers exposed to cabin pressure altitudes above 8,000 feet for extended periods of time. However, this rulemaking is only applicable to airplane designs and systems seeking approval for operations at high elevation airports, not all airplane designs. For some passengers, there may be increased health risks with flight in general because their blood oxygen saturation may reach levels considered hypoxic during exposure to typical cabin pressure altitudes experienced during flight. The FAA has sponsored research on this subject [5] to enhance the awareness of the public and medical communities of these risks. The FAA expects that passengers travelling to high elevation airports do so intentionally and accept the potential health risks of visiting or living at high altitude. Areas surrounding these high elevation airports are sufficiently inhabited that the need for airplane service has arisen. High elevation airports allow transportation to areas that may otherwise be difficult to reach. Air travel to these areas allows for easier transportation of not only people, but also supplies such as medical equipment and other cargo.

Since travel to these areas is necessary, the FAA is adopting, as proposed, the condition in § 25.841(c)(2) that the system minimize the time that the cabin pressure altitude is above 8,000 feet. The FAA expects that the cabin pressurization system design will automatically control the cabin pressure altitude once descent into the high elevation airport is initiated, to ensure that the cabin pressure altitude is equal to the pressure altitude at the airport when the airplane lands. As such, the FAA expects the cabin pressure altitude to be above 8,000 feet for no more than 15 to 20 minutes during most high elevation airport operations. For example, assuming a constant airplane descent rate of 2,500 ft/min, a descent from 40,000 feet to an airport elevation of 15,000 feet would take approximately 10 minutes. Assuming a constant change in cabin pressure altitude of 500 ft/min, a change in cabin pressure altitude from 8,000 feet to 15,000 feet would take approximately 14 minutes. The FAA recognizes that many variables are associated with flights into or out of specific high elevation airports, so descent rates and cabin pressure altitude changes will vary. However, in accordance with § 25.841(c)(2), the design must minimize the time that the cabin pressure altitude may be above 8,000 feet during high elevation airport operations. The FAA's intent is that manufacturers optimize the airplane flight manual procedures and cabin pressurization system to minimize the time that the cabin pressure altitude is above 8,000 feet to safely support high elevation airport operations.

E. Cabin Pressure High Altitude Warning System

Section 25.841(b)(6) requires a warning indication at the pilot or flight engineer station to indicate when the safe or preset pressure differential and cabin pressure altitude limits are exceeded. The FAA did not propose any changes to this section, but TCCA recommended clarifying it by replacing

[5] National Air Transportation Center of Excellence for Research in the Intermodal Transport Environment (RITE)/Airliner Cabin Environment Research (ACER) Program, Report No. RITE–ACER–CoE–2011–1, Health Effects of Aircraft Cabin Pressure for Older and Vulnerable Passengers, dated November 2011, Final Report. *https://www.faa.gov/data_research/research/med_humanfacs/cer/media/HealthEffectsVulnerablePassengers.pdf.*

''warning indication at the pilot or flight engineer station'' with ''warning indication at the flightcrew station.'' The purpose of that requirement is to provide warning to the flightcrew at the appropriate time, not to prescribe a location within the flight deck to receive such a warning. Therefore in this final rule the FAA has revised § 25.841(b)(6) to require a warning indication for the flightcrew when the safe or preset pressure differential or cabin pressure altitude limit is exceeded.

The NPRM proposed adding new § 25.841(d) as an exception to § 25.841(b)(6) to allow for changes to the threshold for activation of the cabin pressure high altitude warning alert from 10,000 feet, so that it is provided at either 15,000 feet or 2,000 feet above the airport elevation, whichever is greater, when the airplane is operating at a high elevation airport and at or below 25,000 feet. Because of multiple comments, the FAA has revised the structure of § 25.841(d) from what was proposed in the NPRM. The FAA revised the introductory paragraph of § 25.841(d), as detailed below, to accommodate the varied nature of the designs of cabin pressure altitude warning systems. The NPRM proposed in § 25.841(d)(1), that if the threshold for activation of the cabin pressure high altitude warning is shifted above 10,000 feet, an alert is provided to the flightcrew. This final rule moved the requirement to § 25.841(d)(2) and, as explained in more detail below, revised it to refer to an indication rather than an alert. In this context, the cabin pressure high altitude warning alert is referring to the system that provides warning to the flight crew that the safe or pre-set cabin pressure altitude has been exceeded. Section 25.841(d)(2) in this final rule requires that indication is provided to the flight crew when the cabin pressure high altitude warning alert is shifted above 10,000 feet.

The FAA received multiple requests that the FAA not adopt the proposed condition that the activation altitude for the cabin pressure high altitude warning alert could only be raised above 10,000 feet once the airplane was at or below 25,000 feet. In response, the FAA has revised § 25.841(d)(1) to include the following alternative conditions for when the activation altitude for the cabin pressure high altitude warning alert can be raised.

As previously discussed, the NPRM proposed adding new § 25.841(d) as an exception to § 25.841(b)(6). This would have allowed for adjustment to the cabin pressure high altitude warning alert to be provided at 15,000 feet, or 2,000 feet above the airport elevation, whichever is greater, when the airplane is operating into or out of a high elevation airport and at or below 25,000 feet. AIA/GAMA, Boeing, and TCCA requested that the FAA clarify § 25.841(d) to explain that the cabin pressure high altitude warning alert should be provided at cabin pressure altitudes ''up to'' 15,000 feet or 2,000 feet above the airport elevation. The exception proposed in the NPRM would have allowed for certification of a system that raised the activation threshold for the cabin pressure high altitude warning alert from the 10,000 feet in the current rule, to 15,000 feet. However, that proposal would not have accommodated designs where the cabin pressure high altitude warning alert could vary as a function of airport elevation and activate at some point between 10,000 and 15,000 feet. As described by the commenters, some cabin pressure high altitude warning systems are a function of the pressure altitude data entered into the flight computer and not an analog pressure switch. For these types of systems, the cabin pressure high altitude warning system may have a unique setting that varies as a function of pressure altitude rather than a simple step up from 10,000 feet to 15,000 feet. The FAA does not intend for applicants to change the cabin pressure high altitude warning system unless it is necessary to prevent nuisance warnings during operations into or out of high elevation airports. As a result, in this final rule § 25.841(d) allows the cabin pressure high altitude warning alert to be triggered at elevations ''up to'' 15,000 feet or 2,000 feet above the airplane's maximum takeoff and landing altitude, whichever is greater, when operating into or out of a high elevation airport.

AIA/GAMA and Boeing also requested that the FAA revise § 25.841(d) to allow the cabin pressure high altitude warning alert to activate at up to 15,000 feet or within 2,000 feet of the airplane's maximum takeoff and landing altitude during high elevation airport operations, rather than 2,000 feet above the airport elevation. For example, high elevation airports in Tibet have a maximum pressure altitude of approximately 15,400 feet; therefore, an airplane operating into this area would need to have a cabin pressure high altitude warning alert activated before the cabin pressure altitude reaches 17,400 feet to avoid a nuisance warning. If the same airplane were used for operations into an airport with an elevation of 14,000 feet, the cabin pressure high altitude warning alert would need to be provided before the cabin pressure altitude reached 16,000 feet. As such, the rule proposed in the NPRM would require either a system specifically designed for each airport, or a system that could change the cabin pressure high altitude warning alert as a function of the pressure altitude at the airport. The commenters also noted that there is still a large portion of the airplane fleet which utilizes an analog pressure switch to activate the cabin pressure altitude warning alert, and therefore implementing a variable system is either not possible or would be extremely costly to implement for derivative airplane models.

The FAA agrees with the commenters and revised § 25.841(d) to state that when operating into or out of airports with elevations exceeding 8,000 feet, the cabin pressure altitude warning alert may be provided up to 15,000 feet, or 2,000 feet above the airplane's maximum takeoff and landing altitude, whichever is greater. For reference, the maximum takeoff and landing altitude is defined in the applicable flight manual as an operational limitation of the airplane. This change to the final rule will accommodate various designs of the cabin pressure altitude warning system and prevent unnecessary warning alerts while still including provisions intended to maintain an acceptable level of safety during operations into and out of high altitude airports. The provision in § 25.841(d)(1) is intended to minimize the time that the cabin pressure altitude is above 8,000 feet as well as minimize the time that the cabin altitude warning alert for the flight crew is shifted above 10,000 feet. Section 25.841(d)(2) requires indication to the flight crew that the altitude for the cabin pressure altitude warning system alert has been changed for high altitude operations. Section 25.841(d)(3) requires one of two different methods intended to protect the flight crew from the effects of hypoxia during high altitude airport operations. The first option requires an additional alert to notify the flight crew when to don oxygen in accordance with their applicable operating regulations. Such a system, if installed, provides the same intended function as the cabin altitude warning alert. The second option is to have approved procedures in the airplane flight manual that would require at least one pilot to don oxygen when the cabin pressure altitude warning alert is shifted for high altitude operations. Such provisions are consistent with previously issued ELOS determinations depending on the specific aircraft design that was being considered.

As previously discussed, the FAA is not adopting the condition, originally proposed for § 25.841(c)(1), that the cabin pressure altitude of the airplane may only be above 8,000 feet during operations into or out of high elevation airports while the airplane is at or below 25,000 feet. In the NPRM, the FAA also proposed § 25.841(d), which would have allowed the cabin pressure high altitude warning alert to be activated at cabin pressure altitudes above 10,000 feet during high elevation airport operations provided the airplane was at or below 25,000 feet. AIA/GAMA, Boeing, and TCCA suggested raising or eliminating the 25,000 foot operating condition on the increased activation altitude for the cabin pressure high altitude warning alert when the cabin pressurization system is configured either automatically or by the flightcrew for high elevation airport operations, to avoid potential nuisance alerts during descent. The FAA agrees with the commenters. When the cabin pressurization system is configured for high elevation airport operations, either manually by the flightcrew or automatically as dictated by the design, during descent the cabin pressure altitude may reach 10,000 feet before the airplane passes 25,000 feet. Such a condition may unnecessarily activate the cabin pressure high altitude warning alert certified to existing regulations. In this final rule, the FAA has therefore revised § 25.841(d) to remove the condition that the activation altitude for the cabin pressure high altitude warning alert could only exceed 10,000 feet while the airplane was at or below 25,000 feet.

In addition, in this final rule, the FAA adds § 25.841(d)(1) to require that during landing, the activation altitude for the cabin pressure high altitude warning alert may not be changed to exceed 10,000 feet before the start of descent into the high elevation airport. Following takeoff from a high elevation airport, the cabin pressure altitude warning must be reset to 10,000 feet, either automatically or manually by the flightcrew, before beginning cruise operation. Both requirements ensure that the cabin pressure high altitude warning alert remains at 10,000 feet during cruise while allowing operational flexibility during climb out of and descent into high elevation airports. This is consistent with ELOS determinations that the FAA has made, approving systems for which the cabin pressure high altitude warning alert is changed to exceed 10,000 feet for high elevation airport operations once the aircraft enters descent, rather than below 25,000 feet.

AIA/GAMA and Boeing also requested that the FAA revise the condition requiring a flightcrew alert that the activation altitude for the cabin pressure high altitude warning has shifted to above 10,000 feet in proposed § 25.841(d)(1) to refer to an ''indication'' system instead of an ''alert'' system. As described in the preamble for § 25.1322, amendment 25–131 (75 FR 67209, November 2, 2010) (§ 25.1322), the word ''alert'' describes a flight deck indication meant to attract the attention of the flightcrew and identify a non-normal operational or airplane system condition. For high elevation airport operations, the alert originally proposed in § 25.841(d)(1) was for a normal operating condition, not for a non-normal condition. Thus, requiring that an alert be provided for a normal operating condition is not appropriate.

The FAA agrees with the commenters, and this final rule revises § 25.841(d) to refer to an indication system rather than an alert system. Revised § 25.841(d)(2) requires an indication to be provided to the flightcrew that the activation altitude for the cabin pressure high altitude warning alert has shifted above 10,000 feet cabin pressure altitude. The FAA considers the required indication to be in support of normal operations and flightcrew action may not necessarily be required. However, depending on which certification method in § 25.841(d)(3) the applicant follows, flight procedures may still require the pilot to don oxygen when the indication denotes that the cabin pressure high altitude warning has shifted above 10,000 feet cabin pressure altitude.

In the NPRM, the FAA proposed that § 25.841(d)(2) require that if the system shifts the cabin pressure high altitude warning above 10,000 feet automatically, it must also alert the flightcrew to take action should the automatic shift function fail. AIA/GAMA, Boeing, and Bombardier suggested removal of this additional alert. The commenters suggested that such an alert is unnecessary and the need to provide crew alerts is already addressed through compliance with §§ 25.1309(c) and 25.1322.

The FAA agrees with the commenters. For any system that an applicant proposes to reconfigure for high elevation airport operations, § 25.1309 would be applicable and require the applicant to conduct a hazard analysis that includes system failure. The FAA is not adopting the proposal that § 25.841(d)(2) require an additional alert to the flightcrew. An additional alert may or may not be necessary depending on the hazard analysis that must still be conducted in accordance with § 25.1309.

F. Automatic Presentation of Oxygen Masks

The NPRM proposed adding § 25.1447(c)(5) as an exception to § 25.1447(c)(1) to allow approval of passenger cabin oxygen dispensing units that are automatically presented at 15,000 feet or within 2,000 feet of the airport elevation, whichever is higher, provided the airplane is being operated at altitudes at or below 25,000 feet. This change was meant to relieve applicants and the FAA from the burden of preparing and processing exemptions from the passenger oxygen mask automatic presentation altitude requirement in § 25.1447(c)(1). During operations into some high elevation airports, increasing the cabin pressure altitude at which passenger cabin oxygen dispensing units are automatically presented is required in order to avoid unnecessary presentations.

AIA/GAMA and Boeing requested that new § 25.1447(c)(5) allow automatic oxygen mask presentations at up to 15,000 feet or within 2,000 feet of the airplane's maximum takeoff and landing altitude, rather than within 2,000 feet of the airport elevation. They noted that many in-production airplanes, which an applicant may seek to certify for operation at high elevation airports, utilize an analog pressure switch to automatically deploy the oxygen masks. Implementing a variable system is either not possible or would be extremely costly to implement on airplanes with this type of design, according to the commenters. AIA/GAMA, Boeing, and Bombardier commented that the proposed rule would have required either an automatic oxygen mask presentation system unique for each airport, or a system that would automatically change the oxygen mask presentation altitude as a function of the airport elevation. In addition, landing at a high elevation airport, which is below the airplane's maximum certified takeoff and landing altitude, will have a negligible difference between when masks might be automatically presented due to a sudden loss of cabin pressure, and when the airplane lands. The FAA agrees with the commenters, and § 25.1447(c)(5) allows automatic oxygen mask presentations at up to 15,000 feet or within 2,000 feet of the airplane's maximum takeoff and landing altitude, to accommodate the variation in design and potential unnecessary presentation of the oxygen masks.

In addition, AIA/GAMA and Boeing suggested that the FAA not adopt the requirement proposed in the NPRM that the passenger oxygen mask presentation altitude could only be reset during high elevation operations when the airplane is below 25,000 feet. As discussed by the commenters, not allowing the flightcrew to reset the oxygen mask presentation altitude until the airplane is below 25,000 feet creates additional crew workload, which could be avoided if the airplane is allowed to be configured at the top of descent. Reduction in crew workload during the critical descent phase allows the crew to focus on other tasks. The FAA agrees with the commenters and § 25.1447(c)(5) omits the condition proposed in the NPRM that the oxygen mask presentation altitude only be revised when the airplane is at or below 25,000 feet.

In the discussion of § 25.1447(c)(5) in the NPRM, the FAA proposed raising the automatic presentation altitude for passenger oxygen masks during operations into all airports above 8,000 feet. However, the intent of this rulemaking, in part, is to eliminate the need for processing exemptions to § 25.1447(c)(1) to avoid nuisance oxygen mask presentations while operating at airports with elevations that would otherwise cause oxygen mask presentations. When operating into airports with elevations at or below 13,000 feet, the automatic presentation altitude for the oxygen masks could still be below 15,000 feet, the required presentation altitude in § 25.1447(c)(1), and avoid inadvertent oxygen mask presentations. As a result, the FAA has not granted exemptions to the automatic oxygen mask presentation requirements in § 25.1447(c)(1) for airplanes proposed to be approved for operations at airports with elevations at or below 13,000 feet. As a result of all related comments, § 25.1447(c)(5), as adopted in this final rule, states that when operating into or out of airports with elevations above 13,000 feet, the dispensing units providing the required oxygen flow must be automatically presented to the occupants within 2,000 feet of the airplane's maximum takeoff and landing altitude.

In addition, an individual commenter described various operational considerations that should be made by operators when operating into high elevation airports, such as the potential need to provide oxygen to passengers that may need it while the airplane is on the ground or when cabin pressure altitudes are above 8,000 feet. The FAA agrees that there are many operational issues to consider when operating into and out of high elevation airports. However, this rulemaking is limited to approval of new airplane type designs with cabin pressurization systems and oxygen systems intended for operations into and out of high elevation airports. Operational considerations are outside the scope of this rulemaking activity.

The FAA also received comments to revise specific preamble text of the NPRM. The specific preamble text from the NPRM is not restated in this final rule, so specific editorial suggestions to the preamble text of the NPRM are not applicable. No changes were made to this final rule in this regard.

IV. Regulatory Notices and Analyses

A. Regulatory Evaluation

Changes to Federal regulations must undergo several economic analyses. First, Executive Order 12866 and Executive Order 13563, as amended by Executive Order 14094 (''Modernizing Regulatory Review''), direct that each Federal agency shall adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its 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. In developing U.S. standards, the Trade Act requires agencies to consider international standards and, where appropriate, that they be the basis of U.S. standards. 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 million or more (adjusted annually for inflation) in any one year. The current threshold after adjustment for inflation is $177 million using the most current (2022) Implicit Price Deflator for the Gross Domestic Product. This portion of the preamble summarizes the FAA's analysis of the economic impacts of this final rule.

In conducting these analyses, FAA has determined that this final rule (1) has benefits that justify its costs; (2) is not an economically ''significant regulatory action'' as defined in section 3(f) of Executive Order 12866, as amended; (3) will not have a significant economic impact on a substantial number of small entities; (4) will not create unnecessary obstacles to the foreign commerce of the United States; and (5) will not impose an unfunded mandate on state, local, or tribal governments, or on the private sector by exceeding the threshold identified previously. These analyses are summarized below.

Currently, the FAA processes ELOS memorandums to document ELOS findings when an airplane manufacturer or modifier requests certification of airplane cabin pressurization systems used for operations into or out of airports with elevations at or above 8,000 feet. The FAA also processes exemptions to the automatic oxygen mask presentation requirements for operations into or out of airports with elevations at or above 13,000 feet. The final rule will eliminate the need to continue performing the administrative tasks and analyses associated with the processing of an ELOS or exemption to accommodate operations at high elevation airports for transport category airplanes without compromising safety.

This final rule will result in small quantifiable cost savings. The FAA issues on average four ELOS findings and two exemptions per year related to high elevation airports, devoting between 20 to 100 engineering hours for each ELOS or exemption processed. The FAA estimates industry organizations seeking certification expend the same range of engineering hours for each ELOS and exemption processed. Using the loaded wage rate of $83.86 for aerospace engineer,[6] the FAA estimates the total annual cost savings of this final rule could range from $20,126 to $100,632 for both industry and FAA.

As a result, this rulemaking will reduce the cost of airplane certification without reducing the current level of safety. The expected outcome will be a minimal economic impact resulting in a small regulatory burden relief. The FAA requested comments with supporting justification about the FAA determination of minimal economic impact. No such comments were received. Therefore, the FAA has determined that this final rule is not a ''significant regulatory action'' as defined in section 3(f) of Executive Order 12866, as amended, and is not ''significant'' as defined in DOT's Regulatory Policies and Procedures.

B. Regulatory Flexibility Determination

The Regulatory Flexibility Act of 1980 (Pub. L. 96–354) (RFA) establishes ''as a

[6] $59.12 is the average wage salary cost for aerospace engineer, which accounts 70.5% of employer costs; and $24.74 or 29.5% is the fringe benefits. *https://www.bls.gov/news.release/pdf/ecec.pdf* (accessed on 12/20/22).

principle of regulatory issuance that agencies shall endeavor, consistent with the objectives of the rule and of applicable statutes, to fit regulatory and informational requirements to the scale of the businesses, organizations, and governmental jurisdictions subject to regulation.'' To achieve this principle, agencies are required to solicit and consider flexible regulatory proposals and to explain the rationale for their actions to assure that such proposals are given serious consideration. The RFA covers a wide range of small entities, including small businesses, and not-for-profit organizations.

Agencies must perform a review to determine whether a rule will have a significant economic impact on a substantial number of small entities. If the agency determines that it will, the agency must prepare a regulatory flexibility analysis as described in the RFA. However, if an agency determines that a rule is not expected to have a significant economic impact on a substantial number of small entities, section 605(b) of the RFA provides that the head of the agency may so certify and a regulatory flexibility analysis is not required. The certification must include a statement providing the factual basis for this determination, and the reasoning should be clear.

The final rule relieves the industry from requesting that the FAA make a determination that an ELOS exists for certification of airplane cabin pressurization systems used for operations into or out of airports with elevations at or above 8,000 feet above sea level. This final rule also relieves industry from petitioning for exemptions to the automatic oxygen mask presentation requirements for operations into and out of airports with elevations above 13,000 feet above sea level. This expected outcome will be a minimal economic impact with small burden relief and savings for any small entity affected by this rulemaking action.

If an agency determines that a rulemaking will not result in a significant economic impact on a substantial number of small entities, the head of the agency may so certify under section 605(b) of the RFA. Therefore, as provided in section 605(b), the head of the FAA certifies that this final rulemaking will not result in a significant economic impact on a substantial number of small entities.

C. International Trade Impact Assessment

The Trade Agreements Act of 1979 (Pub. L. 96–39) 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 Act, 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 effect of this final rule and determined that its purpose is to protect the safety of U.S. civil aviation. Therefore, the final rule is in compliance with the Trade Agreements Act.

D. Unfunded Mandates Assessment

Title II of the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4) requires each Federal agency to prepare a written statement assessing the effects of any Federal mandate in a final agency rule that may result in an expenditure of $100 million or more (adjusted annually for inflation) in any one year. The current threshold after adjustment for inflation is $177 million using the most current (2022) Implicit Price Deflator for the Gross Domestic Product. This final rule does not contain such a mandate; therefore, the requirements of Title II of the Act do not apply.

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. The FAA has determined that there is no new requirement for information collection associated with this final rule.

F. International Cooperation

(1) In keeping with U.S. obligations under the Convention on International Civil Aviation, it is FAA's policy to conform to International Civil Aviation Organization (ICAO) Standards and Recommended Practices to the maximum extent practicable. The FAA has reviewed the corresponding ICAO Standards and Recommended Practices and has found no differences with these final regulations.

(2) European Union Aviation Safety Agency (EASA) certification requirements related to oxygen dispensing units in CS 25.1447(c)(1) are similar to those in § 25.1447(c)(1). In amendment 18 of Certification Specifications and Acceptable Means of Compliance for Large Aeroplanes, CS–25,[7] the EASA describes an acceptable means of compliance (AMC) in AMC 25.1447(c)(1). Specifically, AMC 25.1447(c)(1) states: ''The design of the automatic presentation system should take into account that when the landing field altitude is less than 610 m (2,000 feet) below the normal preset automatic presentation altitude, the automatic presentation altitude may be reset to landing field altitude plus 610 m (2,000 feet).'' Thus, the FAA's change to § 25.1447 is consistent with guidance provided by EASA.

(3) EASA has not published advisory material to accommodate operations into or out of high elevation airports in consideration of the cabin pressure altitude and warning requirements in CS 25.841.

G. Environmental Analysis

FAA Order 1050.1F, ''Environmental Impacts: Policies and Procedures,'' 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 has determined this rulemaking action qualifies for the categorical exclusion identified in paragraph 5–6.6 of Order 1050.1F and involves no extraordinary circumstances.

V. Executive Order Determinations

A. Executive Order 13132, Federalism

The FAA has analyzed this final rule under the principles and criteria of Executive Order 13132, ''Federalism.'' The agency determined that this action will 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, does not have federalism implications.

B. Executive Order 13175, Consultation and Coordination With Indian Tribal Governments

Consistent with Executive Order 13175, Consultation and Coordination with Indian Tribal Governments,[8] and

[7] Amendment 18 of European Aviation Safety Agency, ''Certification Specifications and Acceptable Means of Compliance for Large Aeroplanes,'' CS–25, dated June 22, 2016, can be found at this web address: *https://www.easa.europa.eu/document-library/certification-specifications/cs-25-amendment-18.*

[8] 65 FR 67249 (Nov. 6, 2000).

FAA Order 1210.20, American Indian and Alaska Native Tribal Consultation Policy and Procedures,[9] the FAA ensures that Federally Recognized Tribes (Tribes) are given the opportunity to provide meaningful and timely input regarding proposed Federal actions that have the potential to affect uniquely or significantly their respective Tribes. At this point, the FAA has not identified any unique or significant effects, environmental or otherwise, on tribes resulting from this proposed rule.

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

The FAA analyzed this final rule under Executive Order 13211, Actions Concerning Regulations that Significantly Affect Energy Supply, Distribution, or Use (May 18, 2001). The agency has determined that it is not a ''significant energy action'' under the Executive order and it is not likely to have a significant adverse effect on the supply, distribution, or use of energy.

D. 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 has analyzed this action under the policies and agency responsibilities of Executive Order 13609, and has determined that this action will not effect on international regulatory cooperation.

VI. How To Obtain Additional Information

A. Rulemaking Documents

An electronic copy of a rulemaking document may be obtained by using the internet—

1. Search the Federal eRulemaking Portal (*www.regulations.gov*);

2. Visit the FAA's Regulations and Policies web page at *www.faa.gov/regulations_policies/;* or

3. Access the Government Printing Office's web page at *www.GovInfo.gov.*

Copies may also be obtained by sending a request (identified by notice, amendment, or docket number of this rulemaking) to the Federal Aviation Administration, Office of Rulemaking, ARM–1, 800 Independence Avenue SW, Washington, DC 20591, or by calling (202) 267–9680.

B. Comments Submitted to the Docket

Comments received may be viewed by going to *https://www.regulations.gov* and following the online instructions to search the docket number for this action. Anyone is able to search the electronic form of all comments received into any of the FAA's dockets by the name of the individual submitting the comment (or signing the comment, if submitted on behalf of an association, business, labor union, etc.).

C. Small Business Regulatory Enforcement Fairness Act

The Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996 requires FAA to comply with small entity requests for information or advice about compliance with statutes and regulations within its jurisdiction. A small entity with questions regarding this document, may contact its local FAA official, or the person listed under the **FOR FURTHER INFORMATION CONTACT** heading at the beginning of the preamble. To find out more about SBREFA on the internet, visit *https://www.faa.gov/regulations_policies/rulemaking/sbre_act/.*

List of Subjects in 14 CFR Part 25

Aircraft, Aviation safety, Navigation (air), Reporting and recordkeeping requirements.

The Amendments

In consideration of the foregoing, the Federal Aviation Administration amends 14 CFR part 25 as follows:

PART 25—AIRWORTHINESS STANDARDS: TRANSPORT CATEGORY AIRPLANES

■ 1. The authority citation for part 25 continues to read as follows:

Authority: 49 U.S.C. 106(f), 106(g), 40113, 44701, 44702 and 44704.

■ 2. Amend § 25.841 by revising paragraphs (a) introductory text, (a)(1), and (b)(6) and adding paragraphs (c) and (d) to read as follows:

§ 25.841 Pressurized cabins.

(a) Except as provided in paragraph (c) of this section, pressurized cabins and compartments to be occupied must be equipped to provide a cabin pressure altitude of not more than 8,000 feet under normal operating conditions.

(1) If certification for operation above 25,000 feet is requested, the airplane must be designed so that occupants will not be exposed to cabin pressure altitudes in excess of 15,000 feet after any probable failure condition in the pressurization system except as provided in paragraph (c) of this section.

* * * * *

(b) * * *

(6) Warning indication to the flightcrew when the safe or preset pressure differential or cabin pressure altitude limit is exceeded. Appropriate warning markings on the cabin pressure differential indicator meet the warning requirement for pressure differential limits. An alert meets the warning requirement for cabin pressure altitude limits if it warns the flightcrew when the cabin pressure altitude exceeds 10,000 feet, except as provided in paragraph (d) of this section.

* * * * *

(c) When operating into or out of airports with elevations at or above 8,000 feet, the cabin pressure altitude in pressurized cabins and occupied compartments may be up to, or greater than, the airport elevation by 2,000 feet, provided—

(1) In the event of probable failure conditions of the cabin pressurization system, the cabin pressure altitude must not exceed 15,000 feet, or 2,000 feet above the airport elevation, whichever is higher; and

(2) The cabin pressurization system is designed to minimize the time in flight that occupants may be exposed to cabin pressure altitudes exceeding 8,000 feet.

(d) When operating into or out of airports with elevations at or above 8,000 feet, the cabin pressure high altitude warning alert may be provided at up to 15,000 feet, or 2,000 feet above the airplane's maximum takeoff and landing altitude, whichever is greater, provided:

(1) During landing, the change in cabin pressure high altitude warning alert may not occur before the start of descent into the high elevation airport and, following takeoff, the cabin pressure high altitude warning alert must be reset to 10,000 feet before beginning cruise operation;

(2) Indication is provided to the flightcrew that the cabin pressure high altitude warning alert has shifted above 10,000 feet cabin pressure altitude; and

(3) Either an alerting system is installed that notifies the flightcrew members on flight deck duty when to don oxygen in accordance with the applicable operating regulations, or a limitation is provided in the airplane flight manual that requires the pilot flying the airplane to don oxygen when the cabin pressure altitude warning has shifted above 10,000 feet, and requires other flightcrew members on flight deck

[9] FAA Order No. 1210.20 (Jan. 28, 2004), available at *https://www.faa.gov/documentLibrary/media/1210.pdf.*

duty to monitor the cabin pressure and utilize oxygen in accordance with the applicable operating regulations.

■ 3. Amend § 25.1447 by revising paragraph (c)(1) and adding paragraph (c)(5) to read as follows:

§ 25.1447 Equipment standards for oxygen dispensing units.

* * * * *

(c) * * *

(1) There must be an oxygen dispensing unit connected to oxygen supply terminals immediately available to each occupant wherever seated, and at least two oxygen dispensing units connected to oxygen terminals in each lavatory. The total number of dispensing units and outlets in the cabin must exceed the number of seats by at least 10 percent. The extra units must be as uniformly distributed throughout the cabin as practicable. Except as provided in paragraph (c)(5) of this section, if certification for operation above 30,000 feet is requested, the dispensing units providing the required oxygen flow must be automatically presented to the occupants before the cabin pressure altitude exceeds 15,000 feet. The crewmembers must be provided with a manual means of making the dispensing units immediately available in the event of failure of the automatic system.

* * * * *

(5) When operating into or out of airports with elevations above 13,000 feet, the dispensing units providing the required oxygen flow must be automatically presented to the occupants at cabin pressure altitudes no higher than 2,000 feet above the airplane's maximum takeoff and landing altitude.

Issued under authority provided by 49 U.S.C. 106(f), 44701(a), and 44703 in Washington, DC.

Billy Nolen,

Acting Administrator.

[FR Doc. 2023–12454 Filed 6–14–23; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 71

[Docket No. FAA–2023–0614; Airspace Docket No. 23–ASW–7]

RIN 2120–AA66

Amendment of Class E Airspace; Artesia, NM

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: This action amends the Class E airspace at Artesia, NM. This action is the result of an airspace review caused by the decommissioning of the Artesia non-directional beacon (NDB). The geographic coordinates of the airport are also being updated to coincide with the FAA's aeronautical database.

DATES: Effective 0901 UTC, October 5, 2023. The Director of the Federal Register approves this incorporation by reference action under 1 CFR part 51, subject to the annual revision of FAA Order JO 7400.11 and publication of conforming amendments.

ADDRESSES: A copy of the Notice of Proposed Rulemaking (NPRM), all comments received, this final rule, and all background material may be viewed online at *www.regulations.gov* using the FAA Docket number. Electronic retrieval help and guidelines are available on the website. It is available 24 hours each day, 365 days each year.

FAA Order JO 7400.11G, Airspace Designations and Reporting Points, and subsequent amendments can be viewed online at *www.faa.gov/air_traffic/publications/*. You may also contact the Rules and Regulations Group, Office of Policy, Federal Aviation Administration, 800 Independence Avenue SW, Washington, DC 20591; telephone: (202) 267–8783.

FOR FURTHER INFORMATION CONTACT: Jeffrey Claypool, Federal Aviation Administration, Operations Support Group, Central Service Center, 10101 Hillwood Parkway, Fort Worth, TX 76177; telephone (817) 222–5711.

SUPPLEMENTARY INFORMATION:

Authority for This Rulemaking

The FAA's authority to issue rules regarding aviation safety is found in Title 49 of the United States Code. 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 promulgated under the authority described in Subtitle VII, Part A, Subpart I, Section 40103. Under that section, the FAA is charged with prescribing regulations to assign the use of airspace necessary to ensure the safety of aircraft and the efficient use of airspace. This regulation is within the scope of that authority as it amends the Class E airspace extending upward from 700 feet above the surface at Artesia Municipal Airport, Artesia, NM, to support instrument flight rule operations at this airport.

History

The FAA published an NPRM for Docket No. FAA–2023–0614 in the **Federal Register** (88 FR 21138; April 10, 2023) proposing to amend the Class E airspace at Artesia, NM. Interested parties were invited to participate in this rulemaking effort by submitting written comments on the proposal to the FAA. No comments were received.

Incorporation by Reference

Class E airspace designations are published in paragraph 6005 of FAA Order JO 7400.11, Airspace Designations and Reporting Points, which is incorporated by reference in 14 CFR 71.1 on an annual basis. This document amends the current version of that order, FAA Order JO 7400.11G, dated August 19, 2022, and effective September 15, 2022. FAA Order JO 7400.11G is publicly available as listed in the **ADDRESSES** section of this document. These amendments will be published in the next update to FAA Order JO 7400.11.

FAA Order JO 7400.11G lists Class A, B, C, D, and E airspace areas, air traffic service routes, and reporting points.

The Rule

This amendment to 14 CFR part 71 modifies the Class E airspace extending upward from 700 feet above the surface to within a 6.7-mile (decreased from a 7-mile) radius of Artesia Municipal Airport, Artesia, NM; removes all extensions as they are no longer required; and updates the geographic coordinates of the airport to coincide with the FAA's aeronautical database.

Regulatory Notices and Analyses

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. Since this is a routine matter that only affects air traffic procedures and air navigation, it is certified that this rule, when promulgated, does not have a significant economic impact on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

Environmental Review

The FAA has determined that this action qualifies for categorical exclusion