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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 91

[Docket No.: FAA-2019-0451; Amdt. No. 91-362]

RIN 2120-AL30

Special Flight Authorizations for Supersonic Aircraft

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

ACTION: Final rule.

SUMMARY: In consideration of the continuing development of a new generation of supersonic aircraft, FAA is modernizing the procedure for requesting a special flight authorization to operate in excess of Mach 1 over land in the United States. The renewed interest in development of supersonic airplanes caused FAA to review its application procedures that allow for flight tests of these aircraft. This final rule modifies the criteria for applying for these authorizations and moves the material from an appendix to a regulation to make it easier to find and understand. Outside the context of special flight authorizations under this final rule, the FAA continues generally to prohibit civil supersonic flight over land in the United States.

DATES: Effective [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

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: For questions concerning this action, contact: Sandy Liu, Office of Environment and Energy, AEE-100, Federal Aviation Administration, 800 Independence Avenue S.W., Washington, D.C. 20591; telephone (240) 267-4748; e-mail sandy.liu@faa.gov.

SUPPLEMENTARY INFORMATION:

Authority for this Rulemaking

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 44715 Controlling aircraft noise and sonic boom. Under that section, FAA is charged with prescribing regulations to measure and abate aircraft noise. This regulation is within the scope of that authority since it provides for certain operations of new supersonic aircraft in approved areas where the environmental impact of the operations has been assessed.

I. Overview of Final Rule

This rulemaking amends the administrative requirements for a special flight authorization originally published as appendix B to part 91, Authorizations to exceed Mach 1 (§ 91.817), of title 14 of the Code of Federal Regulations (14 CFR). This rulemaking is intended to streamline the application procedure for these special flight authorizations by clarifying the information that is needed for submission and specifying the program office within FAA that processes the applications. This rule sets forth the application criteria in a more user-friendly format. FAA is adopting the rule largely as it was proposed, with some minor changes to the regulatory text, as discussed in Section IV and the accompanying preamble discussion.

II. Background

In a notice of proposed rulemaking (NPRM) titled Special Flight Authorizations for Supersonic Aircraft (84 FR 30961, June 28, 2019), FAA proposed to modernize the procedures for requesting special flight authorizations that are needed to accomplish testing and development of new supersonic aircraft. The NPRM provided a brief history of FAA's regulation of civil supersonic aircraft beginning in the 1970s with the introduction of the

Concorde, including the history of the application procedure for special flight authorizations that is the subject of this rulemaking.

FAA is clarifying the application procedure for requesting a special flight authorization to fly faster than Mach 1 following increased interest by industry to develop such aircraft. The revisions adopted here do not change the general prohibition against overland supersonic flight in the United States that has been in place since 1973 (14 CFR 91.817). This rule replaces the procedure described in part 91, appendix B, with regulatory text that clearly describes the application process and criteria. The new regulation provides clarity, includes noise testing as another reason for which an authorization may be issued, and requires one additional piece of information to be provided in an application, which is discussed below. This rule does not introduce any new FAA policy or change the intent of the original application process.

Recognizing the renewed interest of the aviation industry in developing supersonic aircraft, Congress instructed FAA in Section 181 of the FAA Reauthorization Act of 2018 (Public Law 115-254, Oct. 5, 2018) to assume a leadership role in the development of international policies, regulations, and standards that facilitate the safe and efficient operation of such aircraft. Section 181 further directed FAA to undertake reforms of its regulations regarding civil supersonic aircraft.

FAA's first step in response to Section 181 was to propose changes to the special flight authorization application process. The second step was FAA's publication of an NPRM that proposes landing and takeoff noise limits under 14 CFR part 36 for the first group of supersonic aircraft expected to be presented for certification (85 FR 20431, Apr. 13, 2020). The relationship between the two rulemakings is minimal. An aircraft developer would eventually use the final rule adopted here to test aircraft under development at supersonic speed. Eventually, a developer might further use the authorization procedure adopted here for flight tests to demonstrate compliance with certain supersonic noise criteria when those criteria are eventually adopted. The part 36 NPRM, by contrast, included only subsonic standards for new supersonic aircraft

and addressed the noise limits for landing and takeoff. Because landing and takeoff do not occur at supersonic speeds, a special flight authorization under this final rule would be unnecessary to test for landing and takeoff noise levels of supersonic aircraft, just as subsonic aircraft do not require such special permission to accomplish part 36 testing.

Neither this final rule nor the part 36 noise limit NPRM alters the general prohibition on supersonic flight over land in the United States found in § 91.817.

Summary of the NPRM

This modernization of the authorization process for certain civil supersonic flights is intended to simplify and clarify the process for applicants interested in obtaining an authorization to perform supersonic aircraft development testing.

In the proposed rule, FAA identified three areas intended to improve provisions that comprised appendix B. The first designated the proposed office in FAA to which applicants are to send applications and direct questions. The second proposed to gather the scattered application requirements into a list, and present them according to modern regulatory formatting standards. As part of this effort, FAA proposed also to correct the regulatory text for consistency throughout the new section. Third, FAA proposed the addition of a new reason for flight testing to accommodate future noise certification actions.

The NPRM invited interested persons to participate in the rulemaking by submitting written comments, data, or views. It also invited comments relating to the economic, environmental, energy, or federalism impacts that might result from adopting the proposal.

III. Discussion of Public Comments

FAA received a total of 206 comments on the NPRM: 43 comments generally supported the NPRM, 45 generally opposed the NPRM, and 118 are considered outside the scope of the rule. The majority of comments from the public focused on the current routing of aircraft under the NextGen program, or expressed general annoyance regarding aircraft noise, and did not include any comments specific to the proposal updating the application procedure.

A. General Environmental Concerns Regarding Civil Supersonic Flight

Approximately 77 commenters included some combination of general concerns about the possible environmental effects of supersonic airplanes—whether they were about the noise anticipated from new supersonic airplanes, the effect of supersonic operations on the atmosphere, or both. Some commenters generally cited the Concorde model airplanes as an example. Those opposing the rule, including two municipalities, stated their opposition to the addition of supersonic airplanes, citing detrimental environmental effects, but did not comment on the changes proposed for the application procedure.

In response, FAA emphasizes that the proposed rule would not have allowed supersonic flights to occur on a regular basis in the United States. The regulation that generally prohibits civil airplanes from operating at speeds in excess of Mach 1 over land in the United States (14 CFR 91.817) has been in effect since 1973, and no change to that regulation was proposed.

Rather, the proposed rule focused on the administrative application process for special flight authorizations to exceed Mach 1 for certain reasons, and for flight in limited areas that would be determined in advance. The rule does not in and of itself authorize the operation of any specific airplane over any particular area; rather, any flights authorized under the rule could only occur upon receiving FAA authorization after completion of the application process and considerable regulatory prerequisites, including analyses of the environmental impacts on the area over which an applicant proposes to operate, as required by law. Neither these regulatory prerequisites nor the assessments of environmental impacts were the subject of FAA's proposed changes. Comments that suggested changes to the required assessments were beyond the scope of this rulemaking.

The special flight authorizations that are the subject of this rulemaking have been available since the FAA adopted the supersonic prohibition in 1973. This rulemaking only presents an update of the administrative application process, without affecting FAA's underlying

duty to assess the environmental impact of any flight it authorizes, whether under the National Environmental Policy Act (NEPA) or the requirements imposed by the regulation itself.

B. The National Environmental Policy Act (NEPA)

Paragraph (b) of appendix B to part 91 directed applicants generally to submit “all information requested by the Administrator” necessary for the Administrator to make a determination under the National Environmental Policy Act (NEPA).¹ In the proposed rule, FAA tried to provide applicants with better clarity by adding the text in proposed § 91.818(c)(2)(i)-(iii) to suggest the form that such information might take to support FAA’s NEPA determination. Specifically, the proposed language gave as examples an Environmental Impact Statement (EIS) for the proposed flight area, an EIS previously prepared for the proposed flight area, or another statement or finding of environmental impact for the proposed flight test area, such as an Environmental Assessment (EA).

In the final rule, FAA revises § 91.818(c)(2) to remove these suggestions, because they proved to be a source of confusion among commenters, as discussed below. The proposed language providing more detail about what an applicant could submit was not intended to imply that FAA would forego independently evaluating the information or closely examining the environmental impacts on a proposed test area in determining whether to grant a particular special flight authorization. The language was also not intended to imply shifting the burden of complying with NEPA to the applicant rather than FAA.

NEPA requires Federal agencies to consider the environmental impacts of their actions in their decision-making processes. Specifically, an agency must determine whether the action it is considering (in this case, whether to issue a special flight authorization allowing one or more supersonic flights) constitutes a “major Federal action significantly affecting the quality of the human environment” (i.e., whether a proposed action would have significant environmental impact). FAA makes this determination in accordance with Council on Environmental Quality

¹ The National Environmental Policy Act of 1969 (42 U.S.C. 4321 *et seq.*)

(CEQ) regulations,² which provide the procedural requirements for Federal agency compliance with NEPA.

CEQ regulations include, at 40 CFR 1506.5, the option for agencies to seek necessary information from applicants to support the agency's required environmental review of proposed Federal actions under NEPA.³ That analysis may require varying amounts and types of data to make the determination whether approval of the underlying request would result in significant environmental impacts.

In order to complete that analysis in a timely fashion, FAA benefits from applicants' providing as much of the information as they can, in accordance with 40 CFR 1506.5.⁴ That information may be incorporated into an EA or EIS that is developed subject to FAA supervision, or it may provide the basis for FAA to apply a categorical exclusion of the action from further NEPA review.⁵

Nothing in the special flight authorization regulation, however, either requires or permits applicants for special flight authorizations to determine what level of NEPA review is required or whether issuance of a special flight authorization would have significant environmental impacts. Those determinations are FAA's alone.

Further, FAA's finding under NEPA regarding the significance of environmental effects is not dispositive of the application under consideration. The NEPA analysis informs FAA's decision on whether to grant a special flight authorization for supersonic flight over a certain area, and the NEPA analysis must be completed before a decision to grant a special flight authorization. However, the NEPA determination (regarding significance of the environmental

² 40 CFR parts 1500 through 1508 (2020).

³ The CEQ regulations were updated in July 2020, while this final rule was in process. *See* 85 FR 43304 (July 16, 2020). The revised CEQ regulations became effective on September 14, 2020.

⁴ The regulation states that "an agency may require an applicant to submit environmental information for possible use by the agency in preparing an environmental document." The regulation does not allow the agency to use such information without considerable additional analysis and verification.

⁵ FAA's NEPA procedures, as set forth in FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures* (July, 2015), do not currently have a categorical exclusion that would be applicable to applications for special flight authorizations. Accordingly, current FAA policy would not allow application of a categorical exclusion. However, as discussed further below, FAA might be able to establish an applicable categorical exclusion, but only after following appropriate procedures.

effects of granting the authorization) is distinct from the Administrator's findings on the application as a whole. The circumstances behind each application will be unique. Under § 91.818(c)(1) of the final rule, the application is denied if the Administrator finds that such action is necessary to protect or enhance the environment.

Because both the NEPA determination referenced in § 91.818(c)(2) and the substantive finding that can be made under § 91.818(c)(1) are environmental in nature, the final rule is revised to guard against the risk of the two being conflated. Specifically, § 91.818(c)(2) as adopted focuses more expressly on supporting the NEPA significance determination, which better distinguishes the purpose of paragraph (c)(2) from the purpose of an Administrator finding made under paragraph (c)(1) of that section.

Boom Technology (Boom) submitted a comment regarding streamlining the NEPA process in the context of special flight authorizations. Boom initially presents two factual conclusions. Boom's first conclusion is that FAA would be unlikely to identify any significant sonic boom noise impacts for individual supersonic flight test programs under the FAA's threshold of significance for noise impacts in its NEPA procedures (FAA Order 1050.1). Boom's second conclusion is that the FAA programmatically could examine all supersonic test flight campaigns covering all applicants in a single year without the impacts triggering the FAA's threshold of significance for noise. Boom supports these conclusions with metrics from previous flights of the SpaceX Falcon Heavy landings and operations of the Concorde. Based on its conclusion that impacts of special flight authorizations would never reach FAA's threshold of significance for noise impacts, either individually or cumulatively on an annual basis, Boom proposes a series of qualifying criteria that, if met, should lead FAA to presume no significant impacts exist.

FAA finds that this proposal fails for two reasons. First, as Boom acknowledged, FAA may use supplemental metrics when evaluating noise, and gives special consideration to certain types of noise-sensitive areas where the standard significance threshold may not adequately

capture environmental effects. Although FAA uses all available methods to increase efficiency in its environmental review process, and in appropriate individual circumstances could make a finding of no significant impact for some or even most special flight authorizations, it cannot prejudge the outcome of individual applications submitted under this regulation, or their effects if considered cumulatively on an annual basis.

Second, Boom's proposal to create criteria that, if satisfied, create a presumption that no significant effects will occur appears to be consistent with establishing a categorical exclusion under 40 CFR 1501.4. Categorical exclusions are categories of actions that in ordinary circumstances do not have significant individual or cumulative impacts on the quality of the human environment. However, although Boom suggested that the Administrator could use this rulemaking to establish that the collective level of noise generated by all foreseeable test activities is not environmentally significant if conducted pursuant to these particular conditions, categorical exclusions must be identified in agency NEPA procedures and are subject to the requirements for public review and review by CEQ as specified in 40 CFR 1507.3. Moreover, the anecdotal evidence offered by Boom related to flights of other aircraft that were not subject to § 91.817 would not be sufficient to establish a categorical exclusion under NEPA with respect to supersonic flights requested in a special flight authorization. The establishment of "parameters" relating to the NEPA review of supersonic flight tests would require an analysis of part 91 operations in order to justify a categorical exclusion, and the supporting documentation would need to go through the public process required for all changes to FAA's NEPA procedures as set forth in Order 1050.1F. Although at some point in the future FAA might undertake the necessary analysis and public review process to establish such a categorical exclusion, absent a change to Order 1050.1F, FAA currently must individually consider the potential environmental impacts of requested special flight authorizations.

Boom also commented on an aspect of the proposed standard for special flight authorization operations outside the test area—in particular, that the operation does not cause a

measurable sonic boom overpressure outside the test area. While that topic is discussed below, Boom's characterization of it in the context of NEPA is relevant here. Boom indicated that the standard (unchanged from appendix B) "goes far beyond what is required under the National Environmental Policy Act, as allowance of measurable overpressure is not necessarily a major Federal action 'significantly affecting the quality of the human environment' as interpreted under agency guidance under Order 1050.1F . . ." Boom inaccurately combined the scope of the regulation governing the consideration and approval of special flight authorizations itself with the process tool of NEPA and FAA Order 1050.1F, which describes FAA's NEPA policy and procedures. Further, Boom does not accurately reflect the definition of a major Federal action as defined by the CEQ regulations and FAA, relying on concepts actually related to significance of effects of a Federal action. The overpressure measurement standard is a specific factor set forth in the regulation that considers the effect of the proposed flights and is relevant for substantive approval purposes under the regulation. While this information may also be considered in NEPA analysis, it does not dictate that analysis, nor does it affect the process that FAA follows to reach a finding regarding significance of impacts under NEPA.

The Center for Biological Diversity (CBD) made several arguments with regard to NEPA requirements in its comment. In part, the CBD read the proposed rule to "suggest that preparation of an EA will fulfill FAA's duties" under NEPA. The CBD also commented that the list of examples in proposed § 91.818(c)(2) suggesting the form of information an applicant could provide "oversimplifies the NEPA review process" for FAA. As stated at the beginning of this discussion, FAA agrees that the submission of information by an applicant (whether to support an EIS, EA, categorical exclusion, or other materials) does not itself satisfy NEPA requirements, which remains FAA's duty. Further, FAA did not intend for the applicant's submission, whatever form it may take, to represent the completion of the NEPA process. That process involves, where appropriate, public outreach, FAA's objective evaluation of any information prepared by the applicant, as well as the exercise of independent judgment as to

whether the NEPA process can be concluded with a finding of no significant impact, or whether it requires preparation of an environmental impact statement.

The CBD concluded that, “Because Special Flight Authorizations for Supersonic Aircraft are major federal actions, an application for such authorization would trigger the need to prepare an EIS.” This conclusion is based on CBD’s reading of the 1970 preamble that accompanied the adoption of the supersonic prohibition. FAA disagrees that the 1970 rule presumed that all supersonic flights were likely to create significant environmental impacts under NEPA and therefore require FAA to produce an EIS. While an application for a special flight authorization is a major Federal action subject to NEPA review, the specific facts associated with such an application determine what level of NEPA review is required. CBD presupposes a universal outcome regarding the proper level of NEPA review, disregarding the fact-specific nature of this determination.

The proposed addition of the form of information to be submitted by applicants caused some commenters to misunderstand the FAA’s intent, and is an indication that the proposed regulatory changes were not helpful. Accordingly, FAA has removed proposed § 91.818(c)(2)(i) through (iii) from the final rule. This final rule revises the language in § 91.818(c)(2) to modernize it consistent with the recently revised CEQ regulations and the NEPA practice as it has developed since appendix B was first promulgated. The revised language clarifies that the information needed to support any particular application will be considered by FAA in its determination of whether the environmental impacts of the special flight authorization are significant. The provision of this information and the subsequent development of the appropriate level of environmental documentation will be carried out in accordance with the CEQ regulations and FAA procedures in the most recent version of FAA Order 1050.1.

C. Application Approval Process

In proposed paragraph (a) of § 91.818, the FAA sought to locate into a more-user friendly format the application requirements previously scattered throughout appendix B to part 91.

Specifically, proposed § 91.818(a)(6) would require a “description of the flight area requested by the applicant, including any environment analysis required under paragraph (c) of this section.” This requirement was unchanged from appendix B.

GE Aviation and Boom suggested that FAA adopt an expedited application approval process under certain circumstances. As a means to this expedited approval, both commenters suggested that a pre-approved set of parameters could form the basis for these approvals. GE Aviation suggested automatic approval when an applicant can show “that there have been no meaningful changes in the expected environmental impacts.” Noting what it considered a recognized lack of significant environmental impact (discussed above), Boom stated that a predefined set of parameters would provide certainty and reduce costs for manufacturers as well as reduce the burden on the FAA.

FAA is not adopting the suggested expedited application approval process. First, the FAA does not find that pre-approved circumstances can be determined, because there are several factors FAA considers for each application for supersonic testing, including performance of the particular aircraft. Second, the time-sensitive nature of environmental considerations can make prior determinations unreliable without reassessment at the time of each application, and could cause the FAA to fail in its environmental responsibilities. Under FAA policy, environmental assessments or EISs are not presumed valid indefinitely; after three years, a written reevaluation must be prepared. (See FAA Order 1050.1F.) However, FAA would accept previous environmental analyses of a proposed flight area as long as the material remains current and relevant, or has been updated by an applicant to meet those requirements. Third, FAA intends with this rulemaking to consider all applications uniformly. While the actual number of applications for authorization has been limited, FAA experience is that incomplete information submitted by an applicant has caused delays in the authorization approval process.

While FAA is not changing the requirement in § 98.818(a)(6), FAA has revised it slightly from the proposed rule to clarify that the requirement calls for information that supports analyses rather than the analyses themselves.

D. Test Area Selections

The term “designated test area” in appendix B created confusion for prospective applicants that interpreted the phrase to mean that designated test areas already exist, when they in fact do not. Rather, the term was used to refer to the proposed test area described (designated) in an application. FAA proposed eliminating this phrase and replacing it with § 91.818(a)(6) requiring an applicant to describe its requested test area in its application. Description of the proposed test area is one consideration in determining the acceptability of the application overall.

Several commenters stated that the final rule should provide more flexibility for test area selections to allow more than one operator to use a test area, and to support the development of test areas outside of military operation areas (MOAs). GE Aviation, Aerospace Industries Association (AIA), General Aviation Manufacturer’s Association (GAMA), Supersonic Flight Alliance (SSFA), AeroTEC, and Boom suggested that FAA allow multiple manufacturers to use the same flight test area, as opposed to limiting areas to a single flight test campaign. Generally, the commenters stated that doing so would provide safer and more effective testing, and cost-saving benefits to industry and FAA. Lockheed Martin Corporation (Lockheed) suggested establishing dedicated supersonic flight test areas. Additionally, Boom, SSFA, and AeroTEC expressed the general need for supersonic test areas outside of MOAs, citing concerns such as crowded airspace within MOAs and lack of available MOAs for civil flight testing. The Town of Milton, Massachusetts, stated that test sites should not be determined by industry applicants and urged FAA to limit test sites to MOAs.

To support current industry development efforts, FAA provides supersonic flight test applicants with the broadest opportunity to request an appropriate flight test area, consistent with the applicable regulations and environmental impacts. FAA emphasizes that the regulation does

not limit a flight test area to use by one applicant. As stated in the NPRM, nothing about the application process should be read to impede more than one prospective supersonic operator from seeking to use the same area or sharing the costs of the environmental studies that may be required (85 FR 30961, at 30964). FAA does expect, however, that each operator intending to share the use of, or the costs associated with requesting, a test area will need to submit its own application with all of the information required for the processing of the application. In the case of a test area that has been previously approved under another application, the next applicant will need to submit information that includes a description of the (same) requested test area and the required environmental information.

The final rule does not include suggestions from commenters for the FAA to establish “dedicated” test areas or a “civilian supersonic corridor” without proposed users or without a specific application. The regulation requires an applicant to show the probable impact of the applicant’s requested operations over a proposed test area. There can be no proper determination of any environmental impact on a test area without a proposal from an operator that includes the timing, duration, and expected noise impacts of the operator’s planned flights. A change in this fundamental nature of the process would require additional rulemaking and analysis.

Moreover, the final rule, as is the case under the existing regulation, does not limit proposed test areas to MOAs. Several commenters disagreed with what they perceived to be FAA’s assumption that applicants will only test within existing MOAs. The commenters note that MOAs may not be suitable for civil supersonic testing and that applicants may develop their own supersonic test areas. The commenters’ concern might reflect a misunderstanding stemming from the Paperwork Reduction Act (PRA) statement that was published as part of the NPRM (*see* 84 FR 30965-66). FAA is required to estimate the information collection burden involved in complying with a regulation. FAA’s only historical data for special flight authorization came from applications proposing to use MOAs as test areas. FAA was thus unable to estimate any reliable information collection impact on future applicants for anything

other than using a MOA that has underlying environmental data already available. But the use of MOAs as part of the required PRA statements supporting this rulemaking was not an indication that the rule prevents an applicant from choosing other areas. The choice of test area remains with each applicant after assessing its financial considerations and business needs.

Finally, nothing in the regulation prevents a group of operators from sharing the costs of establishing a test area. As a matter of implementation, there must be a “first” applicant that submits all of the required information for FAA to make the first determination about an area based on the proposed flights. Subsequent applicants could use the same information, and include any differences that apply to the subsequent applicant, such as duration of the authorization, number of flights, or probable impact. The need for each operator individually to apply for and receive an authorization remains unchanged from the current requirements. No changes are being made to the requirement to describe the test areas based on these comments.

E. Conducting Noise Testing During Supersonic Flight

FAA proposed the measurement of noise characteristics in § 91.818(a)(8)(v) as an additional reason to conduct a supersonic flight. The new provision allows for the FAA to issue a special flight authorization for flights in excess of Mach 1 when measuring the noise characteristics of an aircraft for compliance with noise certification requirements, including conducting a noise test during supersonic flight. Appendix B addressed only flights necessary to comply with airworthiness certification testing, not noise tests. This change is forward-looking, as there are no standards for assessing noise at supersonic speed at this time. This limited expansion will facilitate noise certification testing for future supersonic aircraft when such noise standards are adopted. On April 13, 2020, FAA issued an NPRM proposing noise certification standards for a certain class of new supersonic airplanes under part 36 (85 FR 20431), but those proposed standards are only for subsonic landing and takeoff. No special flight authorization would be needed to conduct the tests for subsonic noise compliance (landing and takeoff), as that noise is proposed to be measured in the same manner as subsonic aircraft.

GE Aviation commented that the rule should address the full set of circumstances for requesting a special flight authorization, including requirements for testing airworthiness and operational capabilities. FAA notes that the proposed change allows an additional reason to request testing. The rule has always required applicants to specify the reason particular tests need to be conducted from the list provided in the regulation. FAA has not proposed to remove any of the general reasons from appendix B that an operator may have to test an airplane, including airworthiness testing.

Accordingly, the provision is adopted as proposed.

F. Overocean Testing

FAA proposed maintaining the requirement for an applicant to show why its test cannot be accomplished by flight over the ocean. The placement of this application requirement in appendix B often caused it to be overlooked as a prerequisite. The proposed rule placed the same overocean requirement in new § 91.818(a)(9) with minor modification to state that an “applicant must indicate why its intended operation cannot be safely or properly accomplished over the ocean at a distance ensuring that no sonic boom overpressure reaches any land surface in the United States.” The addition of the last phrase aligns the rule with the requirement in § 91.817(b) that restricts supersonic operation of aircraft, including over the ocean, unless there are flight limitations to ensure that no sonic boom could impact the U.S. shoreline.

1. Alternatives to Overocean Testing

Commenters who are not in favor of the overocean testing requirement suggested alternatives. GE Aviation stated that there should be a provision and process to allow supersonic flight testing to move from over the ocean to over land and should involve various stages of modeling, along with testing and validation through flights over the ocean. Lockheed expressed appreciation for clarifying the applicability of the overocean provision, but suggested that an applicant provide FAA with the results of prior test modeling activity, which would then be used to shape an overwater validation test activity as a precursor to overland test operations. The

SSFA and AeroTEC suggested that the collection of noise data over ground terrain would provide better quality data than over water. An individual commenter suggested adding the word “efficiently” to the regulatory text of §91.818(a)(9), but did not provide any supporting explanation. An individual from Louisiana suggested that testing be done “over the Pacific Ocean or large bodies of water around 70 miles off the coast,” but provided no support for the specificity of this suggestion.

FAA recognizes that there may be valid reasons why an applicant cannot conduct an overocean test properly. The provision in appendix B allowed for this possibility, as does the provision adopted in § 91.818(a)(9), which simply restates that an applicant needs to explain why overocean testing would not work. Furthermore, the rule does not restrict the submission of modeling data as support for an application if an applicant chooses to use it. FAA notes that if all supersonic operation is conducted over water outside U.S. airspace and at a distance that ensures no sonic boom effect on land, there is no need to even request a special flight authorization. It is only when supersonic flight over land is requested that an application need be submitted, in which case the applicant needs to explain why it cannot be accomplished over the ocean, in order to avoid unnecessary noise exposure on the ground.

2. Economic Reasonableness

Boom raised economic concerns with the overocean provision. Boom stated that FAA’s 1970s-era economic rationale for the prohibition on supersonic overland flight and application process for overland testing is not valid because it was based on a market assessment of supersonic aircraft that did not materialize. Boom also stated that the overocean requirement is not economically reasonable because testing supersonic aircraft over the ocean would require manufacturers located farther from the U.S. coastline to incur enormous expenses to set up additional test facilities with closer proximity to the ocean. Boom added that “for such an enormous expense, the public may be spared a few dozen half-second disturbances per year.”

The FAA notes that the determination made in the 1970s that no level of sonic boom is acceptable over land still applies and is not based exclusively on economics. Furthermore, the FAA is not persuaded that a re-evaluation of the reasonableness of the overocean testing provisions is warranted simply because the anticipated size of the commercial fleet has not materialized. Neither Boom nor any other commenters provided any data or persuasive argument indicating that the overocean testing requirement has been a primary reason for, or even a contributing factor to, why the estimated commercial fleet of supersonic airplanes never materialized. Rather, Boom's comment suggests that the requirement could pose a financial obstacle to Boom's particular business plans, not that the regulation in general is economically unreasonable.

3. Miscellaneous Overocean Provision Comments

In addition to its economic reasonableness position, Boom stated that it "believes that a requirement to justify the safety benefits of conducting a supersonic operation over land could erode safety," for which Boom hypothesized situations of production flight tests and the availability of diversion airports. Boom requested that FAA "remove the requirement to show that the test could not be safely accomplished over the ocean" in part because the showing "will never be decisive" and that a "rejection based on an inadequate safety justification could lead to a tragic loss of life."

FAA disagrees with Boom that there is no economic or other justifiable basis for the requirement. The provision for overocean testing reinforces the principal purpose underlying appendix B to part 91, to protect humans and the environment in the United States from the effects of sonic booms. The appendix establishes as a "default" the position that supersonic flight testing be conducted over the ocean rather than on land where sonic booms would impact the surface environment. The appendix and this rule provide applicants with an avenue to conduct supersonic test flights over land if they are able to explain why testing cannot be safely or properly conducted over the ocean.

Three other commenters submitted suggestions to clarify the overocean provision. AIA and GAMA suggested that FAA clarify that a special flight authorization is not required if a test can be performed over the ocean at a distance ensuring that no sonic boom overpressure reaches any land surface in the United States. GE Aviation made the same comment but used “application” rather than “authorization.” As stated previously, no special flight authorization is required if the supersonic portion of any flight is conducted over the ocean at a distance ensuring that no sonic boom will reach land in the United States. The Town of Milton suggested that FAA require overocean supersonic testing in such a manner that no sonic boom overpressure reaches land before any testing over land is authorized. However, FAA recognizes that there may be situations where testing may not be safely or properly accomplished over the ocean, such as there being no effective way to measure noise on flights over water, including any noise impact that might be discernable on land.

For the reasons discussed, FAA adopts the overocean testing provision as proposed.

G. Operation Outside a Test Area

FAA proposed a new § 91.818(b) to maintain the provisions in section 2(b) of appendix B that allow an applicant to request supersonic non-test flights outside of a test area. The prerequisites for this supersonic operation are considerable and are discussed below.

1. Foreseeable Operating Conditions Outside of a Test Area

Proposed § 91.818(b)(3) would maintain the requirement of appendix B section 2(b) that a supersonic non-test flight applicant show—as part of a prior test conducted inside a test area—that “[t]he conditions and limitations determined by that test present all foreseeable operating conditions and are effective on all flights conducted under an authorization.”

Aerion, GE Aviation, AIA, and GAMA stated that this requirement is unreasonable because it is not possible to predict all conditions under which an aircraft may operate. Aerion noted that the appendix B requirement originated before reliable sonic boom prediction

technologies existed. All four commenters suggested replacing § 91.818(b)(3) with a standard based on currently available sonic boom prediction and control technology.

In general, the phrases “conditions and limitations” and “operating conditions,” as they are commonly applied to any flight authorization, do not require operators or FAA to predict every conceivable operating condition that may occur. FAA clarifies that “all foreseeable operating conditions” refers to the reasonable expected conditions under which the aircraft would be operated, and is not meant to require a prediction of every possible condition.

2. Measurable Sonic Boom Overpressure Outside of a Test Area

The application for operation outside a test area also includes a requirement that allows for such flights when it conservatively can be shown that “no measurable sonic boom overpressure” will reach the surface. FAA proposed to retain this provision as § 91.818(b)(2). FAA stresses that the requirement to show “no measurable sonic boom overpressure” applies only to flights outside of a test area, and not as an application for operations in a requested test area under proposed § 91.818(a)(8)(iv).

Several commenters, including prospective supersonic airframe and engine manufacturers, stated that the provision should be eliminated because it is overly restrictive and outdated. Aerion stated that the provision “was originally adopted in the 1970s out of an abundance of caution based on the relatively undeveloped state of sonic boom technology at that time.” Aerion added that sonic boom prediction and control technology has advanced to the point where it is possible to make accurate predictions of the location and intensity of sonic booms. Aerion and GE Aviation noted that the provision does not recognize the possibility for a sonic boom to be produced that is barely noticeable on the ground, but can still be detected by scientific measurement, such as a small pressure disturbance. SSFA and AeroTEC referenced NASA’s supersonic flight tests that show overpressure wave remnants at ground level that do not have the sharp-edged characteristic of a sonic boom. Boom indicated that the standard (unchanged from appendix B) “goes far beyond what is required under the National

Environmental Policy Act, as allowance of measurable overpressure is not necessarily a major Federal action ‘significantly affecting the quality of the human environment’ as interpreted under agency guidance under Order 1050.1F.”⁶

Other commenters also supported the elimination of the provision. Both AIA and GAMA read the phrase “no measurable sonic boom” to be an absolute prohibition on supersonic operations, finding it overly restrictive and something “that an applicant would be unable to guarantee during a test flight.” The Town of Milton, Massachusetts, stated that FAA should remove § 91.818(b) in its entirety because no aircraft can satisfy the “no overpressure” provision, adding that it should be replaced by a new regulation only after supersonic testing demonstrates no measurable sonic boom overpressure.

New Frontier Aerospace is the only commenter that supported retaining the provision, stating that it foresees the need to apply for the § 91.818(b) operating allowance in order to conduct extensive testing of an aircraft, and that the removal of this provision could have a serious impact on its aircraft that is still in development.

In the NPRM, FAA stated that it is not seeking to propose alternatives to this provision as a means to approve routine civil supersonic flight, but simply seeks comment on whether the provision as written retains any current value. However, several commenters submitted alternatives. New Frontier Aerospace suggested that in place of “no measurable sonic boom” it would be beneficial to provide a specific numeric limitation for overpressure or noise levels. Aerion stated that the provision should be replaced with a standard based on currently available sonic boom prediction control technology. Other commenters (GE Aviation, AIA, and GAMA) suggested a more appropriate standard than “no measurable sonic boom overpressure” would be to ensure that no significant impacts on the environment or communities result from granting an authorization.

⁶ The inclusion of NEPA language and FAA Order 1050.1F in Boom’s comment on measurable sonic boom overpressure were addressed above in the NEPA comment disposition.

The scope of the provision, both as it appears in the appendix and in the proposed rule, appears to be a continued source of confusion for some commenters. The section in the appendix that was proposed as § 91.818(b) sets the “no measurable sonic boom overpressure” criterion only for civil supersonic flights that would take place *outside a test area*. Several commenters seemed to presume inaccurately that this standard would be applied to all applications for special flight authorizations, even those that would be within a test area. The requirement to show conservatively that no measurable sonic boom overpressure reaches the surface does not apply to test flights that are authorized to be conducted in an approved test area. An operator with an authorization to flight test at supersonic speeds for one of the permissible purposes set forth in § 91.818(a)(8) may potentially (subject to the conditions and limitations of its authorization) operate a flight that results in sonic boom overpressures reaching the surface inside the test area, as expected. Accordingly, FAA disagrees that the standard is overly restrictive. It restricts sonic boom overpressures from reaching the surface when flights are conducted outside of test areas, consistent with the overall intent of the regulations to prohibit routine or non-test supersonic flights over land. FAA emphasizes, though, that in accordance with § 91.818(a)(7) no sonic boom overpressures are allowed to reach the surface outside of the test area. Moreover, as required by § 91.818(a)(6) and (c), the operator must provide FAA with the information necessary for the agency to assess the environmental impacts resulting from such flights.

Further, commenters’ recommendations either to replace the “no measurable sonic boom overpressure” standard with a specific perceived decibel level or to remove it entirely go beyond the scope of what FAA proposed and the intent of this rulemaking, which is to modernize the administrative process for applying for the special flight authorization. The noise levels recommended by some commenters are relative to existing noise levels applicable to subsonic aircraft and would not be appropriate for measuring noise levels of aircraft flying at supersonic speeds. There are no accepted means of measuring supersonic noise, nor are there any noise

limits that have been deemed acceptable as a community standard, whether expressed in decibels or as sonic overpressure. Establishing supersonic noise levels for operations outside a test area would need to be accomplished in a future rulemaking and supported by appropriate data.

None of the commenters suggested anything more than a future expectation that non-test flights might need to occur. FAA fully expects that, at some point, flights outside a test area would need to occur. But FAA does not have a reasonable expectation of what might be needed, since there have been no application for flights within a test area designated by an applicant and approved by FAA (where prior measurements would have to occur), nor applications that describe a test area that may need to be exceeded. After more testing occurs, and development has progressed to require such flights, more modern standards for measuring supersonic noise events and their impacts may have developed as well. At that time, the industry and FAA will be better positioned to suggest supportable changes to the rule on flights outside a test area. For these reasons, the suggestions that compare computer simulations of unrealized aircraft to the noise of the current subsonic fleet are not considered a sufficient basis to change the standard for flights outside a test area at this time, and no such changes were proposed.

Eliminating the “no measurable sonic boom overpressure” regulatory text is also not appropriate in this rulemaking. The provision was adopted in the 1970s as a kind of relief valve to the prohibition in § 91.817, based on the principle that a supersonic flight with no measurable overpressure (shown during previous flights in a valid test area) should not summarily be prohibited. In that sense, the circumstances have not changed, and there is no current data to support either eliminating the rule or determining a level of acceptable measurable sonic boom overpressure other than zero, which would be necessary before flights outside a test area could be considered. FAA will continue to review advances in technology that affect noise values produced by supersonic airplanes and the evaluation of those noise events. Accordingly, as the provision represents a safeguard from unknown sonic boom effects that may be unrelated to

aircraft testing, no change to the rule is supported by the comments, and § 91.818(b) is adopted as proposed.

H. Necessary to Protect or Enhance the Environment

FAA proposed § 91.818(c)(1) to provide that an authorization will not be granted “if the Administrator finds that such action is necessary to protect or enhance the environment.” This provision maintains the requirement stated in section 1(d) of appendix B. Commenters (GE Aviation, GAMA, and AIA) generally opposed this provision and read it to suggest that the Administrator would be required or able to deny an authorization because approving such flights would not lead to an enhancement of the environment. GE Aviation suggested that § 91.818(c)(1) instead state that an application would not be denied if an applicant demonstrates that the flights would not have a significant impact on the environment.

FAA notes that this language has been in the regulation since its adoption in the 1970s. Under this provision, the Administrator may consider adverse environmental impacts that would come from granting any particular flight authorization. The provision does not create a presumption that any particular application and grant would have to demonstrate a positive impact on the environment, as suggested by commenters. Commenters provided no indication that the authorizations that have been approved thus far have included or required any such demonstration of environmental enhancement. Therefore, the provision is adopted as proposed.

I. Using Software for Predictive Analysis

Commenters provided general suggestions that the rule should specifically allow applicants to use software programs for predictive analyses in applications for special flight authorizations. In response, FAA notes that nothing in the existing or proposed rule prohibits an applicant from using such prediction and control technologies to supplement its application for a special flight authorization. Further, FAA supports applicants using existing software tools to predict the location and intensity of sonic boom ground impacts as supporting data in their test

flight authorization applications, as they are available and apply to an applicant's specific circumstances. No change in the rule is made based on these comments.

J. NAS Concerns

AOPA expressed concerns with the safe integration of supersonic aircraft into the National Airspace System (NAS), particularly with "see and avoid." AOPA also commented that FAA should carefully review any applications for overland flight below 18,000 feet altitude, and conduct a safety risk assessment of how supersonic airplane design may impact speed restrictions below 10,000 feet and the effectiveness of sense and avoid systems.

Most of AOPA's considerations center around anticipation of eventual routine operation of supersonic aircraft in the same airspace as smaller, slower airplanes. This rule does not grant authorizations to exceed Mach 1 in airspace where the flights would negatively impact the safety of the NAS or persons on the ground without notice. This rule is limited to the application for an authorization to exceed Mach 1 during test flights over a specific area to be determined in each application. The impact on routine aviation operations would be a factor in analyzing the proposed flight area. Many of the considerations expressed by AOPA speak to characteristics of individual airplane designs that would not be available for evaluation before the aircraft actually fly or are presented for certification. No change to the proposed regulation was suggested in this comment.

K. Miscellaneous Comments

The Information Technology and Innovation Foundation suggested that FAA lift the supersonic ban based on speed and replace it with a set of noise standards to provide clarity for manufacturers that are developing supersonic airplanes. FAA notes that the NPRM specifically mentioned that the proposed revisions did not affect the general prohibition on supersonic flight. As also noted, FAA took the first step in developing noise standards for new supersonic airplanes in its April 2020 NPRM proposing changes to 14 CFR part 36. The comment is considered beyond the scope of this rulemaking.

IV. Changes from the proposed rule

In the final rule, FAA made the following changes from the proposed rule:

1. Section 91.818(a)(6) was revised to say “environmental information” rather than “environmental analysis” to avoid confusion about the nature of the material being submitted.
2. In § 91.818(c)(2), the subordinate paragraphs describing the types of information that might be submitted by an applicant were removed to prevent confusion over what information and what format would be acceptable. Other language in the paragraph was added to clarify FAA’s responsibilities under NEPA, as noted above in the disposition of comments.

V. Regulatory Notices and Analyses

Changes to Federal regulations must undergo several economic analyses. First, Executive Orders 12866 and 13563 direct that each Federal agency shall propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs. In addition, DOT rulemaking procedures in subpart B of 49 CFR part 5 instruct DOT agencies to issue a regulation upon a reasoned determination that benefits exceed costs. Second, the Regulatory Flexibility Act of 1980 (Public Law 96-354) requires agencies to analyze the economic impact of regulatory changes on small entities. Third, the Trade Agreements Act (Public Law 96-39) prohibits agencies from setting standards that create unnecessary obstacles to the foreign commerce of the United States. In developing U.S. standards, this 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 (Public Law 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 likely to result in the expenditure by State, local, or tribal governments, in the aggregate, or by the private sector, of \$100 million or more annually

(adjusted for inflation with base year of 1995). This portion of the preamble summarizes 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, (3) is not "significant" as defined in DOT's Regulatory Policies and Procedures; (4) will not have a significant economic impact on a substantial number of small entities; (5) will not create unnecessary obstacles to the foreign commerce of the United States; and (6) will not impose an unfunded mandate on State, local, or tribal governments, or on the private sector by exceeding the threshold identified above. These analyses are summarized below.

A. Regulatory Evaluation

This rule amends the administrative requirements for a special flight authorization originally published in appendix B to 14 CFR part 91, Authorizations to exceed Mach 1 (§ 91.817). This rule supports innovation in the development of new civil supersonic aircraft by streamlining existing regulations. This rule streamlines the application procedure for special flight authorizations by clarifying the information needed for submission, and specifying the program office within FAA that processes the applications. This rule sets forth the application criteria in a more user-friendly format. FAA is adopting this rule largely as it was proposed, with some minor changes to the regulatory text, as discussed in Section IV and the accompanying preamble discussion.

As noted above, FAA provides a new reason for part 91 special flight authorizations—to measure the noise characteristics of an aircraft for compliance with noise certification requirements, including conducting noise testing during supersonic flight. This provision is beneficial as it anticipates the addition of future part 36 noise certification requirements for supersonic aircraft. Including the provision now will ensure the availability of testing as an option and that it is not overlooked when the part 36 standards are established.

Since there are no substantive changes to the requirements for these special flight authorizations, this rule would not have additional costs. The rule provides increased clarity for applicants and may reduce the number of follow-up requests for additional information between FAA and applicants.

B. Regulatory Flexibility Determination

The Regulatory Flexibility Act of 1980 (Public Law 96-354) (RFA) establishes as a 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 such proposals are given serious consideration. The RFA covers a wide-range of small entities, including small businesses, not-for-profit organizations, and small governmental jurisdictions.

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.

As noted in the Regulatory Evaluation section, this final rule will not have additional costs. Therefore, this final rule would not have a significant economic impact on a substantial number of firms. Therefore, as provided in section 605(b), the head of FAA certifies that this rulemaking would 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 (Public Law 96-39), as amended by the Uruguay Round Agreements Act (Public Law 103-465), prohibits Federal agencies from establishing standards or engaging in related activities that create unnecessary obstacles to the foreign commerce of the United States. Pursuant to these Acts, the establishment of standards is not considered an unnecessary obstacle to the foreign commerce of the United States, so long as the standard has a legitimate domestic objective, such as the protection of safety, and does not operate in a manner that excludes imports that meet this objective. The statute also requires consideration of international standards and, where appropriate, that they be the basis for U.S. standards.

FAA has assessed the potential effect of this final rule and has determined that it will have a legitimate domestic objective, in that it will provide increased clarity and information to applicants as to the requirements for special flight authorizations to test supersonic aircraft. This rule will not operate in a manner as to affect foreign trade directly and, therefore, will have little or no effect on foreign trade.

D. Unfunded Mandates Assessment

Title II of the Unfunded Mandates Reform Act of 1995 (Public Law 104-4) requires each Federal agency to prepare a written statement assessing the effects of any Federal mandate in a proposed or final agency rule that may result in an expenditure of \$100 million or more (in 1995 dollars) in any one year by State, local, and tribal governments, in the aggregate, or by the private sector; such a mandate is deemed to be a “significant regulatory action.” FAA currently uses an inflation-adjusted value of \$155.0 million in lieu of \$100 million.

This 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 FAA consider the impact of paperwork and other information collection burdens imposed on the public. According to the 1995 amendments to the Paperwork Reduction Act (5 CFR 1320.8(b)(2)(vi)), an agency may not collect or sponsor the collection of information, nor may it impose an information collection requirement unless it displays a currently valid Office of Management and Budget (OMB) control number.

This final rule contains the following amendments to the existing information collection requirements for OMB Control Number 2120-0005. As discussed in the NPRM, the original estimated annual number of responses (applications) was high, 20 annually, and the annual time burden (hours per response) was low, 14 hours. The changes to both the number of annual responses and the hours per request is not a result of any of the changes described in this rulemaking, but reflects a change in the understanding of both the number of applicants expected, and the requirements for environmental information between the original collection request and now. With limited PRA comment responses, FAA submits the following changes due to agency discretion/experience of this information collection to OMB for its review and approval.

Summary: Authorization to exceed Mach 1 over land

Use: To authorize supersonic airplane test flights at approved sites

Respondents (including number of): Three producers of civil supersonic airplanes

Frequency: Three applications in a three-year period

Annual Burden Estimate: One application annually

FAA estimates fully burdened labor cost to be about \$200 per hour, making the annual cost $\$200 \times 40 = \$8,000$. This estimate is based on the assumption that an applicant will not need to develop a new environmental document for the Administrator's NEPA determination. FAA assumes that applicants would qualify to use airspace in U.S. military test ranges where supersonic flights already occur and a NEPA document already exists.

Individuals and organizations may send comments on the information collection requirement to the address listed in the ADDRESSES section at the beginning of this preamble by [INSERT DATE 60 DAYS AFTER PUBLICATION IN THE FEDERAL REGISTER]. Comments also should be submitted to the Office of Management and Budget, Office of Information and Regulatory Affairs, Attention: Desk Officer for FAA, New Executive Building, Room 10202, 725 17th Street, N.W., Washington, D.C. 20503.

F. International Compatibility

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

G. Environmental Analysis

FAA Order 1050.1F identifies FAA actions that are categorically excluded from preparation of an environmental assessment or environmental impact statement under the National Environmental Policy Act in the absence of extraordinary circumstances. FAA has determined that this rulemaking action updating the application process for special flight authorizations qualifies for the categorical exclusion identified in paragraph 5-6.6 and involves no extraordinary circumstances.

VI. Executive Order Determinations

A. Executive Order 13132, Federalism

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 13211, Regulations that Significantly Affect Energy Supply, Distribution, or Use

FAA analyzed this final rule under Executive Order 13211, Actions Concerning Regulations that Significantly Affect Energy Supply, Distribution, or Use (May 18, 2001). FAA 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.

C. Executive Order 13609, International Cooperation

Executive Order 13609, Promoting International Regulatory Cooperation, promotes international regulatory cooperation to meet shared challenges involving health, safety, labor, security, environmental, and other issues and to reduce, eliminate, or prevent unnecessary differences in regulatory requirements. FAA has analyzed this action under the policies and agency responsibilities of Executive Order 13609, and has determined that this action will not have an effect on international regulatory cooperation.

D. Executive Order 13771, Reducing Regulation and Controlling Regulatory Costs

This final rule is considered an EO 13771 deregulatory action. Details on the streamlining effects of this rule can be found in the rule’s regulatory evaluation.

VII. 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 (<http://www.regulations.gov>);
2. Visit FAA’s Regulations and Policies Web page at http://www.faa.gov/regulations_policies/ or
3. Access the Government Printing Office’s Web page at <http://www.gpo.gov/fdsys/>.

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 S.W., Washington, D.C. 20591, or by calling (202) 267-9680.

B. Comments Submitted to the Docket

Comments received may be viewed by going to <http://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 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 http://www.faa.gov/regulations_policies/rulemaking/sbre_act/.

List of Subjects in 14 CFR Part 91

Aircraft, Aviation safety, Noise control, Reporting and recordkeeping requirements.

The Amendment

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

PART 91—GENERAL OPERATING AND FLIGHT RULES

1. The authority citation for Part 91 continues to read as follows:

Authority: 49 U.S.C. 106(f), 106(g), 40101, 40103, 40105, 40113, 40120, 44101, 44111, 44701, 44704, 44709, 44711, 44712, 44715, 44716, 44717, 44722, 46306, 46315, 46316, 46504, 46506-46507, 47122, 47508, 47528-47531, 47534, Pub. L. 114-190, 130 Stat. 615 (49 U.S.C.

44703 note); articles 12 and 29 of the Convention on International Civil Aviation (61 Stat. 1180), (126 Stat. 11).

§ 91.817 [Amended]

2. In § 91.817(a) and (b)(2), remove the words “under appendix B of this part” and add in their place the words “in accordance with §91.818”.

3. Add § 91.818 to read as follows:

§ 91.818 Special flight authorization to exceed Mach 1.

For all civil aircraft, any operation that exceeds Mach 1 may be conducted only in accordance with a special flight authorization issued to an operator in accordance with the requirements of this section.

(a) *Application.* Application for a special flight authorization to exceed Mach 1 must be made to the FAA Office of Environment and Energy for consideration by the Administrator.

Each application must include:

- (1) The name of the operator;
- (2) The number and model(s) of the aircraft to be operated;
- (3) The number of proposed flights;
- (4) The date range during which the flight(s) would be conducted;
- (5) The time of day the flight(s) would be conducted. Proposed night operations may require further justification for their necessity;
- (6) A description of the flight area requested by the applicant, including any environmental information required to be submitted pursuant to paragraph (c) of this section;
- (7) All conditions and limitations on the flight(s) that will ensure that no measurable sonic boom overpressure will reach the surface outside of the proposed flight area; and
- (8) The reason(s) that operation at a speed greater than Mach 1 is necessary. A special flight authorization to exceed Mach 1 may be granted only for operations that are intended to:
 - (i) Show compliance with airworthiness requirements;

(ii) Determine the sonic boom characteristics of an aircraft;

(iii) Establish a means of reducing or eliminating the effects of sonic boom, including flight profiles and special features of an aircraft;

(iv) Demonstrate the conditions and limitations under which speeds in excess of Mach 1 will not cause a measurable sonic boom overpressure to reach the surface; or

(v) Measure the noise characteristics of an aircraft to demonstrate compliance with noise requirements imposed under this chapter, or to determine the limits for operation in accordance with § 91.817(b).

(9) For any purpose listed in paragraph (a)(8) of this section, each applicant must indicate why its intended operation cannot be safely or properly accomplished over the ocean at a distance ensuring that no sonic boom overpressure reaches any land surface in the United States.

(b) *Operation outside a test area.* An applicant may apply for an authorization to conduct flights outside a test area under certain conditions and limitations upon a conservative showing that:

(1) Flight(s) within a test area have been conducted in accordance with an authorization issued for the purpose specified in paragraph (a)(8)(iv) of this section;

(2) The results of the flight test(s) required by paragraph (b)(1) of this section demonstrate that a speed in excess of Mach 1 does not cause a measurable sonic boom overpressure to reach the surface; and

(3) The conditions and limitations determined by the test(s) represent all foreseeable operating conditions and are effective on all flights conducted under an authorization.

(c) *Environmental findings.* (1) No special flight authorization will be granted if the Administrator finds that such action is necessary to protect or enhance the environment.

(2) The Administrator is required to consider the potential environmental impacts resulting from the issuance of an authorization for a particular flight area pursuant to the National Environmental Policy Act of 1969 (NEPA) (42 U.S.C 4321 *et seq.*), all applicable

regulations implementing NEPA, and related Executive orders and guidance. Accordingly, each applicant must provide information that sufficiently describes the potential environmental impact of any flight in excess of Mach 1, including the effect of a sonic boom reaching the surface in the proposed flight area, to enable the FAA to determine whether such impacts are significant within the meaning of NEPA.

(d) *Issuance.* An authorization to operate a civil aircraft in excess of Mach 1 may be issued only after an applicant has submitted the information described in this section and the Administrator has taken the required action regarding the environmental findings described in paragraph (c) of this section.

(e) *Duration.* (1) An authorization to exceed Mach 1 will be granted for the time the Administrator determines necessary to conduct the flights for the described purposes.

(2) An authorization to exceed Mach 1 is effective until it expires or is surrendered.

(3) An authorization to exceed Mach 1 may be terminated, suspended, or amended by the Administrator at any time the Administrator finds that such action is necessary to protect the environment.

(4) The holder of an authorization to exceed Mach 1 may request reconsideration of a termination, amendment, or suspension issued under paragraph (e)(3) of this section within 30 days of notice of the action. Failure to request reconsideration and provide information why the Administrator's action is not appropriate will result in permanent termination of the authorization.

(5) Findings made by and actions taken by the Administrator under this section do not affect any certificate issued under Chapter 447 of Title 49 of the United States Code.

Appendix B to Part 91—[Removed and Reserved]

4. Remove and reserve appendix B to part 91.

Issued in Washington, D.C., under the authority of 49 U.S.C. 106(f), 44701(a)(5), and 44715, on
January 4, 2021.

Steve Dickson,
Administrator.

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