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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Parts 71, 91, 95, 121, 125, 129, 135

[Docket No. FAA-2003-14305; Special Federal Aviation Regulation No. 97

RIN 2120-AH93

Special Operating Rules for the Conduct of Instrument Flight Rules (IFR) Area Navigation (RNAV) Operations Using Global Positioning Systems (GPS) in Alaska

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: Under this Special Federal Aviation Regulation, the FAA proposes to allow the use of Global Positioning System /Wide Area Augmentation Systems for the en route portion of flights on routes in Alaska outside the operational service volume of ground based navigation aids. The use of aircraft navigation equipment other than area navigation systems, that only permit navigation to or from ground-based navigation stations, often results in less than optimal routes or instrument procedures and an inefficient use of airspace. This SFAR would optimize routes and instrument procedures and provide for a more efficient use of airspace. Further, it would result in an associated increase in flight safety.

DATES: Send your comments on or before February 24, 2003 [Insert date 30 days after date of publication in the Federal Register].

ADDRESSES: Address your comments to the Docket Management System, U.S. Department of Transportation, Room Plaza 401, 400 Seventh Street, SW., Washington, DC 20590-0001. You must identify the docket number, FAA-2003-14305, at the beginning of your comments, and you should submit two copies of your comments. If you wish to receive confirmation that the FAA received your comments, include a self-addressed, stamped postcard. You may also submit comments through the Internet to http://dms.dot.gov. You may review the public docket containing comments to these proposed regulations in person in the Dockets Office between 9:00 a.m. and 5:00 p.m., Monday through Friday, except Federal holidays. The Dockets Office is on the plaza level of the NASSIF Building at the Department of Transportation at the above address. Also, you may review public dockets on the Internet at http://dms.dot.gov.

FOR FURTHER INFORMATION CONTACT: Donald W. Streeter, Flight Technologies and Procedures Division (AFS-400), Federal Aviation Administration, 800 Independence Avenue SW., Washington, DC 20591; telephone: (202) 385-4567; e-mail: donald.w.streeter@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites interested persons to participate in this rulemaking by submitting written comments, data, or views. We also invite comments relating to the economic, environmental, energy, or federalism impacts that might result from adopting the proposals in this document. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. We ask that you send us two copies of written comments.

We will file in the docket all comments received, as well as a report summarizing each substantive public contact made with FAA personnel concerning this proposed rulemaking. The docket is available for public inspection before and after the comment closing date. If you wish to review the docket in person, go to the address in the ADDRESSES section of this preamble between 9:00 a.m. and 5:00 p.m., Monday through Friday, except Federal holidays. You may also review the docket using the Internet at the web address in the ADDRESSES section.

Before acting on this proposal, we will consider all comments received on or before the closing date for comments. We will consider comments filed late if it is possible to do so without incurring expense or delay. We may change this proposal in light of the comments received.

If you want the FAA to acknowledge receipt of your comments on this proposal, include with your comments a pre-addressed, stamped postcard on which the docket number appears. We will stamp the date on the postcard and mail it to you.

Availability of Rulemaking Documents

You can get an electronic copy of rulemaking documents through the Internet by:

(1) Searching the Department of Transportation's electronic Docket Management System (DMS) web page (http://dms.dot.gov/search);

(2) Visiting the Office of Rulemaking's web page at http://www.faa.gov/avr/armhome.htm; or

(3) Accessing the Federal Register's web page at http://www.access.gpo.gov/su_docs/aces/aces140.html.

You also can get a copy by submitting a request to the Federal Aviation Administration, Office of Rulemaking, ARM-1, 800 Independence Avenue SW., Washington, DC 20591, or by calling (202) 267-9680. Make sure to identify the docket number or notice number of this rulemaking.

Background

Aviation is critical to Alaska for routine travel and commerce, and for nearly any kind of emergency. Only 10% of Alaska is accessible by road, and waterways are impassable most of each year. Alaska also is very large and crisscrossed by mountains that block radio and radar transmissions so that aviation services and infrastructure that are available in the 48 contiguous states are not available in many areas of Alaska. Aviation is essential to Alaska, but there also is a safety consequence of operating in this environment: The aviation accident rate for rural Alaska is 2.5 times the average for the rest of the United States. While approximately 20 airports in Alaska are serviced by large turbine and jet aircraft, scheduled and unscheduled air carrier service using single or light-twin engine aircraft that are often limited to visual flight rules operations is provided to approximately 1000 other airports and landing areas. Pilots operating these flights often face weather hazards – fog, ice-fog, white-out or flat-light conditions that are localized and change rapidly. Weather information is limited; there are few navigational aids; and radar coverage is largely unavailable below 5,000 feet. Areas of intense icing and short distances between destinations often keep flight operations below 2,000 feet.

The Capstone Program is a joint initiative by the FAA Alaskan Region and the aviation industry to improve safety and efficiency in Alaska by using new technologies. Derived from the National Transportation Safety Board (NTSB) and industry

recommendations, Capstone was congressionally funded in October 1998, and under the FAA Acquisition and Management System, operations and maintenance funding will begin in 2004.

Capstone Phase I focuses on southwest Alaska (the Yukon and Kuskokwim River Delta - YK Delta), which is isolated, has limited infrastructure, and has the same high rate of aviation accidents experienced in the rest of the state. Under Capstone, installation of advanced avionics in the YK Delta aircraft began in November 1999 and expansion of ground infrastructure and data collection will continue through December 2004. An interim analysis by the University of Alaska and The MITRE Corporation Center for Advanced Aviation System Development indicates a 40 percent reduction in aircraft accidents that are instrument flight rules equipped under the Capstone program verses aircraft that are unequipped.

Relying on lessons learned during Phase I, Capstone Phase II is beginning in southeast Alaska. A more robust set of avionics, that include Global Positioning Systems/Wide Area Augmentation Systems (GPS/WAAS), is being deployed that aims at further reduction of controlled flight into terrain and mid-air collision accidents. In addition, instrument flight rules (IFR) area navigation (RNAV) procedures are being introduced that enable participants to conduct IFR operations on published routes, improving overall safety and capacity.

Area navigation (RNAV) systems used in most aircraft operations consist of a navigation computer, a coded database containing preloaded ground-based navigational aids, instrument approach procedures, standard departure procedures, and standard arrival routes to certain terminal areas. The navigation computer can also be manually loaded to

input the latitude and longitude of certain fixes defining an area navigation route. RNAV systems also have the capability of processing transmitted signals from various kinds of navigation aids to continuously update the accuracy of the navigation computer in the lateral and vertical modes of operation. Unlike aircraft very high frequency omnidirectional range (VOR) navigation systems, for example, RNAV systems can be programmed to navigate directly to any geographic reference point (latitude and longitude) on the earth without having to navigate to or from ground-based VOR stations over published routes that are defined by ground-based VOR stations.

The current operating rules under the Federal Aviation Regulations in title 14 of the Code of Federal Regulations (14 CFR) do not accommodate the use of GPS/WAAS technology for IFR RNAV outside the operational service volume of ground-based navigation aids. This SFAR would allow the timely approval of approximately 200 aircraft that are being equipped under Capstone Phase II to conduct IFR RNAV operations using GPS/WAAS navigation systems. Additionally, this SFAR would provide the opportunity for air carrier and general aviation operators, other than those participating in the Capstone Program, to voluntarily equip aircraft with advanced GPS/WAAS avionics that are manufactured, certified, and approved for IFR RNAV operations.

Statement of the Problem

A significant number of mid-air collisions, controlled flight into terrain, and weather-related accidents occur in Alaska. These accidents can be significantly reduced by the use of new aircraft navigation technologies such as GPS/WAAS IFR RNAV

systems. However, operating rules under the current FAA regulations do not fully accommodate the use of GPS/WAAS technology for IFR RNAV operations. While a review of national operating rules continues in order to fully accommodate RNAV operations for the National Airspace System (NAS), a timely SFAR needs to be issued because initial GPS/WAAS avionics equipage is scheduled in Alaska between December 2002 and April 2003 under the FAA Capstone Phase II Program.

NTSB Recommendation: Recommendation A-95-121 from NTSB Safety Study

In 1995, the NTSB conducted a study (NTSB Safety Study - Aviation Safety in Alaska, NTSB/SS-95/03, November 1995) to examine "Alaska's current aviation environment and air transportation activities, to identify the associated risk factors and safety deficiencies, and to recommend practical measures for managing the risks to safe flight operations given the reality of Alaska's aviation environment and the potential of new technologies." The following is a NTSB recommendation (A-95-121) from this safety study that substantiates the need for this SFAR.

> Implement, by December 31, 1997, a model program in the Arctic and southeast regions of Alaska to demonstrate a low altitude instrument flight rules (IFR) system that better fulfills the needs of Alaska's air transportation system. The model should include the following components:
>
> (1) The use of the global positioning system (GPS) as a sole source of navigational information for en route navigation and for nonprecision instrument approaches at a representative number of airports where

instrument approaches do not currently exist. (Operators participating in the program will have to be allowed to conduct these operations without the integrity monitoring functions of the wide area augmentation system (WAAS) until WAAS is fully implemented in the demonstration region.)

(2) The use of satellite-based voice communications and satellite-based, Mode S, or VHF data link (for aircraft position and altitude) between aircraft in flight and air traffic controllers.

(3) The operation of commercial, passenger-carrying flight under IFR in turbine-powered single-engine airplanes equipped with redundant sources of electrical power and gyroscopic instrument vacuum/pressure.

(4) The use of currently uncontrolled airspace for IFR departures, en route flight, and instrument approaches in the demonstration program region. (Class II, Priority Action) (A-95-121).

Reference Material: (1) Technical Standard Order (TSO) C145a, Airborne Navigation Sensors Using The Global Positioning System (GPS) Augmented By The Wide Area Augmentation System (WAAS); and (2) TSO C146a, Stand-Alone Airborne Navigation Equipment Using The Global Positioning System (GPS) Augmented By The Wide Area Augmentation System (WAAS). Copies of these TSOs may be obtained from the FAA internet website at www.faa.gov/certification/aircraft/TSOA.htm.

Related Activity

The FAA is conducting a thorough review of its rules to ensure consistency between the operating rules of 14 CFR and future RNAV operations for the NAS. That rulemaking, when proposed and promulgated, should enable the use of space-based navigation aid sensors for aircraft RNAV systems through all phases of flight (departure, en route, arrival, and approach) to enhance the safety and efficiency of the NAS. The changes anticipated would result in greater flexibility in air traffic routing, instrument approach procedure design, and airspace use than is now possible with a ground-based navigation aid system structure. The improved navigation accuracy and flexibility would enhance both system capacity and overall flight safety, and would promote the "free flight" concept in the NAS by enabling the NAS to move away from reliance on ground-based NAVAIDs. This SFAR supports this activity as an early implementation effort.

Contrary Provisions of the Current Regulations

People who conduct operations in Alaska in accordance with this SFAR would be excepted from certain provisions of the FAA's regulations. For instance:

14 CFR § 71.75. Extent of Federal airways. The extent of Federal airways is currently referenced as a center line that extends from one navigational aid or intersection to another navigational aid or intersection specified for that airway. This SFAR allows the Federal airway and other routes published by the FAA to be referenced and defined by one or more fixes that are contained in an RNAV system's electronic database that is derived from GPS satellites and used by the pilot to accurately fly the Federal airway or

other published routes without reference to the ground based navigational aids that defines those routes.

14 CFR § 91.181. Course to be flown. Section 91.181 defines courses to be flown along Federal airways that are only referenced to station referenced navigational aids or fixes defining that route. This SFAR would allow courses to be flown on Federal airways and other published routes that are defined by waypoints or fixes contained in a GPS WAAS navigation system that is certified for IFR navigation.

14 CFR § 91.205(d)(2). Powered civil aircraft with standard category U.S. airworthiness certificates: Instrument and equipment requirements. Section 91.205(d)(2) states that navigational equipment appropriate to the ground facilities to be used is required for IFR operations and does not include RNAV equipment. Under this SFAR, operations can be conducted using navigation equipment that is not dependent on navigating only to and from ground-based radio navigation stations.

14 CFR §§ 91.711(c)(1)(ii) and 91.711(e). Special rules for foreign civil aircraft. Section 91.711(c)(1)(ii) requires foreign civil aircraft operating within the United States and conducting IFR operations to be equipped with radio navigational equipment appropriate to the navigational signals to be used and does not accommodate the use of RNAV systems for instrument flight rules operations. Section 91.711(e) states that no person may operate a foreign civil aircraft within the 50 states and the District of Columbia at or above flight level (FL) 240 unless the aircraft is equipped with distance measuring equipment (DME) capable of receiving and indicating distance information from the VORTAC facilities to be used. Although an IFR approved RNAV system

provides distance information, this section does not allow the use of an RNAV system in lieu of DME.

14 CFR § 95.1. Applicability. Part 95 prescribes altitudes governing the operation of aircraft under IFR on Federal airways, jet routes, area navigation low or high routes, or other direct routes for which a minimum enroute altitude (MEA) is designated. In addition, it designates mountainous areas and changeover points. In general, the IFR altitudes prescribed in this section are determined by a route analysis based on the following factors: (1) An obstacle clearance assessment; (2) the lowest altitude at which the aircraft radio navigation receivers are able to receive the ground-based radio navigation fixes defining the airway, segment or route; and (3) the lowest altitude at which two-way voice communication between the aircraft and the air traffic control unit can be maintained. No accommodation is made for IFR altitudes determined by the above route analysis factors over routes that may be defined by fixes other than ground-based navigation aid fixes. Under this SFAR, operators using IFR certified GPS/WAAS RNAV systems would be permitted to conduct operations over routes in Alaska at the lowest minimum en route altitude based only on route obstacle assessments and ATC two-way voice communication capability. This MEA is defined as the "special MEA" for purposes of this SFAR to distinguish it from MEAs established under part 95.

14 CFR §121.349(a). Radio equipment for operations under VFR over routes not navigated by pilotage or for operations under IFR or over-the-top. Section 121.349(a) requires airplanes to be equipped with two independent radio navigation systems that are able to receive radio navigational signals from all primary en route and approach navigational facilities intended to be used. This section does not allow, nor

does any other section of part 121, allow the use of RNAV GNSS for IFR navigation on Federal airways and other routes. This SFAR allows the use of IFR-certified RNAV GPS/WASS systems for IFR navigation.

14 CFR § 125.203(b) and (c). Radio and navigational equipment. These sections state that no person may operate an airplane over-the-top or under IFR unless it has two independent receivers for navigation that are able to receive radio signals from the ground facilities to be used and which are capable of transmitting to, and receiving from, at any place on the route to be flown, at least one ground facility. These sections do not allow the use of RNAV GNSS for IFR navigation for any airplanes conducting IFR operations under part 125 in the NAS. This SFAR would allow for the use of IFR-certified RNAV GPS/WAAS systems for IFR navigation.

14 CFR § 129.17(a) and (b). Radio Equipment. Sections 129.17(a) and (b) state that subject to the applicable laws and regulations governing ownership and operation of radio equipment, each foreign air carrier shall equip its aircraft with such radio equipment as is necessary to properly use the air navigation facilities. This section does not include or allow IFR RNAV GNSS to be used for air navigation on Federal airways or other published routes. This SFAR would allow the use of IFR-certified RNAV GPS/WAAS systems for air navigation on Federal airways or other published routes.

14 CFR § 135.165. Radio and navigational equipment: Extended overwater or IFR operations. Section 135.165 excludes turbojet airplanes with 10 or more passenger seats, multiengine airplanes in a commuter operations, as defined under 14 CFR part 119, and other aircraft from conducting IFR or extended overwater operations

unless they have a minimum of two independent receivers for navigation appropriate to the facilities to be used that are capable of transmitting to, and receiving from, at any place on the route to be flown, at least one ground facility. Since IFR-certified RNAV GPS/WAAS systems do not receive navigation position information from ground facilities, they would not be acceptable for navigation based on this section. This SFAR would allow the use of IFR-certified RNAV GPS/WAAS systems in lieu of aircraft navigation equipment that is used to navigate to and from ground-based navigation facilities.

Section-by-Section Discussion of the Proposal

SFAR No. 97--Special Operating Rules for the Conduct of Instrument Flight Rules (IFR) Area Navigation (RNAV) Operations using Global Positioning Systems (GPS) in Alaska

Section 1. Purpose, use and limitations. The purpose of Section 1 is to define the specific GNSS equipment that is authorized for IFR RNAV operations on Federal airways and other published routes in the airspace in the state of Alaska. This section also states that the SFAR can be used for U.S. and foreign operations conducted under part 91 over Alaska, as well as operations conducted by part 119 or part 125 certificate holders and part 129 operations specifications holders, commercial, and certificated air carrier operators.

Section 2. Definitions and abbreviations. The purpose of Section 2 is to define specific terms that are used in this SFAR. These definitions and abbreviations are specific

to this SFAR. Some of these definitions may not be defined or consistent with similar definitions in the current Federal Aviation Regulations.

For the purposes of this SFAR, the definition of "area navigation (RNAV)" is broadened by removing the words "station-referenced navigation signals," which refer to ground-based signals, and adding the words "flight path" to cover operations in both the lateral and vertical planes (i.e., lateral navigation (LNAV) and vertical navigation (VNAV)).

To distinguish MEAs that are established by ground-based navigation aids versus MEAs that are established outside the operational service volume of ground-based navigation aids, the terms "standard MEA" and "special MEA" are included. As discussed earlier under 14 CFR part 95, the lowest altitude that an aircraft under IFR may be operated is determined by, among other things, the lowest altitude at which the aircraft radio navigation receivers are able to receive ground-based radio navigation fixes defining the airway segment or route. For purposes of this SFAR, this MEA is referenced as the "standard MEA." Operators in Alaska using IFR certified GPS/WAAS RNAV systems (as set forth in the definition of "required navigation system"), however, would be permitted to conduct operations over routes in or near Alaska based on route obstacle assessments and ATC two-way voice communication capability. This MEA may be lower than the "standard MEA" for purposes of this SFAR.

Section 3. Operational requirements. The purpose of Section 3 is to establish personnel training and qualifications, and GPS/WAAS performance and signal requirements necessary for operational approval to conduct IFR RNAV operations. This

section allows operators subject to this SFAR to operate over routes where the MEA for a route or route segment is lower for GPS/WAAS IFR RNAV-equipped aircraft than the MEA for operators equipped only with VOR navigation systems. This flexibility would allow those GPS/WAAS IFR RNAV-equipped operators to conduct operations at the lowest permissible altitude in an attempt to avoid in-flight icing conditions.

Air carrier operators are required to establish training curriculums that must be reviewed, validated, and approved by the FAA prior to being authorized to conduct IFR RNAV operations for the en route portion of flight at MEAs outside the service volume of ground-based navigation aids under this SFAR. Title 14 CFR part 91 operators also are required to receive training prior to conducting IFR RNAV operations under this SFAR. The part 91 operator is responsible to ensure this training is accomplished. Training programs may be provided by the GPS WAAS avionics manufacturer/distributor. Training material also may be obtained from the FAA Capstone Program Office in Anchorage Alaska.

Section 3 also requires all operators to use authorized procedures for normal, abnormal, and emergency situations unique to these operations, including degraded navigation capabilities, and satellite system outages. Detailed guidance material for these procedures will be provided in the IFR regional supplemental (e.g., pre-flight planning consideration of satellite outages, operational procedures for the loss of RNAV during the operation).

Section 4. Equipment Requirements. The purpose of Section 4 is to establish the minimum GPS/WAAS equipment requirements for IFR RNAV operations. TSO C145a and TSO C146a GPS WAAS navigation systems are the systems authorized to be used as

the only means of navigation on Federal airways and other published routes outside the operational service volume of ground based navaids in Alaska. The MEA's for these routes will be depicted on the published Low Altitude and High Altitude En Route Charts and depicted as a MEA-G. For example, a GPS MEA of 4000 feet MSL would be depicted using a blue color as: **4000G.**

Section 5. Expiration date. The purpose of Section 5 is to establish the time period that this SFAR remains in effect. This SFAR would remain in effect until cancelled or revised.

Parts 71, 95, 121, 125, 129, and 135--Amended

A note would be also added to parts 71, 95, 121, 125, 129, and 135 to cross reference SFAR No. 97, the full text of which would appear in part 91.

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 are no current new information collection requirements associated with this proposed rule.

International Compatibility

In keeping with U.S. obligations under the Convention on International Civil Aviation, it is FAA policy to comply with International Civil Aviation Organization (ICAO) Standards and Recommended Practices to the maximum extent practicable. The

FAA has determined that there are no ICAO Standards and Recommended Practices that correspond to these proposed regulations.

Economic Evaluation

Proposed changes to Federal regulations must undergo several economic analyses. First, Executive Order 12866 directs each Federal agency to propose or 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 requires agencies to analyze the economic impact of regulatory changes on small entities. Third, the Trade Agreements Act (19 U.S.C. 2531-2533) prohibits agencies from setting standards that create unnecessary obstacles to the foreign commerce of the United States. In developing U.S. standards, the Trade Agreements Act requires agencies to consider international standards, and, where appropriate, that they be the basis for 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).

In conducting these analyses, the FAA determined that this proposed rule: (1) would generate benefits and not impose any costs, is not a "significant regulatory action" as defined in section 3(f) of Executive Order 12866, and is not "significant" as defined in DOT's Regulatory Policies and Procedures; (2) would not have a significant economic impact on a substantial number of small entities; (3) would not constitute a barrier to

international trade, and does not impose an unfunded mandate on state, local, or tribal governments, or on the private sector.

For regulations with an expected minimal impact, the above-specified analyses are not required. The Department of Transportation Order DOT 2100.5 prescribes policies and procedures for simplification, analysis, and review of regulations. If it is determined that the expected impact is so minimal that the proposal does not warrant a full evaluation, a statement to that effect and the basis for it is included in proposed regulation. This proposed rule would allow the use of GSP/WAAS for IFR RNAV procedures by locally based aircraft that are equipped under the Alaska Capstone Phase II test and evaluation program. Because there is no cost to the participants for the equipment or training, the expected outcome is expected to have a minimal impact on the flying public in Alaska. This proposed SFAR would also provide the opportunity for other air carrier and general aviation operators to voluntarily equip and train their personnel at their own expense. The decision to incur these costs would be gauged against the safety and efficiency benefits accruing from IFR RNAV use of GPS/WAAS technology. The FAA requests comments with supporting justification regarding the FAA determination of minimal impact.

Regarding benefits, the adoption of this proposal would implement the National Transportation Safety Board's recommendation "to demonstrate a low altitude instrument flight rules (IFR) system that better fulfills the needs of Alaska's air transportation system."[1] An interim assessment of the safety impact of Capstone Phase 1 test program found that "while the rates of accidents for specific causes have not changed in a way that is statistically significant yet, the over-all accident counts for the equipped and non-

equipped groups were different: 12 accidents for non-equipped versus 7 for equipped even though each had nearly identical operations counts."[2] In addition to the anticipated safety benefits, the proposed rule might result in cost savings. The use of IFR RNAV equipment permits the use of more direct and therefore shorter routes, and aircraft using RNAV equipment may require less fuel and time to reach their destinations. The FAA has established a number of test routes throughout the United States and some airlines have estimated annual cost savings in excess of $30 million dollars due to flying these advanced RNAV routes.[3] The FAA finds that the potential safety benefits and cost savings justify the adoption of this proposed rule. The FAA seeks public comments regarding these benefits and cost savings.

[1] Aviation Safety In Alaska (NTSB/SS-95/03) November 1995 page 77
[2] The Safety Impact of Capstone Phase 1 (W. Worth Kirkman, Mitre) August 2002 page 15
[3] 2001 ACE Plan, Building Capacity

Regulatory Flexibility Determination

The Regulatory Flexibility Act of 1980 (RFA) establishes "as a principle of regulatory issuance that agencies shall endeavor, consistent with the objective of the rule and of applicable statutes, to fit regulatory and informational requirements to the scale of the business, organizations, and governmental jurisdictions subject to regulation." To achieve that principle, the RFA requires agencies to solicit and consider flexible regulatory proposals and to explain the rationale for their actions. 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 proposed or final rule would 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 proposed or final 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.

This proposed rule would establish the minimum equipment and operational approval requirements that operators would have to comply with to operate at lower MEAs that are outside the service volume of ground-based navigation aids. Because operators are not required to operate at these lower MEAs, those who voluntarily decide to do so under this SFAR will have made their own business decisions that the cost associated with this proposed SFAR's equipment and other requirements are worth it. For example, some operators will have concluded that flying at lower altitudes opens up markets that they could not previously have served because currently they do not have aircraft that can fly at certain altitudes on some routes and maintain reception with ground-based navigation aids. Other operators will conclude that having the ability to operate at lower MEAs will result in fewer flight cancellations or delays due to adverse weather (e.g., icing at higher altitudes). Additionally, other operators will recognize the safety benefit of having RNAV-equipped aircraft and flightcrews trained under this SFAR when such flights encounter adverse weather conditions en route at higher

altitudes. Those operators will have the safety benefit of being able to seek clearance to the lower MEAs en route. It is anticipated that most of the participants who volunteer to participate in Capstone Phase II will not incur any costs to equip their aircraft or conduct required training; therefore, the FAA certifies that the rule will not have a significant economic impact on a substantial number of small operators. The FAA seeks public comments regarding this cost finding.

Trade Impact Assessment

The Trade Agreement Act of 1979 prohibits Federal agencies from establishing any standards or engaging in related activities that create unnecessary obstacles to the foreign commerce of the United States. Legitimate domestic objectives, such as safety, are not considered unnecessary obstacles. The statute also requires consideration of international standards and, where appropriate, that they be the basis for U.S. standards. The NPRM proposes to impose requirements on foreign air carriers operating in the SFAR area if they volunteer to participate in the test program. These requirements would mirror the communication and navigation equipment requirements placed on domestic carriers that volunteer to participate in the test program. The FAA assessed the potential effect of this proposed rule and determined that it would have a neutral impact on foreign trade and, therefore, creates no obstacles to the foreign commerce of the United States.

Unfunded Mandates Assessment

The Unfunded Mandates Reform Act of 1995 (the Act) is intended, among other things, to curb the practice of imposing unfunded Federal mandates on State, local, and tribal governments. Title II of the Act 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 (adjusted annually for inflation) 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."

This proposed rule does not contain such a mandate. The requirements of title II do not apply.

Executive Order 13132, Federalism

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

Regulations Affecting Interstate Aviation in Alaska

Section 1205 of the FAA Reauthorization Act of 1996 (110 Stat. 3213) requires the Administrator, when modifying regulations under title 14 of the CFR that affect interstate aviation in Alaska, to consider the extent to which Alaska is not served by transportation modes other than aviation, and to establish such regulatory distinctions as he or she considers appropriate. The FAA considers that this rule will be beneficial to operations in Alaska, but specifically solicits comments on this issue.

Environmental Analysis

FAA Order 1050.1D defines FAA actions that may be categorically excluded from preparation of a National Environmental Policy Act (NEPA) environmental impact statement. In accordance with FAA Order 1050.1D, appendix 4, paragraph 4(j), this proposed rulemaking action qualifies for a categorical exclusion.

Energy Impact

The energy impact of the notice has been assessed in accordance with the Energy Policy and Conservation Act (EPCA) Public Law 94-163, as amended (42 U.S.C. 6362) and FAA Order 1053.1. We have determined that the notice is not a major regulatory action under the provisions of the EPCA.

List of Subjects

14 CFR Part 71

Airspace, Navigation (air).

14 CFR Part 91

Agriculture, Air traffic control, Aircraft, Airmen, Airports, Aviation safety, Canada, Freight, Mexico, Noise control, Political candidates, Reporting and recordkeeping requirements.

14 CFR Part 95

Air traffic control, Airspace, Alaska, Navigation (air), Puerto Rico

14 CFR Part 121

Air carriers, Aircraft, Airmen, Aviation safety, Charter flights, Drug testing, Reporting and recordkeeping requirements, Safety, Transportation.

14 CFR Part 125

Aircraft, Airmen, Aviation safety, Reporting and recordkeeping requirements

14 CFR Part 129

Air carriers, Aircraft, Aviation safety, Reporting and recordkeeping requirements, Security, Smoking.

14 CFR Part 135

Air taxis, Aircraft, Airmen, Aviation safety, Reporting and recordkeeping requirements.

The Proposed Amendment

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

Part 71—Designation Of Class A, Class B, Class C, Class D, And Class E Airspace Areas; Airways; Routes; And Reporting Points

1. The authority citation for part 71 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40103, 40113, 40120, E.O. 10854, 24 FR 9565, 3 CFR, 1959-1963 Comp., p. 389.

2. Amend part 71 by adding a note to read as follows:

Note: For the text of SFAR No. 97, see part 91 of this chapter.

Part 91—General Operating And Flight Rules

3. The authority citation for part 91 continues to read as follows:

Authority: 49 U.S.C. 106(g), 1155, 40103, 40113, 40120, 44101, 44111, 44701, 44709, 44711, 44712, 44715, 44716, 44717, 44722, 46306, 46315, 46316, 46504, 46506-46507, 47122, 47508, 47528-47531, articles 12 and 29 of the Convention on International Civil Aviation (61 stat. 1180).

4. Amend part 91 by adding SFAR No. 97 to read as follows:

Special Federal Aviation Regulation No. 97 – Special Operating Rules for the Conduct of Instrument Flight Rules (IFR) Area Navigation (RNAV) Operations using Global Positioning Systems (GPS) in Alaska

Those persons identified in Section 1 may conduct IFR en route RNAV operations in the State of Alaska and its airspace on published air traffic routes using TSO C145a/C146a navigation systems as the only means of IFR navigation. Despite contrary provisions of parts 71, 91, 95, 121, 125, and 135 of this chapter, a person may operate aircraft in accordance with this SFAR if the following requirements are met.

Section 1. Purpose, use, and limitations.

a. This SFAR permits TSO C145a/C146a GPS (RNAV) systems to be used for IFR en route operations in the United States airspace over and near Alaska (as set forth in paragraph c of this section) at Special Minimum En Route Altitudes (MEA) which are outside the operational service volume of ground-based navigation aids, if the aircraft operation also meets the requirements of sections 3 and 4 of this SFAR.

b. Certificate holders and part 91 operators may operate aircraft under this SFAR provided that they comply with the requirements of this SFAR.

c. Operations conducted under this SFAR are limited to United States Airspace within and near the State of Alaska as defined in the following area description:

From 62deg00'00.000"N, Long. 141deg00'00.00"W.; to Lat. 59deg47'54.11"N., Long. 135deg28'38.34"W.; to Lat. 56deg00'04.11"N., Long. 130deg00'07.80"W.; to Lat. 54deg43'00.00"N., Long. 130deg37'00.00"W.; to Lat. 51deg24'00.00"N., Long. 167deg49'00.00"W.; to Lat. 50deg08'00.00"N., Long. 176deg34'00.00"W.; to Lat. 45deg42'00.00"N., Long. -162deg55'00.00"E.; to Lat. 50deg05'00.00"N., Long. -159deg00'00.00"E.; to Lat. 54deg00'00.00"N., Long. -169deg00'00.00"E.; to Lat. 60deg00 00.00" N., Long. -180deg00' 00.00"E; to Lat. 65deg00'00.00"N., Long. 168deg58'23.00"W.; to Lat. 90deg00'00.00"N., Long. 00deg00'0.00"W.; to Lat. 62deg00'00.000"N, Long. 141deg00'00.00"W.

(d) No person may operate an aircraft under IFR during the en route portion of flight below the standard MEA or at the special MEA unless the operation is conducted in accordance with sections 3 and 4 of this SFAR.

Section 2. Definitions and abbreviations. For the purposes of this SFAR, the following definitions and abbreviations apply.

Area navigation (RNAV). RNAV is a method of navigation that permits aircraft operations on any desired flight path.

Area navigation (RNAV) route. RNAV route is a published route based on RNAV that can be used by suitably equipped aircraft.

Certificate holder. A certificate holder means a person holding a certificate issued under Part 119 or Part 125 of this chapter or holding operations specifications issued under Part 129 of this chapter.

Global Navigation Satellite System (GNSS). GNSS is a world-wide position and time determination system that uses satellite ranging signals to determine user location. It encompasses all satellite ranging technologies, including GPS and additional satellites. Components of the GNSS include GPS, the Global Orbiting Navigation Satellite System, and WAAS satellites.

Global Positioning System (GPS). GPS is a satellite-based radio navigational, positioning, and time transfer system. The system provides highly accurate position and velocity information and precise time on a continuous global basis to properly equipped users.

Minimum crossing altitude (MCA). The minimum crossing altitude (MCA) applies to the operation of an aircraft proceeding to a higher minimum en route altitude when crossing specified fixes.

Required navigation system. Required navigation system means navigation equipment that meets the performance requirements of TSO C145a/C146a navigation systems certified for IFR en route operations.

Route segment. Route segment is a portion of a route bounded on each end by a fix or NAVAID.

Special MEA. Special MEA refers to the minimum en route altitudes, using required navigation systems, on published routes outside the operational service volume of ground-based navigation aids and are depicted on the published Low Altitude and High Altitude En Route Charts using the color blue and with the suffix "G." For example, a GPS MEA of 4000 feet MSL would be depicted using the color blue, as 4000G.

Standard MEA. Standard MEA refers to the minimum en route IFR altitude on published routes that uses ground-based navigation aids and are depicted on the published Low Altitude and High Altitude En Route Charts using the color black.

Station referenced. Station referenced refers to radio navigational aids or fixes that are referenced by ground based navigation facilities such as VOR facilities.

Wide Area Augmentation System (WAAS). WAAS is an augmentation to GPS that calculates GPS integrity and correction data on the ground and uses geo-stationary satellites to broadcast GPS integrity and correction data to GPS/WAAS users and to provide ranging signals. It is a safety critical system consisting of a ground network of reference and integrity monitor data processing sites to assess current GPS performance, as well as a space segment that broadcasts that assessment to GNSS users to support en route through precision approach navigation. Users of the system include all aircraft applying the WAAS data and ranging signal.

Section 3. Operational Requirements.

To operate an aircraft under this SFAR, the following requirements must be met:

a. Training and qualification for operations and maintenance personnel on required navigation equipment used under this SFAR.

b. Use authorized procedures for normal, abnormal, and emergency situations unique to these operations, including degraded navigation capabilities, and satellite system outages.

c. For certificate holders, training of flight crewmembers and other personnel

authorized to exercise operational control on the use of those procedures specified in paragraph b of this section.

d. Part 129 operators must have approval from the State of the operator to conduct operations in accordance with this SFAR.

e. In order to operate under this SFAR, a certificate holder must be authorized in operations specifications.

Section 4. Equipment Requirements.

a. The certificate holder must have properly installed, certificated, and functional dual required navigation systems as defined in section 2 of this SFAR for the en route operations covered under this SFAR.

b. When the aircraft is being operated under part 91, the aircraft must be equipped with at least one properly installed, certificated, and functional required navigation system as defined in section 2 of this SFAR for the en route operations covered under this SFAR.

Section 5. Expiration date.

This Special Federal Aviation Regulation will remain in effect until rescinded.

Part 95—IFR ALTITUDES

5. The authority citation for part 95 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40103, 40113, and 14 CFR 11.49 (b)(2).

6. Amend part 95 by adding a note to read as follows:

Note: For the text of SFAR No. 97, see part 91 of this chapter.

PART 121—OPERATING REQUIREMENTS: DOMESTIC, FLAG, AND SUPPLEMENTAL OPERATIONS

9. The authority citation for part 121 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 40119, 44101, 44701-44702, 44705, 44709-44711, 44713, 44716-44717, 44722, 44901, 44903-44904, 44912, 46105 .

10. Amend part 121 by adding a note to read as follows:

Note: For the text of SFAR No. 97, see part 91 of this chapter.

PART 125—CERTIFICATION AND OPERATIONS: AIRPLANES HAVING A SEATING CAPACITY OF 20 OR MORE PASSENGERS OR A MAXIMUM PAYLOAD CAPACITY OF 6,000 POUNDS OR MORE; AND RULES GOVERNING PERSONS ON BOARD SUCH AIRCRAFT

11. The authority citation for part 125 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701-44702, 44705, 44710-44711, 44713, 44716-44717, 44722.

12. Amend part 125 by adding a note to read as follows:

Note: For the text of SFAR No. 97, see part 91 of this chapter.

PART 129—OPERATIONS: FOREIGN AIR CARRIERS AND FOREIGN OPERATORS OF U.S.-REGISTERED AIRCRAFT ENGAGED IN COMMON CARRIAGE

13. The authority citation for part 129 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40104-40105, 40113, 40119, 41706, 44701-44702, 44712, 44716-44717, 44722, 44901-44904, 44906.

14. Amend part 129 by adding a note to read as follows:

Note: For the text of SFAR No. XXX, see part 91 of this chapter.

PART 135—OPERATIING REQUIREMENTS: COMMUTER AND ON DEMAND OPERATIONS AND RULES GOVERNING PERSONS ON BOARD SUCH AIRCRAFT

15. The authority citation for part 135 continues to read as follows:

Authority: 49 U.S.C. 106(g) 41706, 44113, 44701-44702, 44705, 44709, 44711-44713, 44715-44717, 44722.

16. Amend part 135 by adding a note to read as follows:

Note: For the text of SFAR No. ~~XXX~~ 97, see part 91 of this chapter.

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James J. Ballough
Director, Flight Standards Service

Certified to be a True Copy
Vanessa Wilkins