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Part V

**Department of
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**14 CFR Part 1 et al.
Extending Overwater Operations With a
Single Long-Range Communication
System and a Single Long-Range
Navigation System; Final Rule**

DEPARTMENT OF TRANSPORTATION**Federal Aviation Administration**

14 CFR Parts 1, 91, 121, 125, and 135

RIN 2120-AF12

[Docket No. 27474; Amendment No. 1-44, 91-249, 121-254, 125-25 and 135-61]

Extended Overwater Operations With a Single Long-Range Communication System (LRCS) and a Single Long-Range Navigation System (LRNS)

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: This action revises the Federal Aviation Regulations for certain overwater operations for air carriers, commercial operators, and general aviation operators of large and of turbine-powered multiengine airplanes. It defines and clarifies requirements for using long-range navigation systems (LRNS) and long-range communication systems (LRCS) and sets forth criteria for navigation and communication equipment for certain overwater operations. Under this rule, air carriers and commercial operators are authorized to use a single LRCS and a single LRNS for extended overwater routes detailed in their operations specifications. Affected general aviation operators, who already are authorized to use a single LRCS when they have two very high frequency (VHF) communication systems, are authorized to use a single LRNS in overwater operations in the Gulf of Mexico, the Caribbean Sea, and part of the western Atlantic Ocean. This rule gives the FAA greater flexibility in responding to advances in aviation technology and changes in the operational environment and allows operators to conduct extended overwater operations without carrying unnecessary communication and navigation equipment.

EFFECTIVE DATE: February 26, 1996.

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SUPPLEMENTARY INFORMATION:**Background**

Air traffic in the Gulf of Mexico, the Caribbean Sea, and part of the western Atlantic Ocean (subsequently referred to in this document as the geographic area) has increased substantially during the

last 20 years. With this increase has come corresponding technological advances inherent with more modern aircraft and improved navigation and communications systems.

Advances in aircraft technology have increased the overall speed and functional reliability of modern airplanes. These high-speed airplanes can cover routes in the geographic area much more quickly than their predecessors. Because of their higher speeds, they also can cover greater distances during the time between hourly fixes. Thus, the number of routes in the geographic area where time between reliable fixes was 1 hour or more has been reduced for these airplanes. Similarly, the airplane's exposure to the loss of its LRNS before the next reliable fix can be obtained is reduced. Since such aircraft also routinely operate at higher altitudes en route, they can conduct very high frequency (VHF) communications at greater ranges from their corresponding ground facilities than their predecessors.

Advances in avionics have resulted in increasingly accurate and dependable navigation systems, using inputs from Loran C, Omega/very low frequency (VLF), inertial navigation, or reference systems (INS), and, most recently, the global positioning satellite navigation system (GPS). Each navigation system typically gives instantaneous readouts of position, ground speed, wind, and waypoint progress. Radio communication systems have enjoyed similar advances. Bulky vacuum tube units have given way to miniaturized units with transistors, precise frequency selection, and high reliability, which produce the same or greater transmitting power than older models. In addition, the proliferation of VHF communication facilities within the geographic area ensures that many routes now can be flown with a VHF communications gap of no more than 30 minutes.

The increased reliability of modern LRNS reduces navigation errors. Sophisticated flight management systems (FMS) integrate control and navigation systems of an airplane and combine several navigation inputs to provide greater position reliability. The multiple navigation inputs into an FMS increase the accuracy of the system, and its reliability when compared to earlier navigation systems which only received a single source input. If the LRNS fails on an airplane using such sophisticated equipment, navigation errors inherent in dead-reckoning procedures from the moment of the failure until the next reporting point or fix should be well within the navigational performance

capability required for the route to be flown.

Just as navigation systems have experienced several enhancements, ongoing developments in data link and satellite technology also have resulted in enhanced communications. The airborne equipment that aircraft use has improved due to advances in avionics reliability and miniaturization. These smaller units mean less weight on board the airplane.

The FAA believes that the probability that an airplane would experience a failure of both its single long-range communications system (LRCS) and its single LRNS when suitable navigation aids cannot be received is minimal. Advanced technology notwithstanding, however, a single LRCS could fail during a flight segment in which the airplane is operated beyond the range of VHF radio communication equipment. Even if such a failure did occur, the increased density of other air traffic in the vicinity could provide the affected airplane with some backup VHF communications with ATC. Moreover, regardless of the number of other aircraft in the area, if the flightcrew adheres to proper operational procedures, failure of the LRNS should not lead to an increased potential for conflict between aircraft before the airplane could come into range of suitable navigation aids (e.g. non-directional beacon, very high frequency omnirange (VOR), etc.).

Because of the increased speeds and higher altitudes at which airplanes now operate, improved equipment, improved reliability, and greater accuracy of LRNS systems, the FAA has concluded that, where exposure time for a critical equipment failure is 1 hour or less, the following is true:

- The probability of a failure is less than the probability of a failure with less modern equipment;
- With the accuracy of the present equipment, operators have better knowledge of their position if a failure does occur.

All of the factors discussed above have brought about the need to update the regulations to conform current technology to the types of operations that are currently being authorized. Namely, the FAA has found that operations in the geographic area can be conducted without the burden of additional navigation and communication systems carried in the aircraft. Therefore, on a case-by-case basis, and with certain conditions and limitations, the FAA has allowed a number of operators to conduct operations in the geographic area with a single LRCS and a single LRNS. To

date, such operations have had no adverse effect on safety.

General Discussion of Current Requirements for Extended Overwater Operations

General Aviation Operations

With one exception, set forth in § 91.511(d), 14 Code of Federal Regulations part 91, subpart F, the FAA currently requires large and turbine-powered multiengine airplanes engaged in overwater operations to be equipped with two independent communication and two independent navigation systems. Communication equipment must be appropriate to the facilities to be used and able to transmit to and receive from at least one surface facility at any place on the route. Navigation equipment must be able to provide the pilot with the information necessary to navigate the airplane within the airspace assigned by ATC. Under the exception in § 91.511(d), if a route requires the use of both VHF and LRCS communication equipment, and the airplane has two VHF transmitters and two VHF receivers, then only one LRCS transmitter and one LRCS receiver is required for communications.

Air Carrier and Commercial Operations

Parts 121, 125, and 135 also require airplanes engaged in extended overwater operations to be equipped with two independent communication and two independent navigation systems. Like part 91, parts 125 and 135 require that the communication equipment be appropriate to the facilities to be used and capable of transmitting to and receiving from at least one ground facility at any place on the route. Although the regulatory language differs somewhat, part 121 contains essentially the same requirements for communication equipment. Specifically, part 121 requires two independent communication systems able to communicate, under normal operating conditions, with (1) at least one appropriate ground station from any point on the route and with (2) appropriate traffic control facilities from any point in the airspace within which the flights are intended. These communication systems also must be able to receive meteorological information from any point en route. Unlike part 91, however, parts 121, 125, and 135 do not allow the use of a single LRCS where the airplane is also equipped with two VHF radios or systems. Thus, if a route requires use of both VHF and LRCS, airplanes operating

under parts 121, 125, and 135 must have two VHF radios and two LRCS.

Section 121.349(b) allows for the use of a single automatic direction finder (ADF) when two VOR navigation units are installed and VOR navigation aids are so located and the airplane is so fueled that, in the case of a failure of the ADF, the flight may proceed safely to a suitable airport by means of VOR aids. In all other cases, when use of ADF, VOR navigation equipment, or both, is needed for primary navigation, the current rules for parts 121, 125, and 135 require the airplane to be equipped with two ADF and two VOR navigation units, as appropriate.

General Discussion of the Rule

The FAA is expanding, under certain conditions, the authority for air carriers and commercial operators to amend their operations specifications to use a single LRCS and a single LRNS. The FAA has determined that, for the time being, the authority will be limited to the geographic area. This limitation is based primarily on the ready availability of navigation and communication facilities within the geographic area, which provide a crucial buffer in the event of a communication or navigation failure. In appropriate circumstances, the FAA may expand the areas in which operations with a single LRCS and a single LRNS will be permitted for part 121, 125, and 135 operators.

Aside from the current authority set forth in §§ 91.511(d) and 121.349(b), this rule does not change the general requirements under parts 91, 121, 125, and 135 for two VHF communication systems and two each of any appropriate navigation systems required for the route to be flown except in the geographic area. The FAA has concluded that, by maintaining these requirements, air transportation safety is not compromised.

The FAA is amending part 91 and creating operation specification authority for operators under parts 121, 125, and 135 based on the factors mentioned above and on the operator's ability to maintain two-way communications with ATC and, where appropriate, the certificate holder's dispatch office. Without such factors, ATC's ability to control airplanes in the geographic area would be adversely impacted, increasing the potential for air traffic conflicts. The flightcrew must be able to notify ATC of an LRNS failure and must be able to tell ATC whether the flightcrew can reliably fix the airplane's position using other means.

Part 91

As a result of changes in technology, the operational environment described, and experience gained with exemptions allowing a single LRNS, the FAA has concluded that part 91 operators of large and of turbojet multiengine airplanes should be able to operate safely with a single LRCS and a single LRNS in the geographic area. In conducting operations in the geographic area, these general aviation operators should consider how long they may be without two-way VHF communications. For flight planning purposes, the FAA recommends that this gap should not exceed 30 minutes. The operator also should consider whether the position of the airplane can be reliably fixed at least once each hour if the LRNS fails.

Parts 121, 125, and 135

The FAA believes that the only appropriate method for authorizing single LRCS/single LRNS operations for part 121, 125, and 135 certificate holders is through FAA-approved authorizations, which will be set forth in the certificate holder's operations specifications. This method of approval is necessary because it will provide both the FAA and the certificate holder greater flexibility in dealing with varied equipment configurations, possible reclassification of airspace operating areas, changes in navigational requirements, and changes in air traffic separation standards.

The FAA has authorized these operations in the past and has determined that controlling a VHF communication gap through operations specifications will provide an equivalent level of safety. Loss of the single LRNS still requires each operator to reliably fix the airplane's position at least once each hour if the flight is continued and to navigate within the required degree of accuracy over any authorized route.

Definition of LRNS and LRCS

In the proposal, the FAA defined an LRNS as an electronic navigation unit that is approved for use under instrument flight rules (IFR) as a primary means of navigation and has at least one source of navigational input, such as INS, Omega/very low frequency, and Loran C. In this definition, the FAA did not limit the scope of acceptable LRNS to radio-based or ground-based systems. Such nonradio, nonground-based systems as INS are included within the scope of acceptable alternatives as long as the system chosen has been approved for use under IFR. If approved, GPS or similar

navigation systems also could fall within this definition. Where ADF or VOR radio navigation is impractical or unusable, the FAA interprets the current regulations to require the airplane to be equipped with two LRNS for extended overwater operations. This final rule changes this dual LRNS requirement. For parts 121, 125, and 135, authorization for a single LRNS and a single LRCS will be approved in the certificate holder's operations specifications. Since affected part 91 operators do not use operations specifications, they would be authorized to use a single LRNS, but only in the geographic area.

Although not defined in the proposal, the FAA has determined that, for clarity, LRCS, like LRNS, should be defined in the final rule. The FAA defines an LRCS as a long-range communication system that uses satellite relay, data link, high frequency, or other approved communication system which extends beyond line of sight. The FAA also has determined that the definitions for LRNS and LRCS would be better placed in part 1, Definitions and Abbreviations, for easy reference of all affected operators and to avoid the redundancy of repeating the definitions in all affected parts. Therefore, the definitions for LRCS and LRNS will be added to § 1.1, General definitions. These definitions will be added to this section, in appropriate alphabetical order, following the currently listed definition of "load factor."

Conditions and Limitations for All Operators

Because part 91 operators are not required to have operations specifications, this rule limits general aviation single LRNS operations to the geographic area. The areas of operation covered in this rule for affected general aviation operators include the Gulf of Mexico, the Caribbean Sea, and the Atlantic Ocean west of a line which extends from 44°47'00" N / 67°00'00" W to 39°00'00" N / 67°00'00" W to 38°30'00" N / 60°00'00" W south along the 60°00'00" W longitude line to the point where the line intersects with the northern coast of South America. This geographic area does not include the North Atlantic Minimum Navigational Performance Specifications (NAT/MNPS) airspace, where operations are governed by § 91.705 and appendix C to part 91.

Limitations for air carrier and commercial operations will be set forth in the certificate holders' operations specifications. As in the case of general aviation operations, the area of operation for air carrier and commercial

operators will not include NAT/MNPS airspace. At a minimum, these operators must always comply with International Civil Aviation Organization (ICAO) requirements for the area of operations.

Discussion of Comments

On October 5, 1993, the FAA published a notice proposing to allow extended overwater operations with single LRCS and single LRNS (58 FR 51938). The FAA received six comments on the proposal. The National Business Aircraft Association, Inc. (NBAA), the Aircraft Owners and Pilots Association (AOPA), and the Air Transport Association (ATA) expressed support with recommendations. Northwest Airlines expressed neither support nor opposition but did provide a recommendation. The Boeing Commercial Airplane Group acknowledged the proposal but had "no comment" and an aviation consulting firm was opposed to the proposal. These comments are discussed as follows:

NBAA

The NBAA indicated that it "strongly supports" the proposed changes to allow single LRNS and LRCS. It recommended, however, that proposed § 121.99 be incorporated into parts 91, 125, and 135 since these parts also require the latitude to access new technology communication links without being tied solely to HF.

FAA response: This rule is intended to affect use of LRNS and LRCS for extended overwater operations. The FAA recognizes that additional updates to the rules are needed in view of advances in technology, such as GPS. Such changes will be addressed in future rulemaking initiatives.

AOPA

AOPA supported the proposal and recommended that the requirement for an LRCS be eliminated entirely for certain aircraft in flight conditions where no more than a 30-minute gap in two-way communications exists. AOPA supported its recommendation by stating that LRCS equipment is cumbersome and expensive. According to the commentor, LRCS equipment is often adversely affected by precipitation and other weather conditions. Further, in overwater areas, pilots relay transmissions to ATC through other aircraft and do not depend on their LRCS.

FAA response: The FAA acknowledges that an LRCS has some disadvantages; however, these disadvantages are offset by the necessity for communications when an airplane is operating in extended overwater beyond

the range of VHF ground-based communications. While airplanes operating in accordance with § 91.511 are not involved in the carriage of persons or cargo for compensation or hire, these airplanes nevertheless share airspace in the geographic area with air carriers which are engaged in transporting passengers and cargo. Therefore, the FAA considers it necessary for safety that all aircraft operating in the geographic area be able to communicate with ATC at all times.

ATA

The ATA supported the proposal indicating that it would provide administrative and economic relief from an unnecessary regulatory burden. Apparently in reference to the 15-day comment period however, the commentor noted that, in future proposals, the FAA must abide by the requirements of the Administrative Procedures Act (APA). Northwest echoed this comment regarding the APA.

FAA response: In allotting the 15-day comment period, the FAA was responding to the large number of requests for relief from the aviation industry. The FAA considered it to be in the best interest of safety and the public to expedite the regulation by every means possible. The FAA did not violate any requirements of the APA, which does not require specific comment periods for rulemaking.

Northwest Airlines

Northwest Airlines suggested that the proposed rule be amended to allow operations in NAT/MNPS airspace for flights to and from SLATIN along or west of A632. According to the commentor, the area of NAT/MNPS airspace traversed by A632 is within VHF coverage except for an area of non-coverage located on either side of the mid point of A632 between Bermuda and the mainland of the U.S. The commentor asserted that this non-coverage area can be traversed within 6 minutes. Northwest further indicated that extending the boundary of the area below 27°00'00" N from longitude 60°00'00" W, would include the island of Barbados and thereby preclude any confusion regarding coverage of the total Caribbean island chain. Lastly, Northwest indicated that the coordinates describing operations under part 91 do not have the same boundaries as defined by part 91, appendix C. According to the commentor, this presents confusion to ATC with respect to the different requirements for air carrier and general aviation operations.

FAA response: The route from SLATIN along A632 to approximate 38°30'00" N and 67°30'00" W is NAT/MNPS airspace and, as such, is governed by ICAO agreements which require redundant navigation and communication systems. It is not within the scope (authority) of this rule to alter those agreements. This airspace represents an extremely small part of the total geographic area considered in this rule and can be crossed in 6 minutes by a turbine-powered air transport category airplane. Airlines may operate through this airspace with one LRNS and one LRCS provided they obtain a letter of agreement with ATC. These operations have been successful in the past and the FAA does not consider it to be in the public interest for the U.S. government to file a difference with ICAO.

The boundaries defined in the rule represent a general oceanic area, outside NAT/MNPS airspace, in which a single LRNS and single LRCS may be used when an airplane is unable to navigate by reference to standard ICAO navigational aids such as VOR or ADF. The location of the island of Barbados outside the western boundary of the geographic area does not exclude it from operations conducted under this regulation since VOR coverage extends well into the geographic area.

The commentor's concern regarding possible conflict between the requirements of part 91, appendix C and the boundaries of the geographic area of the rule is unfounded. Part 91, appendix C refers to operations within NAT/MNPS airspace whereas the regulation limits operation to airspace outside NAT/MNPS airspace.

Aviation Consulting Firm

George Rabe & Associates, the aviation consulting firm opposed to the proposal indicated that some of the more modern communication and navigation systems are an improvement; however, some are not. Nonetheless, according to the commentor, since smaller airlines cannot afford to purchase the more expensive communication and navigation systems, they do not have the luxury of operating with enhanced accuracy and reliability provided by the more sophisticated systems. This commentor stated that the economic arguments of the proposal are not justified given that GPS is expected to bring down costs and that some operators will still conduct operations requiring the use of dual LRNS and LRCS. Moreover, according to this commentor, increased air traffic and reduced separation standards should bring forth a requirement for improved

navigation safety not a reduction in safety standards. Indicating that errors are not mechanical but human, this commentor recommended maintaining the requirement for dual LRNS and LRCS and also improving training requirements.

FAA response: The FAA realizes that cost differences exist among LRNS and LRCS equipment and that there may be some differences in accuracy; however, all equipment used for operations under this rule must meet certain standards of approval established by the FAA. These standards serve to assure that an acceptable level of safety is maintained regardless of the cost and availability of the equipment.

The safe operation of LRNS and LRCS is a part of the operators' approved training program and is assured by FAA inspection and surveillance. Knowing that mistakes in navigation occasionally will be made, the FAA established certain operational factors in the rule to minimize any potential threat to safety which may result from potential errors.

One of the major factors considered in this rule is the question of economic burden to the air transportation industry. The FAA believes that this rule will relieve the airlines of a significant cost burden. If GPS LRNS units, and subsequently approved operations, present a cost savings above other, more prevalent, systems in use today, the FAA would certainly favor such a potential.

Economic Summary

This final rule reduces costs to operators by eliminating the requirements for two LRCS and two LRNS in the Gulf of Mexico, part of the western Atlantic Ocean, and the Caribbean Sea (the geographic area). Savings will come from reduced avionics costs, reduced fuel consumption from less aircraft weight, and reduced risk of flight cancellations due to inoperative equipment.

The FAA estimates the fleet size operating in the geographic area will be approximately 158 airplanes in 1995. The FAA assumes that the size of the fleet serving the geographic area will grow by 5.5 percent annually over the 10-year period, 1995-2004. Although the fleet composition varies from jumbo jets to smaller twin-engine turboprop planes, commercial operators most often use Boeing 727's in the geographic area. In addition to the scheduled commercial fleet, general aviation and non-commercial operators operating in the geographic area will gain some relief from this rule as well. The FAA, however, does not have an accurate

measure of the size of the fleet operating in the geographic area.

Each commercial operator will save approximately \$17,000 per airplane in equipment costs and will reduce aircraft weight 20 pounds per airplane by eliminating one LRCS; each commercial operator will save about \$36,000 per airplane in equipment costs and will reduce aircraft weight 20 pounds per airplane by eliminating one LRNS. For existing airplanes with equipment made redundant by this rule, the resulting avionics cost savings will total about \$53,000 per converted airplane. The FAA also estimates that each additional pound on an airplane costs an operator an additional 15 gallons of fuel annually. Assuming a converted airplane removes two 20-pound pieces of equipment, the reduction in weight will save 600 gallons of fuel each year. Using a 1993 average jet fuel price of \$.675 per gallon, the reduction in weight of 600 gallons of fuel per year will result in annual savings totaling over \$400 per converted airplane.

Additional savings from the rule will also come from reduced flight cancellations as operators experience fewer equipment failures as a result of the reduced equipment requirements. Cost reduction resulting from the prevention of a cancellation depends on passenger time, passenger handling costs, lost revenue, and operating costs. The approximate cost of a Boeing 727 cancellation is estimated to equal just over \$28,000. The FAA, however, does not have an accurate estimate for the number of flight cancellations attributable to non-functioning LRCS or LRNS for airplanes operating in the geographic area from which to estimate the total cost savings resulting from reduced cancellations.

The FAA assumes that 50 percent of the commercial fleet serving the geographic area will reduce the equipment in its airplanes to only one LRCS and one LRNS, and that this conversion will occur during the first 2 years after implementation of the rule. Thereafter, the FAA assumes that one-half the airplanes added to the commercial fleet will be placed in service with only one LRCS and one LRNS. The FAA further assumes that the savings resulting from reduced fuel expenditure applies to the equipment conversion of 50 percent of the fleet converting to a single LRCS and a single LRNS.

In each of the first 2 years after the rule becomes effective, the industry will reduce avionics costs by over \$2 million. Over the decade 1995-2004, the total savings in 1993 dollars for reduced avionics requirements will exceed \$6.7

million. The fuel savings resulting from airplane weight reduction will add another \$389,000 in reduced costs, bringing the total cost savings in 1993 dollars for this final rule to more than \$7.1 million. The net discounted savings for the decade 1995–2004, will total just over \$5.7 million.

The FAA has determined that no safety problem exists with the reduction in requirements for dual LRCS and dual LRNS for certain overwater operations. In the past two decades, the FAA has granted limited exemption from the requirements for dual LRCS and LRNS to certain qualified operators operating in the geographic area. No airplane operating under exemption has had an accident which can be attributed to having only one LRCS or one LRNS. During that time, the accuracy and reliability of navigation equipment has continuously improved. Thus, the FAA believes that this rule presents no degradation in aviation safety in the geographic area.

International Trade Impact Analysis

Domestic air carriers will receive a negligible cost reduction, but there will be no impact on foreign operators. Hence, this rule will have no effect on the sale of foreign aviation products or services in the U.S. or on the sale of U.S. products or services in foreign countries.

Regulatory Flexibility Determination

The Regulatory Flexibility Act of 1980 (RFA) ensures that government regulations do not needlessly and disproportionately burden small businesses. The RFA requires the FAA to review each rule that may have "a significant economic impact on a substantial number of small entities."

FAA criteria define "a substantial number" as not less than eleven nor more than one-third of the small entities subject to the rule. Among air carriers, a small entity is defined as one which owns, but does not necessarily operate, nine or fewer aircraft. The criteria define "a significant impact" as follows: \$102,000 for scheduled air carriers with 60 or more seats; \$57,000 for scheduled air carriers with fewer than 60 seats.

This amendment is wholly cost relieving. By eliminating the need for two LRCS and LRNS in the geographic area, the estimated cost savings to an operator is \$53,000. This savings is less than the threshold amount for small, scheduled operators.

Federalism Implications

The regulations adopted herein will not have substantial direct effects 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. Therefore, in accordance with Executive Order 12612, it is determined that this rule would not have federalism implications requiring the preparation of a Federalism Assessment.

International Civil Aviation Organization and Joint Aviation Regulations

In keeping with U.S. obligations under the Convention on International Civil Aviation, it is FAA policy to comply with ICAO Standards and Recommended Practices (SARP) to the maximum extent practicable. For this amendment, the FAA has reviewed the SARP of Annex 6, Parts I and II, applicable to international commercial air transportation operations and international general aviation operations respectively. The FAA has determined that this rule would not present any differences.

Paperwork Reduction Act

This rule contains no information collection requests requiring approval of the Office of Management and Budget pursuant to the Paperwork Reduction Act (44 U.S.C. 3507 et seq.).

Conclusion

For the reasons discussed in the preamble, and based on the findings in the Regulatory Flexibility Determination and the International Trade Impact Statement, the FAA has determined that this regulation is not significant under Executive Order 12866. In addition, it is certified that this rule will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. This rule is not significant under DOT Regulatory Policies and Procedures (44 FR 11034; February 26, 1979).

List of Subjects

14 CFR Part 1

Air Transportation.

14 CFR Part 91

Aircraft, Airmen, Airports, Air traffic control, Aviation safety.

14 CFR Part 121

Air Carriers, Aircraft, Airmen.

14 CFR Part 125

Aircraft, Airmen, Aviation safety.

14 CFR Part 135

Air taxis, Aircraft, Airmen, Aviation safety.

The Amendment

In consideration of the foregoing, the Federal Aviation Administration amends 14 CFR parts 1, 91, 121, 125, and 135 as follows:

PART 1—DEFINITIONS AND ABBREVIATIONS

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

Authority: 49 U.S.C. 106(g), 40113, 44701.

2. Section 1.1 is amended by adding the following definitions:

§ 1.1 General definitions.

* * * * *

Long-range communication system (LRCS). A system that uses satellite relay, data link, high frequency, or another approved communication system which extends beyond line of sight.

Long-range navigation system (LRNS). An electronic navigation unit that is approved for use under instrument flight rules as a primary means of navigation, and has at least one source of navigational input, such as inertial navigation system, global positioning system, Omega/very low frequency, or Loran C.

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PART 91—AIR TRAFFIC AND GENERAL OPERATING RULES

3. The authority citation for part 91 is revised 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. In § 91.11, paragraph (a) introductory text is amended by removing "paragraphs (c) and (d)" and by adding "paragraphs (c), (d), and (f)", in its place and new paragraph (f) is added to read as follows:

§ 91.511 Radio equipment for overwater operations.

* * * * *

(f) Notwithstanding the requirements in paragraph (a)(2) of this section, a person may operate in the Gulf of Mexico, the Caribbean Sea, and the Atlantic Ocean west of a line which extends from 44°47'00" N / 67°00'00" W to 39°00'00" N / 67°00'00" W to 38°30'00" N / 60°00'00" W south along the 60°00'00" W longitude line to the point where the line intersects with the northern coast of South America, when:

- (1) A single long-range navigation system is installed, operational, and appropriate for the route; and
- (2) Flight conditions and the aircraft's capabilities are such that no more than a 30-minute gap in two-way radio very high frequency communications is expected to exist.

PART 121—CERTIFICATION AND OPERATIONS: DOMESTIC, FLAG, AND SUPPLEMENTAL AIR CARRIERS AND COMMERCIAL OPERATORS OF LARGE AIRCRAFT

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

Authority: 49 U.S.C. 106(g), 40101, 40105, 40113, 44701–44702, and 44704–44705.

6. The first sentence of § 121.99 is revised to read as follows:

§ 121.99 Communication facilities.

Each domestic and flag air carrier must show that a two-way radio communication system is available at points that will ensure reliable and rapid communications, under normal operating conditions over the entire route (either direct or via approved point-to-point circuits) between each airplane and the appropriate dispatch office, and between each airplane and the appropriate air traffic control unit except as specified in § 121.351(c).

7. Section 121.351 is amended by revising paragraph (a) and adding new paragraph (c) to read as follows:

§ 121.351 Radio and navigation equipment for extended overwater operations and for certain other operations.

(a) Except as provided in paragraph (c) of this section, no person may conduct an extended overwater operation unless the airplane is equipped with the radio communication equipment necessary to comply with § 121.349, an independent system that complies with § 121.347 (a)(1), and two long-range navigation systems when VOR or ADF radio navigation equipment is unusable along a portion of the route.

(b) * * *

(c) Notwithstanding the requirements of paragraph (a) of this section, installation and use of a single LRNS and a single LRCS may be authorized by the Administrator and approved in the certificate holder's operations specifications for operations and routes in certain geographic areas. The following are among the operational factors the Administrator may consider in granting an authorization:

- (1) The ability of the flightcrew to reliably fix the position of the airplane within the degree of accuracy required by ATC,
- (2) The length of the route being flown, and
- (3) The duration of the very high frequency communications gap.

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

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

Authority: 49 U.S.C. 106(g), 1153, 40104, 40105, 44113, 44701–44705, 44707–44714, 44716–44717, 44722.

9. Section 125.203 is amended by adding the phrase "Except as provided in paragraph (e) of this section," at the beginning of the first sentence of paragraph (c) introductory text and adding a new paragraph (e) to read as follows:

§ 125.203 Radio and navigation equipment.

(e) Notwithstanding the requirements of paragraph (c) of this section, installation and use of a single long-range navigation system and a single long-range communication system for extended overwater operations in certain geographic areas may be authorized by the Administrator and approved in the certificate holder's operations specifications. The following are among the operational factors the

Administrator may consider in granting an authorization:

- (1) The ability of the flightcrew to reliably fix the position of the airplane within the degree of accuracy required by ATC,
- (2) The length of the route being flown, and
- (3) The duration of the very high frequency communications gap.

PART 135—AIR TAXI OPERATORS AND COMMERCIAL OPERATORS

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

Authority: 49 U.S.C. 106(g), 1153, 40101, 40105, 44113, 44701–44705, 44707–44717, 44722, and 45303.

11. Section 135.165 is amended by adding a new paragraph (d) to read as follows:

§ 135.165 Radio and navigation equipment: Extended overwater or IFR operations.

* * * * *

(d) Notwithstanding the requirements of paragraphs (a) and (b) of this section, installation and use of a single long-range navigation system and a single long-range communication system, for extended overwater operations, may be authorized by the Administrator and approved in the certificate holder's operations specifications. The following are among the operational factors the Administrator may consider in granting an authorization:

- (1) The ability of the flightcrew to reliably fix the position of the airplane within the degree of accuracy required by ATC,
- (2) The length of the route being flown, and
- (3) The duration of the very high frequency communications gap.

Issued in Washington, D.C., on February 20, 1996.

David R. Hinson,
Administrator.

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Corrections

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§ 91.511 [Corrected]

On page 7190, in the third column, in amendatory instruction 4 to § 91.511, in the first line, "§ 91.11" should read "§ 91.511".

DEPARTMENT OF TRANSPORTATION

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Federal Aviation Administration

14 CFR Part 91

[Docket No. 27474; Amendment No. 1-44, 91-249, 121-254, 125-25 and 135-61]

RIN 2120-AF12

Extended Overwater Operations with a Single Long-Range Communication System (LRCS) and a Single Long-Range Navigation System (LRNS)

Correction

In rule document 96-4263, beginning on page 7186 in the issue of February 26, 1996, make the following correction: