



AIR TRANSPORT ASSOCIATION

July 7, 2003

U.S. Department of Transportation
Docket Management System
400 7th Street SW, Room PL 401
Washington, DC 20590

Re: *Notice of Proposed Rulemaking: Area Navigation (RNAV) and Miscellaneous Amendments (Partial Reopening of Comment Period)*
FAA Docket No. 2002-14002
68 Fed. Reg. 16992 (April 8, 2003)

Dear Docket Clerk:

The Air Transport Association of America, Inc. (“ATA”)¹ and its member airlines appreciate the extension of the comment period in the original Notice of Proposed Rulemaking issued on December 17, 2002 (67 Fed. Reg. 77326) (“NPRM”). Due to the significant proposed technical amendments, the additional time to review the proposal has been of benefit to all engaged stakeholders.

As in the past, we fully support FAA’s continuous efforts to amend its regulations to reflect technological advances and conceptual improvements designed to improve airspace system efficiencies. ATA and its member airlines recognize the difficulties inherent in the harmonization of the proposed amendment with existing federal regulations and extensive technical guidance, as well as international standards. We welcome the opportunity to work with the FAA in these efforts and believe this partnership benefits the traveling public, the FAA, and the industry as a whole.

As a preliminary matter, we urge the FAA to continue to use existing collaborative technical committees to address issues relating to Area Navigation (RNAV) and terminal area operations. The scope of this NPRM is broad and could have significant ramifications on existing technical guidance, related regulatory requirements, and current airline operations/maintenance. We believe initial consideration of the need for and impact of the proposals at issue by the Terminal Area Operations Aviation Rule-Making Committee (“TAOARC”), particularly the proposed amendments to 14 CFR Section 121.99(a), could have simplified the process and narrowed the issues on which more

¹ ATA is the principal trade and service organization of the U.S. scheduled airline industry. Members are: Airborne Express, Alaska Airlines, Aloha Airlines, America West Airlines, American Airlines, ATA Airlines, Atlas Air, Continental Airlines, Delta Air Lines, DHL Airways, Emery Worldwide, Evergreen International, FedEx Corporation, Hawaiian Airlines, JetBlue Airways, Midwest Airlines, Northwest Airlines, Polar Air Cargo, Southwest Airlines, United Airlines, United Parcel Service, and US Airways. Associate members are: Aerovias de Mexico, Air Canada, Air Jamaica, KLM Royal Dutch Airlines, and Mexicana.

deliberation was necessary. TAOARC was created to facilitate exactly this type of integrated technical analysis of RNAV issues. After receiving additional comments on the remaining open issues in the NPRM, we urge the FAA to refer the proposal to the TAOARC for consideration. This would ensure meaningful collaboration among the FAA, aviation industry, and other impacted stakeholders and facilitate resolution of the outstanding issues.

In addition, as indicated in the comments to the initial NPRM and the amendments remaining open for comment, the meaning and application of aspects of the proposal are unclear. It, therefore, is very difficult for the industry to comment on FAA's cost benefit analysis. The industry is particularly concerned about the scope of the proposed amendment to 14 CFR Section 121.99(a) concerning communication systems between an airplane and the appropriate dispatch office, specifically the proposed definition of "rapid communications." After review and clarification of the proposed requirements by the TAOARC, particularly the regulatory and/or safety benefits, we urge the FAA to conduct a robust economic analysis of the proposal and to permit additional analysis by the industry, if necessary. Even if the FAA decides not to refer the proposal to TAOARC, we urge the FAA to reevaluate its analysis in light of the additional comments to the docket. There are many uncertainties and unanswered questions; their resolution will determine the ultimate benefit and impact of the proposal.

In addition to these preliminary comments, ATA submits the following comments on specific provisions. All references are to the Federal Register Volume 67 (December 17, 2002), with specific item number and page numbers listed.

Comments to the Proposed Amendments:

- 1. Part 1- DEFINITIONS AND ABBREVIATIONS, Item 2, 77339**
 - a. Remove the definitions of Area navigation high route, Area navigation low route, Category II operations, Category III operations, Category IIIa operations, Category IIIb operations, Category IIIc operations, Decision height, Minimum descent altitude, Nonprecision approach procedure, Precision approach procedure, and RNAV way point.**

NPRM Proposal:

Replacement of current definitions by new definitions and abbreviations for the referenced terms.

Comments:

The proposal includes definitions of terms and concepts that have limited future application or are defined differently in other FAA technical guidance. Continued use of these terms will result in confusion and inconsistencies for operators, and is contrary to FAA's longstanding commitment to harmonization and simplicity. For example, Advisory Circular 120-29A, Page 2, Paragraph 3.4 Category I, II, and III Terminology provides: "The use of the term "non-precision" has been dropped within this AC to reduce confusion which exists with use of this term with current and future systems and authorizations, particularly with Vertical Navigation (VNAV)

and Area Navigation (RNAV), and with other approaches that may incorporate the use of barometric VNAV to provide a stabilized descent path to a runway.”

Resolution:

Include language in the preamble to the FAR Part 1 DEFINITIONS AND ABBREVIATIONS stating that the terms “nonprecision approach procedure” (NPA), “precision approach” (PA), and “precision final approach fix” (PFAF) have been deleted as these definitions no longer provide clarification nor correct context to future approach implementation strategies. Use of the terms “authorized” or “approved” in relation to approach, departure, or arrival procedures would give the needed regulatory authority, while allowing future developments and inherent flexibilities. Further definitions can be included within an air carrier’s Operations Specifications.

Continue to coordinate the development of wording compatible with existing harmonized guidance, specifically, AC 120-28D, and AC 120-29A, to enable the implementation of future approach strategies without creating conflicts (as do the proposed changes).

2. Reference Approach procedure with vertical guidance (APV), Item 2, 77339

Current:

APV is not currently defined in Part 1.

NPRM Proposal:

Include APV in Part 1.

Comments:

Current terminology allows for the incorporation of vertical path into an applicable approach. The inclusion of the term APV only further limits the ability to gain the effective coordination and implementation of LNAV, VNAV, and future implementation of RNP when applied to vertical path.

Resolution:

Delete proposed APV definition in the NPRM.

3. Reference Category I/II/III, Item 2, 77339

Current:

Category II operations, with respect to the operation of aircraft, means a straight-in ILS approach to the runway of an airport under a Category II ILS instrument approach procedure issued by the Administrator or other appropriate authority.

Category III operations, with respect to the operation of aircraft, means an ILS approach to, and landing on, the runway of an airport using a Category III ILS instrument approach procedure issued by the Administrator or other appropriate authority.

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Category IIIa operations, an ILS approach and landing with no decision height (DH), or a DH below 100 feet (30 meters), and controlling runway visual range not less than 700 feet (200 meters).

Category IIIb operations, an ILS approach and landing with no DH, or with a DH below 50 feet (15 meters), and controlling runway visual range less than 700 feet (200 meters), but not less than 150 feet (50 meters).

Category IIIc operations, an ILS approach and landing with no DH and no runway visual range limitation.

NPRM Proposal:

Category II (CAT II) operation is a precision instrument approach and landing with a decision height lower than 200 feet (60 meters), but not lower than 100 feet (30 meters), and with a runway visual range of not less than 1,200 feet (350 meters).

Category III (CAT III) operation is a precision instrument approach and landing with a decision height lower than 100 feet (30 meters) or no DH, and with a runway visual range less than 1,200 feet (350 meters).

Category IIIa (CAT IIIa) operation is a precision instrument approach and landing with a decision height lower than 100 feet (30 meters), or no decision height, and with a runway visual range of not less than 700 feet (200 meters).

Category IIIb (CAT IIIb) operation is a precision instrument approach and landing with a decision height lower than 50 feet (15 meters), or no decision height, and with a runway visual range of less than 700 feet (200 meters), but not less than 150 feet (50 meters).

Category IIIc (CAT IIIc) operation is a precision instrument approach and landing with no decision height and with a runway visual range less than 150 feet (50 meters).

Resolution:

Remove and allow for specific guidance to be provided in the appropriate Advisory Circulars, AC-120-28D, AC 120-29A.

Revise the numerical designations for Category IIIa (CAT IIIa) and Category IIIb (CAT IIIb) of “not less than 700 feet” to the currently understood and approved values. These values are applied by air carrier Operations Specifications, as amended and updated by Handbook Bulletins (HBAT). These revisions will ensure consistency and remove conflicting information.

Coordination by FAA, and specifically through the TAOARC, with the All Weather Operations (AWO), the Operations Specifications Working Group and other industry/FAA groups to determine the appropriate values. This will enable consistent guidance to be located in the applicable guidance document.

Review the use of the word “glide” in subsequent definitions to ensure clarity. With the advent of additional means to determine the desired and expected path of an aircraft, the word “glide” does not add nor contain a meaning or a purpose. The removal of the word “glide” enables a more useful phrase, “vertical path,” instead of a specified “glide path” which may be wrongly correlated with a specific approach capability, such as an ILS, which has a “glide slope.”

Further, in discussion on page 77331, Section 91.129 Operations in Class D Airspace, paragraph (2), the indication is that “glide path” includes both ILS and APV. This should be extended to all applicable procedures, including ILS. The term needs to be applicable to additional applications without deterring continued development of procedures.

Remove the term “approach” from the title “Instrument approach procedure (IAP)”. The statement in paragraph (2) of the text allows for the application where “...en route flight may begin”, which is not necessarily restricted to being on an “approach”. This could be confusing in developing future airspace enhancement strategies and applications of technology.

4. Reference Decision altitude (DA), Item 2, 77339

Current:

Not currently defined in Part 1 Definitions.

NPRM Proposal:

Decision altitude (DA) is a specified altitude at which a person must initiate a missed approach if the person does not see the required visual reference. Decision altitude is expressed in feet above mean sea level.

Comments:

Use of Decision height (DH) and Decision altitude (DA): The industry has been utilizing the term DA(H) and MDA(H) for a significant period of time, with great success. Reverting back to separate descriptors (DA,DH) is not in the interest of human factors issues nor does it add any value to the procedure. DA(H) and MDA(H) allow for additional flexibility to defining the minimums by use of other functioning equipment.

The ICAO definition is included here as a ready reference:

DA: A specified altitude in an instrument approach at which a missed approach must be initiated if the required visual reference to continue the approach has not been established. (Adapted from ICAO - IS&RP Annex 6).

Resolution (For both 4 and 5):

Use of DA(H) as the term to include both DA and DH. Continue use of HAT as indicated in the current ICAO definition.

5. Reference Decision height (DH), Item 2, 77339

Current:

Decision height, with respect to the operation of aircraft, means the height at which a decision must be made, during an ILS or PAR instrument approach, to either continue the approach or to execute a missed approach.

NPRM Proposal:

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Decision height (DH) is a specified height above the ground level at which a person must initiate a missed approach during a Category II or III approach if the person does not see the required visual reference.

Comments:

Use of DH and DA: The industry has been utilizing the term DA(H) and MDA(H) for a significant period of time, with great success. Reverting back to these separate descriptors is not in the interest of human factors issues nor does it add any value to the procedure. DA(H) and MDA(H) allow for additional flexibility to defining the minimums by use of other functioning equipment.

The ICAO definition is included here as a ready reference:

DH: A specified height in an instrument approach at which a missed approach must be initiated if the required visual reference to continue the approach has not been established (Adapted from ICAO - IS&RP Annex 6).

Additionally, the text from the ICAO manual regarding the use of DA(H) is included:

DA(H):

For Category I, a specified minimum altitude in an approach by which a missed approach must be initiated if the required visual reference to continue the approach has not been established. The "Altitude" value is typically measured by a barometric altimeter or equivalent (e.g., Inner Marker) and is the determining factor for minima for Category I Instrument Approach Procedures. The "Height" value specified in parenthesis is typically a radio altitude equivalent height above the touchdown zone (HAT) used only for advisory reference and does not necessarily reflect actual height above underlying terrain.

For Category II and certain Category III procedures (e.g., when using a Fail-Passive autoflight system) the Decision Height (or an equivalent IM position fix) is the controlling minima, and the altitude value specified is advisory. The altitude value is available for cross reference. Use of a barometrically referenced DA for Category II is not currently authorized for 14 CFR part 121, 129, or 135 operations at U.S. facilities (Adapted from ICAO - IS&RP Annex 6).

Resolution (For both 4 and 5):

Use of DA(H) as the term to include both DA and DH. Continue use of HAT as indicated in the current ICAO definition.

6. Reference Night, Item 2, 77340

Current:

Night means the time between the end of evening civil twilight and the beginning of morning civil twilight, as published in the American Air Almanac, converted to local time.

NPRM Proposal:

Night is the time between the end of evening civil twilight and the beginning of morning civil twilight, as published in the American Air Almanac, converted to local

time or such other period between sunset and sunrise, as may be prescribed by the FAA.

Comments:

Leave as currently defined because the revision has the potential to limit operations at a particular location at the discretion of the FAA, and will lead to confusion and inconsistencies at different locations. There is concern as to how the FAA intends to disseminate actual nighttime information at specific locations for the purpose of MEL and legal considerations.

Resolution:

Delete proposed change to definition.

7. Reference Nonprecision approach procedure (NPA), Precision approach procedure (PA), and Precision final approach fix (PFAF), Item 2, 77340

Current:

Nonprecision approach procedure means a standard instrument approach procedure in which no electronic glide slope is provided.

Precision approach procedure means a standard instrument approach procedure in which an electronic glide slope is provided, such as ILS and PAR.

Precision final approach fix (PFAF) is not defined.

Additional definition: From draft of Order 8260.RNP:

1.4.11 Precision Final Approach Fix (PFAF). A 3-dimensional (3D) point located on the final approach where the GPA intercepts the intermediate segment altitude (glidepath intercept altitude). The PFAF marks the plotted position of the beginning of the precision final segment (see figure 1-5). Figure 1-5 not included here.

NPRM Proposal:

Nonprecision approach procedure (NPA) is an instrument approach procedure based on a lateral path and no vertical glide path.

Precision approach procedure (PA) is an instrument approach procedure based on a lateral path and a vertical glide path.

Precision final approach fix (PFAF) defines the beginning of the precision or APV final approach segment, and denotes the location where the glide path intersects the intermediate segment altitude; *i.e.*, where final segment descent on glide path may begin.

Comments:

Review the proposed definitions of terms and concepts for consistency with their use in other FAA technical guidance, particularly terms that have limited future application. If the terms are not used consistently, the discrepancies will be contrary to FAA's longstanding commitment to harmonization and simplicity. For example, Advisory Circular 120-29A, Page 2, Paragraph 3.4 Category I, II, and III Terminology provides: "The use of the term "non-precision" has been dropped within this AC to reduce confusion which exists with use of this term with current and future systems and authorizations, particularly with Vertical Navigation (VNAV) and Area

Navigation (RNAV), and with other approaches that may incorporate the use of barometric VNAV to provide a stabilized descent path to a runway.” It seems appropriate to continue the policy contained in AC 120-29A, rather than to continue to include the terms in the regulation.

Current changes in TERPs will enable the use of linear criteria for an approach construction. This will enable a higher level of precision to be applied to the approach, and will further blend the differences currently held between precision and nonprecision. The future use of a required navigation performance will more specifically and qualitatively define the procedure and associated minimums as applied to the approach. The terms lose their meaning when examined against the current developments and implementations planned. Continuing use of these terms will only add further confusion as the new procedures are developed and applied. The legacy of these terms will continue, but the FAA should minimize their usage.

Despite the adage that “Old habits die hard,” the FAA should not continue to encourage use of these terms.

Resolution:

Delete the proposed terms. Additionally, coordination with text to the draft of Order 8260.RNP should be consistent with the adopted language.

8. Reference Abbreviations and symbols for APV, NPA, and PA, Item 3, 77340

Current:

These terms are not presently defined.

NPRM Proposal:

APV means approach procedure with vertical guidance.

NPA means nonprecision approach procedure.

PA means precision approach procedure.

Comments:

Delete the proposed terms. The inclusion of APV, with the proposed definition, appears designed to designate specific attributes that are currently acceptable to the FAA. Listing these specific attributes as specific approach criteria limits the future application that may be similar, but not the same. Listing and defining these and other specific applications in another document, such as an Advisory Circular, is a better alternative than the prescriptive listing of various approach types.

Resolution for Comments 7 and 8:

Include language in the preamble to the FAR Part 1 DEFINITIONS AND ABBREVIATIONS stating that the terms “nonprecision approach procedure” (NPA), “precision approach” (PA), and “precision final approach fix” (PFAF) have been deleted as these definitions no longer provide clarification nor correct context to future approach implementation strategies. Use of the terms “authorized” or “approved” in relation to approach, departure, or arrival procedures would give the

needed regulatory authority, while allowing future developments and inherent flexibilities. Further definitions can be included within air carriers Operations Specifications.

Continue to coordinate the development of wording compatible with existing harmonized guidance, specifically, AC 120-28D, and AC 120-29A, to enable the implementation of future approach strategies without creating conflicts (as do the proposed changes).

9. Reference §91.129 Operations in Class D airspace, (e)(2), (e)(2)(i), Item 15, 77340

Current:

(e) Minimum Altitudes. When operating to an airport in Class D airspace, each pilot of -

(1) A large or turbine-powered airplane shall, unless otherwise required by the applicable distance from cloud criteria, enter the traffic pattern at an altitude of at least 1,500 feet above the elevation of the airport and maintain at least 1,500 feet until further descent is required for a safe landing;

(2) A large or turbine-powered airplane approaching to land on a runway served by an instrument landing system (ILS), if the airplane is ILS equipped, shall fly that airplane at an altitude at or above the glide slope between the outer marker (or point of interception of glide slope, if compliance with the applicable distance from clouds criteria requires interception closer in) and the middle marker; and

(3) An airplane approaching to land on a runway served by a visual approach slope indicator shall maintain an altitude at or above the glide slope until a lower altitude is necessary for a safe landing.

Paragraphs (e)(2) and (e)(3) of this section do not prohibit normal bracketing maneuvers above or below the glide slope that are conducted for the purpose of remaining on the glide slope.

NPRM Proposal:

(2) Each person operating a large or turbine-powered airplane that is performing approach and landing operations with vertical guidance (APV) or a precision approach procedure must:

(i) Operate at an altitude at or above the glide path between the published precision final approach fix and the decision altitude (DA), or decision height (DH), as applicable; or

Comments:

Include language in the preamble to the FAR Part 1 DEFINITIONS AND ABBREVIATIONS stating that the terms “nonprecision approach procedure” (NPA), “precision approach” (PA), and “precision final approach fix” (PFAF) have been deleted as these definitions no longer provide clarification nor correct context to future approach implementation strategies. Use of the terms “authorized” or “approved” in relation to approach, departure, or arrival procedures would give the needed regulatory authority, while allowing future developments and inherent

flexibilities. Further definitions can be included within an air carrier's Operations Specifications.

Continue to coordinate the development of wording compatible with existing harmonized guidance, specifically, AC 120-28D, and AC 120-29A, to enable the implementation of future approach strategies without creating conflicts (as do the proposed changes).

Discussion on page 77331, Section 91.129 Operations in Class D Airspace, paragraph (2), indicate that "glide path" includes both ILS and APV. This should be extended to all applicable procedures, including ILS. The term used to define the vertical path needs to be applicable to other procedures without deterring continued development.

Resolution:

Remove the word "glide" from definitions and uses within the proposal, unless it is determined that specific reasoned results are required and directed by the application of the word "glide" to the text. The title Instrument approach procedure (IAP) may need to be revised to allow application to other than an "approach." The statement in paragraph (2) of the text allows for the application where "...en route flight may begin", which is not necessarily restricted to being on an "approach". This could be confusing when developing future airspace enhancement strategies and applications of technology. During the final review, determination should be made if the word "approach" is applicable and necessary for clarification.

10. Reference §91.177, Minimum altitudes for IFR operations (a)(2)(i), and (a)(2)(ii), Item 18, 77341

Current:

§ 91.177 Minimum altitudes for IFR operations.

(a) Operation of aircraft at minimum altitudes. Except when necessary for takeoff or landing, no person may operate an aircraft under IFR below -

(1) The applicable minimum altitudes prescribed in Parts 95 and 97 of this chapter; or

(2) If no applicable minimum altitude is prescribed in those parts -

(i) In the case of operations over an area designated as a mountainous area in part 95, an altitude of 2,000 feet above the highest obstacle within a horizontal distance of 4 nautical miles from the course to be flown; or

(ii) In any other case, an altitude of 1,000 feet above the highest obstacle within a horizontal distance of 4 nautical miles from the course to be flown.

NPRM Proposal:

§ 91.177 Minimum altitudes for IFR operations.

(a) *Operation of aircraft at minimum altitudes.* Except when necessary for takeoff or landing, no person may operate an aircraft under IFR below

(1) The applicable minimum altitudes prescribed in parts 95 and 97 of this chapter. However, if both a MEA and a MOCA are prescribed for a particular route or route segment, a person may operate an aircraft below the MEA down to, but not

below, the MOCA, provided the applicable navigation signals are available. For aircraft using VOR for navigation, this applies only when the aircraft is within 22 nautical miles of that VOR (based on the reasonable estimate by the pilot operating the aircraft of that distance); or

(2) If no applicable minimum altitude is prescribed in parts 95 and 97 of this chapter, then

(i) In the case of operations over an area designated as a mountainous area in part 95 of this chapter, an altitude of 2,000 feet above the highest obstacle within a horizontal distance of 4 nautical miles from the course to be flown; or

(ii) In any other case, an altitude of 1,000 feet above the highest obstacle within a horizontal distance of 4 nautical miles from the course to be flown.

Comments:

Applications should allow the inclusion of RNP values, and not just a specific value of 4 nm for all instances. When applicable navigation requirements are established, the ability to reduce the acceptable tolerances should be offered or allowed due to increased navigation accuracy prescribed by applying RNP requirements.

11. Reference §121.99 Communications facilities (a), Item 38, 77344

Current:

(a) Each certificate holder conducting domestic or flag operations must show that a two-way radio communication system or other means of communication approved by the Administrator 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 as § 121.351(c).

(b) For the following types of operations, the communications systems between each airplane and the dispatch office must be independent of any system operated by the United States:

- (1) All domestic operations;
- (2) Flag operations in the 48 contiguous States and the District of Columbia; and
- (3) After March 12, 2001, flag operations outside the 48 contiguous States and the District of Columbia.

NPRM Proposal:

(a) Each certificate holder conducting domestic or flag operations must show that a two-way communication system, or other means of communication approved by the FAA, is available over the entire route under normal operating conditions. The communications may be direct links or via an approved communication link that will provide reliable and rapid communications under normal operating conditions 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). For non-normal and emergency operation conditions, the communication system for use between each airplane and the appropriate dispatch office and between each airplane and the appropriate ATC unit must have two-way voice communication capability.

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For the purpose of communications between the airplane and the dispatch office under this section, the term “rapid communications” means that the caller must be able to establish communications with the called party in less than four minutes.

Comments:

The proposed amendments to 121.99(a) contain new requirements relating to communications between aircraft and dispatch, and aircraft and air traffic control. Under normal operating conditions, the operator must show that a two-way communications system is available over the entire route, and that the system will provide reliable and rapid communications between the airplane and the appropriate dispatch office and between the airplane and the appropriate air traffic control unit. Under non-normal and emergency operations conditions, the system for use between the airplane and the appropriate dispatch office and between the airplane and the appropriate ATC Unit must have two-way voice communication capability. In addition, for communications between the airplane and the dispatch office, the caller must be able to establish communications with the called party in less than four minutes (“four minute limit”).

ATA and its member airlines do not support the proposed four minute limit voice communications between the airplane and the dispatch office because it is unnecessary, it is without any factual justification, and it is arbitrary and capricious. The NPRM provides no factual premises or supporting data of any nature for this new requirement, but refers to a memorandum written more than twenty-five (25) years ago by the Regional Counsel of the FAA’s Southern Region. It is our understanding that an interpretation of FAR121.99 was requested to assist the Southern Region in determining if the communications systems between Southern Airways flight crews and dispatch offices in place in 1977 met the intent of the regulation. At that time, this FAR applied only to domestic operations within the 48 contiguous states. In 2001, the requirements were expanded to international operations. To base the instant requirement solely on a “Speed Memo” written decades before implementation of current technologies that ensure reliable communications is simply not reasonable and fails to consider important aspects of today’s sophisticated operational and communications networks. Further, it is inconsistent with prior agency practices and actual carrier operations, and fails to consider other, more practical, alternatives.

A requirement that the communications system between aircraft and the appropriate dispatch office must be able to establish communication “as soon as practicable” over the entire route is reasonable and will ensure the requisite level of safety. There is no need to mandate an absolute and arbitrary (four minute) requirement that simply cannot be achieved at all times under all circumstances. Most importantly, there is no basis to conclude that in non normal or emergency conditions crew should or must be able to contact the airline dispatch office in less than four minutes. In this type situation, the crew is trained and required by professional skill as well as company policies to focus its full, immediate attention on implementing the safest course of action, communicating with air traffic control and the dispatch office as needed. In some instances, required voice communications in less than four minutes with the dispatch office would be an unwanted and unnecessary distraction for the crew.

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In addition, for domestic operations, voice communications may be interrupted or delayed due to circumstances outside the operator's control. For example, reliability may be impacted by severe weather, limited frequency availability due to initiation of communications by multiple aircraft or frequency saturation, phase of flight, aircraft location, radio frequency monitoring, and other operating circumstances. For international operations, a four minute limit poses even more difficulties due to the inherent nature of remote/oceanic regions (with intense atmospheric conditions) where the primary communication medium is HF Voice. Today's communications networks are sophisticated, complex, and safe, but due to technological limitations, simply cannot guarantee voice communications between aircraft and the appropriate dispatch office in less than four minutes.

For the reasons listed above, ACARS provides a viable, time-proven communications alternative to voice communications systems. Unproven and complex satellite telephone systems would not guarantee voice communications worldwide in less than four minutes 100% of the time under all circumstances, and would be cost prohibitive. Again, it is critical to note that there is no data of any nature that the four minute limit would enhance safety to any degree. Initial cost estimates for satellite communications systems indicate a significant industry wide cost burden. For example, SATCOM would require major aircraft modifications to be completed over a number of years, at a tremendous cost to the operators with no guarantee whatsoever that the four minute limit could be achieved worldwide. Current cost estimates for a nominal satellite communications system from the Honeywell catalog are \$300,000 per aircraft, excluding operational downtime and other required costs for implementation and training.

In summary, the four minute limit is not based on any operational threshold and is arbitrary. An absolute time requirement is not necessary and is not achievable. Even implementation of extremely costly satellite systems will not ensure the stringent communications capability between an airplane and the appropriate dispatch office proposed in the NPRM.

Resolution:

As indicated in our preliminary remarks, if FAA believes further study of communications systems and timely communications is required, TAOARC is the appropriate technical forum for this study. We urge the FAA to utilize this existing group of agency and industry experts before proceeding further. This would ensure a robust, well-informed discussion of current system capabilities, technological developments, and reasonable alternatives to the current proposal, safety concerns, operational issues, potential costs and potential benefits, if any. Significant modifications to existing aircraft communications systems should not be considered or proposed in an NPRM without a full analysis of all criteria. We urge the FAA to withdraw the 1977 memorandum to avoid further confusion on this issue.

In addition, and as stated earlier, because certain aspects of the proposed revisions to 121.99 are unclear and without any substantive analysis, we urge the FAA to conduct a through cost benefit analysis of its final proposal and, if necessary, issue

another NPRM with an appropriate comment period. A full cost benefit analysis of a significant proposal of this nature is critical; it should include an objective discussion of the factual and operational premises for the proposed change, as well as the financial impact of the proposed change and any alternatives considered by the FAA. The industry should be permitted to submit comments on this analysis.

12. Reference to further proposed revisions to paragraphs related and applicable to Part 125, Part 129, and Part 135 are not indicated, but corresponding review of these issues should be made to reflect consistent application of policy throughout the regulations.

13. Reference §97.10 General

Current:

This subpart prescribes standard instrument approach procedures other than those based on the criteria contained in the U.S. Standard for Terminal Instrument Approach Procedures (TERPs). Standard instrument approach procedures adopted by the FAA and described on FAA Form 3139 are incorporated into this part and made a part hereof as provided in 5 U.S.C. 552(a)(1) and pursuant to 1 CFR Part 20. The incorporated standard instrument approach procedures are available for examination at the Rules Docket and at the National Flight Data Center, Federal Aviation Administration, 800 Independence Avenue SW., Washington, D.C. 20590. Copies of SIAPs adopted in a particular FAA Region are also available for examination at the headquarters of that region. Moreover, copies of SIAPs originating in a particular Flight Inspection District Office are available for examination at that office. Based on the information contained on FAA Form 3139, standard instrument approach procedures are portrayed on charts prepared for the use of pilots by the U.S. Coast and Geodetic Survey and other publishers of aeronautical charts.

[Amdt. 97-969, 35 FR 5609, Apr. 7, 1970]

Comments:

The FAA proposes deleting this section of the FAR. It is important that this section remain in place as a means for an operator to implement new technology in a timely manner.

Recommendation:

Do not remove from the Rule as indicated by this NPRM.

14. Reference §91.175, Takeoff and landing under IFR

Comments:

The ATA supports the comments submitted by The Boeing Company, cited here in their entirety.

Proposed Revision Language to §91.175:

§ 91.175 Takeoff and landing under IFR.

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(a) Instrument approaches to civil airports.

Unless otherwise authorized by the Administrator, when an instrument approach to a civil airport is necessary, each person operating an aircraft, except a military aircraft of the United States, shall use a standard instrument approach procedure prescribed for the airport in part 97 of this chapter.

(b) Authorized DA(H) or MDA(H). For the purpose of this section, when the approach procedure being used provides for and requires the use of a DA(H) or MDA(H), the authorized DA(H) or MDA(H) is the highest of the following:

- (1) The DA(H) or MDA(H) prescribed by the approach procedure.
- (2) The DA(H) or MDA(H) prescribed for the pilot in command.
- (3) The DA(H) or MDA(H) for which the aircraft is equipped.

(c) Operation below DA(H) or MDA(H). Where a DA(H) or MDA(H) is applicable, no pilot may operate an aircraft, except a military aircraft of the United States, at any airport below the authorized MDA(H) or continue an approach below the authorized DA(H) unless -

- (1) The aircraft is continuously in a position from which a descent to a landing on the intended runway can be made at a normal rate of descent using normal maneuvers, and for operations conducted under part 121 or part 135 unless that descent rate will allow touchdown to occur within the touchdown zone of the runway of intended landing;
- (2) The flight visibility is not less than the visibility prescribed in the standard instrument approach being used; and
- (3) Except for a Category II or Category III approach where any necessary visual reference requirements are specified by the Administrator, at least one of the following visual references for the intended runway is distinctly visible and identifiable to the pilot:
 - (i) The approach light system.
 - (ii) The threshold.
 - (iii) The threshold markings.
 - (iv) The threshold lights.
 - (v) The runway end identifier lights.
 - (vi) The visual approach slope indicator.
 - (vii) The touchdown zone or touchdown zone markings.
 - (viii) The touchdown zone lights.
 - (ix) The runway or runway markings.
 - (x) The runway lights.

(d) Landing. No pilot operating an aircraft, except a military aircraft of the United States, may land that aircraft when the flight visibility is less than the visibility prescribed in the standard instrument approach procedure being used.

(e) Missed approach procedures. Each pilot operating an aircraft, except a military aircraft of the United States, shall immediately execute an appropriate missed approach procedure when either of the following conditions exist:

- (1) Whenever the requirements of paragraph (c) of this section are not met at either of the following times:
 - (i) When the aircraft is being operated below MDA(H); or

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(ii) Upon arrival at the missed approach point, including a DA(H) where a DA(H) is specified and its use is required, and at any time after that until touchdown.

(2) Whenever an identifiable part of the airport is not distinctly visible to the pilot during a circling maneuver at or above MDA(H), unless the inability to see an identifiable part of the airport results only from a normal bank of the aircraft during the circling approach.

(f) Civil airport takeoff minimums. Unless otherwise authorized by the Administrator, no pilot operating an aircraft under parts 121, 125, 127, 129, or 135 of this chapter may takeoff from a civil airport under IFR unless weather conditions are at or above the weather minimum for IFR takeoff prescribed for that airport under part 97 of this chapter. If takeoff minimums are not prescribed under part 97 of this chapter for a particular airport, IFR takeoff minima for aircraft operating under those parts are 1/2 statute mile visibility.

(g) Military airports. Unless otherwise prescribed by the Administrator, each person operating a civil aircraft under IFR into or out of a military airport shall comply with the instrument approach procedures and the takeoff and landing minimum prescribed by the military authority having jurisdiction of that airport.

(h) Comparable values of RVR and ground visibility.

(1) Except for Category II or Category III minimums, if RVR minimums for takeoff or landing are prescribed in an instrument approach procedure, but RVR is not reported for the runway of intended operation, the RVR minimum shall be converted to ground visibility in accordance with approved Operations Specifications for that operator, if Operations Specifications are applicable, or in accordance with the following table.

RVR (feet)	Visibility (statute miles)
1,600	1/4
2,400	1/2
3,200	5/8
4,000	3/4
4,500	7/8
5,000	1
6,000	1 1/4

(i) Operations on unpublished routes and use of radar in instrument approach procedures. When radar is approved at certain locations for ATC purposes, it may be used not only for surveillance and precision radar approaches, as applicable, but also may be used in conjunction with instrument approach procedures predicated on other types of radio navigational aids. Radar vectors may be authorized to provide course guidance through the segments of an approach to the final course or fix. When operating on an unpublished route or while being radar vectored, the pilot, when an approach clearance is received, shall, in addition to complying with § 91.177, maintain the last altitude assigned to that pilot until the aircraft is established on a segment of a published route or instrument approach procedure unless a different altitude is assigned by ATC. After the aircraft is so established, published altitudes apply to descent within each succeeding route or approach segment unless a different altitude is assigned by ATC. Upon reaching the final approach course or fix, the pilot

may either complete the instrument approach in accordance with a procedure approved for the facility or continue a surveillance or precision radar approach to a landing.

(j) Limitation on procedure turns. In the case of a radar vector to a final approach course or fix, a timed approach from a holding fix, or an approach for which the procedure specifies "No PT," no pilot may make a procedure turn unless cleared to do so by ATC.

(k) Instrument Procedure Component substitution. Fixes, components, or navigation methods may be substituted in an instrument approach procedure as noted by that instrument procedure, as noted by Operations Specifications, or as otherwise authorized by the administrator. If not otherwise restricted or limited, a compass locator or precision radar may be substituted for the outer or middle marker. RNAV, DME, VOR, or non-directional beacon fixes authorized in the standard instrument approach procedure or surveillance radar may be substituted for the outer marker. Applicability of, and substitution for an inner marker for Category II or III approaches is determined by the appropriate part 97 approach procedure, letter of authorization, or operations specification pertinent to the operations.

(l) Notwithstanding provisions of paragraphs c(2), (d), and (e) above, the Administrator may approve use of systems and procedures meeting requirements other than those specified, if:

- 1) The systems and procedures proposed are shown to have equivalent or better performance than other approved systems, are operationally safe, effective, and reliable for approach, landing, missed approach, or takeoff, as applicable, and,
- 2) If visual reference requirements apply, the pilot is able to determine that flight visibility is adequate for safe takeoff or landing.

15. References to and coordination with FAR §121.579:

Comment:

Additionally, as the current provisions in FAR 121.579 require revision to enable the future use of RNP, and the current coordination of the NPRM for RNAV and Misc. Amendments will be affected by the current language in 121.579, the ATA requests that FAA consider including revisions to 121.579 as part of the current NPRM activity. Coordination with ongoing efforts to resolve required and necessary revisions to 121.579 are being engaged by the harmonization efforts of the Flight Guidance Harmonization Working Group (FGSHWG). Their recommendations should be adopted and used as a source for additional activities required by revision as part of this NPRM process.

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The Air Transport Association and its member airlines appreciate the opportunity to submit these additional comments. Please do not hesitate to contact me concerning any questions or additional information you may desire from ATA or its member airlines.

Sincerely,

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