should be no federally mandated lease or loan requirements. One comment suggested that States should have this authority, but all of the other responses indicated that lease or loan decisions should be made at the local level. UMTA agrees that the appropriate level for decisions on the temporary lease or loan of stockpiled buses for emergency service is the local level. However, revenues from lease operations must be used for transit purposes and grantees must seek UMTA approval for the permanent transfer or disposal of vehicles.

A few responses outlined problems with tire lease arrangements for stockpiled buses. Transit operators that lease tires expressed reluctance to lease tires for stockpiled vehicles. While UMTA recognizes this problem we do not feel that it can be satisfactorily resolved in this policy statement. Differences in lease arrangements and local statutory requirements make a single solution impossible; therefore, this problem will be handled on a case-by-case basis.

A few comments indicated that there was no need to issue a stockpiling policy statement because there are no existing provisions which require grantees to immediately dispose of replaced vehicles. These comments misinterpret UMTA's intent in issuing a bus stockpiling policy statement. The bus stockpiling policy statement does not alter existing administrative requirements; it publicizes the option of stockpiling buses as a method of preparing for sudden substantial future increases in demand for service due to local emergencies. Most comments indicated that transit operators were previously unaware of stockpiling as an alternative to the disposal of replaced vehicles.

Accordingly, Title 49 of the Code of Federal Regulations is amended by adding a new Part 639, to read as follows:

PART 639—STOCKPILING OF BUSES

Sec.
639.1 Policy.
639.3 Requirements.

Authority: 49 U.S.C. 1604; 23 U.S.C. 103 and 142; 49 CFR 1.51.

§ 639.1 Policy.

The Urban Mass Transportation Administration will permit the stockpiling of buses by its grantees for future emergency use.

§ 639.3 Requirements.

(a) This section sets out the requirements that the Urban Mass Transportation Administration and its grantees will follow in implementing the policy set out in § 639.1.

(b) "Stockpiling" means removing buses from service and placing them into storage for use during emergencies which increase the demand for transit service.

(c) UMTA will permit the stockpiling of buses that are being replaced because they have been proven to be uneconomical to operate under current conditions in regular transit service. In addition, buses that are no longer needed for regular transit service because of service reductions may be stockpiled.

(d) New bus replacement grants need not always include provisions which reduce the project's cost by applying revenue generated from the disposal of replaced vehicles as an element of the grant contract. Instead of disposing of replaced vehicles, grantees may retain the vehicles for future emergency use.

(e) In cases of bus replacement grants that contain provisions which reduce the project's cost through the disposal of replaced buses, but where the disposal has not yet taken place, UMTA may give the grantee permission to retain the vehicles. In these cases additional UMTA funds may be available to offset 80 percent of the increased project cost due to the elimination of these provisions.

(f) Revenue obtained from the ultimate disposal of stockpiled vehicles must be used to reduce the cost of subsequent capital grants.

(g) The number of buses stored, as well as the type and size of any storage facility, must be consistent with the requirements established in local energy contingency plans.

(h) Stockpiled buses may be used only in the following situations:

(1) A national petroleum shortfall which results in a sharp increase in demand for mass transit services.

(2) As a supplement to regular transit service if unexpected changes in local conditions warrant the immediate availability of increased mass transit capacity.

(3) For short term use as a substitute for buses being rehabilitated.

(i) Grantees must notify the UMTA Regional Administrator in writing when stockpiled buses are returned to service for a period of more than 30 consecutive days or for 90 days or more during a calendar year. This notification must include a description of the conditions which justify removing the bus from the stockpile.

(j) Normal operating costs incidental to the storage of buses, preparation for storage, and if necessary, return to active service are eligible expenses for operating assistance under section 5 of the Urban Mass Transportation Act of 1964, as amended (49 U.S.C. 1604).

(k) Under this regulation capital costs associated with the storage of stockpiled vehicles, such as purchase of land and its suitable preparation, are eligible expenses for capital assistance only under section 5 of the Urban Mass Transportation Act of 1964, as amended; section 103 of Title 23 of the United States Code (Interstate Transfer); and section 142 of Title 23 of the United States Code (Federal Aid Urban Systems).

(l) Stockpiled buses must be maintained in a condition that allows their return to service on short notice. If not so maintained, UMTA may require the grantee to sell the buses and use the proceeds to reduce the costs of subsequent capital grants. In order to maintain the service-ability of stockpiled buses, they may be used periodically as substitutes for buses in regular mass transit operations.

(m) Grantees may temporarily lease or loan stockpiled vehicles to other transit operators for emergency service. However, revenues from lease operations must be used for transit purposes. Grantees must seek UMTA approval for the permanent transfer or disposal of vehicles.

(n) Stockpiled buses may not be used for charter, school bus or other nontransit needs.

Dated: January 13, 1981.

Theodore C. Lutz,

Administrator.

[FR Doc. 81-1785 Filed 1-16-81; 8:45 am]
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federal register

Monday
January 19, 1981

Part XV

Department of Transportation

Federal Aviation Administration

Operations Review Program:
Notice No. 11

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Parts 121, 135, 145, and 147

[Docket No. 21269; Notice No. 81-1]

Operations Review Program: Notice No. 11

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: This notice describes the FAA's disposition of certain proposals discussed at the Operations Review Conference. The FAA has determined that certain amendments to the rules applicable to aircraft and certificated operators should be proposed to expand, clarify, or simplify these rules and to provide a level of safety commensurate with the development and expansion of the aviation system. Proposals included would allow fuel jettisoning when determining landing weight for the alternate airport, would require replacement of three-pointer altimeters, would increase the number of megaphones for airplanes with more than 199 passengers, and would allow operators to reduce capacity in specified situations by blocking seats. Certain other proposals were withdrawn by their proponents. Other proposals are being removed from further consideration after review by the FAA. The proposals, withdrawals, and removals are contained in this notice.

DATES: Comments must be received on or before April 20, 1981.

ADDRESSES: Comments on this proposal may be mailed in duplicate to: Federal Aviation Administration, Office of the Chief Counsel, Attn.: Rules Docket (AGC-204), Docket No. 21269, 800 Independence Avenue, SW., Washington, D.C. 20591, or delivered in duplicate to: Room 916, 800 Independence Avenue, SW., Washington, D.C. 20591. Comments delivered must be marked: Docket No. 21269. Comments may be inspected at Room 916 between 8:30 a.m. and 5:00 p.m.

FOR FURTHER INFORMATION CONTACT:

Mr. Everett W. Pittman, Regulatory Review Branch (AVS-22), Safety Regulations Staff, Associate Administrator for Aviation Standards, Federal Aviation Administration, 800 Indpendence Avenue, SW., Washington, D.C. 20591, Telephone: (202) 755-8714.

SUPPLEMENTARY INFORMATION:

Comments Invited

Interested persons are invited to participate in the making of the proposed rule by submitting such written data, views, or arguments as they may desire. Comments relating to the environmental, energy, or economic impact that might result from adoption of the proposals contained in this notice are invited. Communications should identify the regulatory docket or notice number and be submitted in duplicate to the address above. All communications received on or before the date specified above will be considered by the Administrator before taking action on the proposed rule. The proposals contained in this notice may be changed in light of the comments received. All comments submitted will be available, both before and after the closing date for comments, in the rules docket for examination by interested persons. A report summarizing each substantive public contact with FAA personnel concerned with this rulemaking will be filed in the docket. For convenience, each proposal in this notice is numbered separately. The FAA requests that interested persons, when submitting comments, refer to proposals by these numbers and by the sections to which they relate.

Commenters wishing to have the FAA acknowledge receipt of their comments submitted in response to this notice must submit with those comments a self-addressed, stamped postcard on which the following statement is made: "Comments on Docket No. 21269." The postcard will be dated, time stamped, and returned to the commenter.

Availability of This Notice

Any person may obtain a copy of this notice of proposed rule making (NPRM) by submitting a request to the Federal Aviation Administration, Office of Public Affairs, Attention: Public Information Center, APA-430, 800 Independence Avenue, SW., Washington, D.C. 20591, or by calling (202) 426-8058. Communications must identify the notice number of this MPRM. Persons interested in being placed on a mailing list for future NPRMs should request a copy of Advisory Circular No. 11-2 which describes the application procedures.

Background

The aviation industry in the United States and abroad has grown substantially during the last 10 years. Paralleling its rapid growth and numerous technological advances are significant changes in the operating environment in which airmen, air agencies, and aircraft operators function.

To enhance the FAA's responsiveness to the needs of the general public and the aviation community in fulfilling the agency's aviation safety responsibilities, the FAA issues Notice 79-9 (40 FR 8685; February 28, 1975), inviting all interested persons to submit proposals for consideration during the Operations Review Program. The FAA received more than 5,000 individual comments contained in 123 submissions. Based on those comments and on the compilation of proposals, the FAA prepared a number of working documents for the Operations Review Conference held in Arlington, VA. The FAA distributed those documents to each person who participated in the Operations Review Conference and to all other interested persons who requested them.

The Operations Review Conference was attended by more than 600 persons. Various committees discussed all scheduled agenda items during the conference. Summaries were given by the FAA committee chairperson at the close of the discussion on each agenda item. Persons present were given the opportunity to correct those oral summaries. Those summaries were edited, combined with an attendee list and transcripts of certain plenary session speeches, and distributed to all attendees and to other interested persons.

The Proposals

This notice deals with selected proposals concerning Parts 121, 135, 145, and 147 contained in the following Operations Review Committee Workbooks.

Committee No.	Title
1	Aircraft Equipment and Requirements.
2	Aircraft Maintenance.
3	Aircraft Operating Rules.
4	Airmen Certification.
6	Certificated Operators and Agencies.
7	Flight Attendants.
10	Special Issues.

A number of proposals contained in both the compilation and the working documents are not included in this notice. The proposals listed in Appendices I and II fall into two categories as follows: Appendix I—Proposals withdrawn by proponent; Appendix II—Proposals removed from consideration.

The Proposed Amendments

Accordingly, the Federal Aviation Administration proposes to amend Parts

121, 135, 145, and 147 of the Federal Aviation Regulations (14 CFR Parts 121, 135, 145, and 147) as follows:

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

11–1. By amending § 121.197 by adding a sentence at the end to read as follows:

§ 121.197 Transport category airplanes: Turbine engine powered: Landing limitations: Alternate airports.

* * * In the case of an alternate airport for departure, as provided in § 121.617, allowance may be made for fuel jettisoning in addition to normal consumption of fuel and oil when determining the weight anticipated at the time of arrival.

Explanation. An alternate airport for departure is an airport to which, in the event of an emergency condition during or shortly after takeoff, the airplane may proceed, instead of returning to a departure airport which is below landing minimums. Fuel jettisoning is allowed under §§ 121.191 and 121.193 if that airplane returns to the departure airport. Thus, allowance may be made for jettisoning fuel, in addition to the normal consumption of fuel and oil, when determining the anticipated landing weight at the alternate airport for departure.

Ref. Proposal 407; § 121.197; Committee 3; Agenda Item C–3.

11–2. By revising § 121.285 (b) and (c), and adding a new § 121.285(d) to read as follows:

§ 121.285 Carriage of cargo in passenger compartments.

* * * * *

(b) Cargo (including carry-on baggage) may be carried anywhere in the passenger compartment if it is carried in an approved cargo bin that meets the following requirements.

* * * * *

(c) Cargo (including carry-on baggage) may be carried forward or alongside of seated passenger compartment occupants if the cargo is restrained in accordance with the following:

* * * * *

(d) Cargo (including carry-on baggage) may be carried aft of seated passenger compartment occupants if the cargo is restrained in accordance with paragraph (c) of this section and a bulkhead or divider of sufficient strength to withstand the cargo-induced inertia forces specified in § 25.561(b)(3) is directly forward of the cargo.

Explanation. Present § 121.285 specifies minimum safety standards for the carriage of cargo (including carry-on baggage) in passenger compartments by specifying the location of that cargo relative to seated passengers. Since flight attendants are considered crewmembers and not passengers, the current language excludes them when establishing those locations. Flight attendants should be afforded the same level of safety as the passengers. Substitution of the words "passenger compartment occupants" for the word "passengers" in §§ 121.285 (b) and (c) would require consideration of all occupants when establishing cargo location. However, this change without other clarifying changes would eliminate the carriage of cargo in the passenger cabin other than in approved cargo bins, as a flight attendant is usually seated at the most forward bulkhead near the entrance door for emergency evacuation purposes.

The phrase "foremost seated passengers" in current § 121.285(b) is somewhat confusing and is unnecessary, since cargo can be carried forward, aft, or alongside of seated occupants if it is carried in an approved cargo bin. Accordingly, § 121.285(b) as proposed is rewritten to clarify that cargo may be carried anywhere in a passenger compartment if it is carried in an approved cargo bin.

Section 121.285(c) as proposed is rewritten to remove any mention of cargo bins because of the proposed revision to § 121.285(b). Also, new wording is proposed which states that cargo may be carried forward of or alongside of seated passenger compartment occupants if it is restrained in accordance with §§ 121.285 (c)(1) through (c)(5). Finally, proposed § 121.285(d) would permit the carriage of cargo aft of seated passenger compartment occupants if it is placed directly aft of a structural bulkhead or divider of sufficient strength to withstand crash inertia loads and is also restrained in accordance with § 121.285 (c)(1) through (c)(5).

Ref. Proposals 413 and 414; § 121.285; Committee 6A; Agenda Item E.

11–3. By amending § 121.291 by revising paragraphs (a) (1) and (2) and adding a new paragraph (a)(3), by redesignating paragraphs (b) and (c) as (d) and (f), respectively, and by adding new paragraphs (b), (c), and (e) to read as follows:

§ 121.291 Demonstration of emergency evacuation procedures.

(a) * * *

(1) Upon increasing the passenger seating capacity by more than 5 percent above the maximum number previously evacuated in a successful seating capacity demonstration, but not more than the maximum number certificated for the airplane;

(2) Following rebuilding or alteration that significantly changes the passenger cabin seating configuration or emergency exits; or

(3) Upon the initial introduction of a type and model of airplane into passenger-carrying operations.

(b) However, the demonstration required under paragraph (a) need not be repeated for any airplane type or model for which a successful full seating capacity demonstration has been performed by an aircraft manufacturer under Part 25 of this chapter or by a Part 121 certificate holder providing—

(1) The passenger seating capacity for which a successful full seating capacity demonstration has been conducted has not been increased by more than 5 percent, but not more than the maximum number certificated for the airplane;

(2) The passenger cabin interior configuration, including the location of flight attendants, has not been changed in a manner that will affect the emergency evacuation of passengers; and

(3) Evacuation procedures, number of flight attendants, emergency exits, aisle width, and seat pitch used by each certificate holder must be equal to or exceed those used in the successful full seating capacity demonstration.

(c) A certificate holder who, under paragraph (b), uses a full seating capacity demonstration performed by the aircraft manufacturer under Part 25 or by a Part 121 certificate holder must—

(1) Demonstrate the effectiveness of its crewmember emergency training and evacuation procedures by conducting a demonstration, not requiring passengers and observed by the Administrator, in which the flight attendants for that type aircraft open 50-percent of the floor-level exists and 50 percent of the non-floor-level exits whose opening by a flight attendant is defined as an emergency evacuation duty under § 121.397, and deploy 50 percent of the exit slides. The exits and slides must be ready for use within 15 seconds or within the same time used in the certification demonstration, whichever is less, and the Administrator selects the flight attendants at random to be used and the exists to be opened;

(2) Apply for and obtain approval from the Flight Standards District Office maintaining surveillance of its operations prior to conducting the demonstration;

(3) Use flight attendants in this demonstration who have completed the certificate holder's FAA-approved

training program for the type and model of aircraft and passed a written examination on the emergency equipment and procedures; and

(4) Apply and obtain approval from the FAA certificate-holding office having jurisdiction over its operations before commencing operations with this type and model of aircraft.

* * * * *

(e) For a type and model aircraft for which the simulated ditching specified in paragraph (d) has been conducted by a Part 121 certificate holder, the requirements of paragraphs (b)(2), (4) and (5) of Appendix D to this part are complied with if each life raft is removed from stowage, one life raft designated by the Administrator is inflated, and crewmembers assigned to the inflated life raft indicate the location of stowed emergency equipment and describe its use.

* * * * *

Explanation. This proposal would allow a Part 121 certificate holder to use the results of a successful full-scale demonstration conducted by a manufacturer under Part 25 or by another Part 121 certificate holder rather than conduct a full-scale demonstration of emergency evacuation procedures, provided certain additional conditions are met. For instance, the certificate holder must conduct a partial demonstration by opening 50 percent of the floor-level exits and 50 percent of the non-floor-level exits whose opening by a flight attendant is defined as an emergency evacuation duty under § 121.397, and deploying 50 percent of the exit slides within 15 seconds. It is the intent of this regulation that the flight attendants be selected at random and that they not be coached on the procedures just prior to the demonstration. This proposal reduces the number of emergency evacuation demonstrations that need be conducted. This in turn reduces the probability of injury caused by hundreds of passengers exiting an aircraft during a demonstration. The FAA has granted several exemptions from the current rule which allow these partial demonstrations and has experienced no derogation of safety. By incorporating the provisions of these exemptions into the regulations, the costs and time involved in submitting and revising petitions for exemption would be eliminated. A full-scale demonstration is still required if the conditions for the partial demonstration are not met.

In Airworthiness Review Amendment No. 7 (43 FR 50578; October 30, 1978), the emergency evacuation demonstration conditions of § 25.803(c) were upgraded to those required by Part 121 so that one demonstration may serve both airworthiness and operations requirements. Thus, the proposed change to § 121.291(b) allows the operators to take advantage of a condition that was envisaged when § 25.803(c) was revised.

Proposed § 121.291(a)(2) refers to significant changes to the passenger seating configuration or emergency exits, whereas the present rule requires an emergency evacuation upon a major change. The word "major" was changed to "significant" to preclude erroneously associating it with major and minor repairs and alterations as defined in Part 43. Some minor repairs or alterations could significantly change the passenger seating configuration and require an emergency evacuation.

This proposal also clarifies the requirements concerning successfully demonstrating ditching procedures for those certificate holders who are operating a type and model of aircraft for which successful ditching demonstrations have been previously conducted by other certificate holders. Additionally, the proposal provides for the inflation of one life raft since such a demonstration provides a sufficient test of safety procedures.

Ref. Proposal 415; § 121.291(a); Committee 6A; Agenda Item E.

11–4. By revising § 121.301 to read as follows:

§ 121.301 Applicability.

This subpart prescribes instrument and equipment requirements for all certificate holders, operators, and persons on board the airplane.

Explanation. Various sections within Subpart K pertain solely to persons on board an aircraft. For example, § 121.311(b) speaks to each person on board, § 121.317(c) speaks to each passenger or crewmember, and § 121.327(b)(3) speaks to flight crewmembers. Thus, the current language of the applicability statement in § 121.301 is somewhat misleading in referring only to certificate holders and would be revised to more fully spell out the applicability.

Ref. Proposal 418; § 121.301; Committee 1; Agenda item C–1.

11–5. By revising § 121.305(b) to read as follows:

§ 121.305 Flight and navigational equipment.

* * * * *

(b) An altimeter that meets the performance and environmental standards of the applicable Technical Standard Order, or the equivalent. However, after (a date two years after the effective date of this amendment), the altimeter for turbojet powered airplanes must not be a three-pointer type.

* * * * *

Explanation. Current § 121.305(b) requires the use of a sensitive altimeter for airplanes operating under Part 121 of this chapter. The term "sensitive" altimeter is not defined. This proposal requires the use of an altimeter that meets the standards of the applicable Technical Standard Order, or the equivalent.

A joint FAA–DOT study (Report FAA–RD–73–108, dated September 1973) found the three-pointer altimeters to be the least desirable type of altimeter since they are more easily misread than other types of altimeters. Further, the study indicated that the high ascent and descent rate characteristics of turbojet powered airplanes is a contributing factor in the misreading of these altimeters. Two Naval Research Laboratory Altitude Comparison Projects (Numbers 1522 and 1641, April 1964, and September 1965, respectively) yielded substantially the same results. These reports have been docketed for public examination.

The Special Air Safety Advisory Group (SASAG) also recommended that the use of three-pointer altimeters by prohibited in all large turbojet powered airplanes because such altimeters can easily be misread. The SASAG report cites the cases of a DC–8 descending to San Francisco on a clear moonless night and a 707 descending into Chicago in instrument weather conditions where near crashes were allegedly caused by the misreading of three-pointer altimeters.

Advance Notice of Proposed Rule Making (ANPRM) No. 77–18 (42 FR 43408; August 29, 1977) solicited comments and supporting data concerning alleged deficiencies in the three-pointer altimeter. A total of 44 comments were received in response to ANPRM 77–18. The FAA conducted a preliminary economic impact evaluation in 1978 to determine the cost of switching from three-pointer altimeters. That analysis used a per aircraft cost of $10,000 and estimated the total number requiring replacement to be 280 airplanes under Part 135 and 1,540 airplanes under Part 121. This results in a total cost impact of $18,200,000. The FAA recognizes that these figures are somewhat outdated. Inflation will undoubtedly have increased the per aircraft cost. Conversely the FAA is aware that a continuing program for conversion from three-pointer altimeters has been in effect and that the total still

requiring conversion could be made lower.

After careful consideration of the comments received, the SASAG report, and the moderate cost estimated in a preliminary economic impact evaluation, the FAA concludes that safety considerations justify proposing amendments to the regulations which will bring about the replacement of the three-pointer altimeters in certain turbojet powered airplanes within a reasonable period of time. Considering the number of airplanes in the fleet having three-pointer altimeters, the present availability of new altimeters, the probable redesign of instrument panels required, and the airline scheduled maintenance periods during which the altimeters could be more cost effectively installed, a two-year applicability date is believed to be appropriate. The FAA requests that specific comments and data supporting or opposing this time period and the economic impact of the conversion be submitted in response to this notice.

Ref. Proposal 421; § 121.305; Committee 1; Agenda Item C–1.

11–6. By amending §§ 121.309(f)(1) and (f)(2) by replacing the words "to a normal" with the words "from a required", by inserting in § 121.309(f)(2) the phrase "and less than 200" between "99" and "passengers", and by adding a new § 121.309(f)(3) to read as follows:

§ 121.309 Emergency equipment.

* * * * *

(f) * * *

(3) Three megaphones in the passenger cabin on each airplane with a seating capacity of more than 199 passengers, one installed at the forward end, one installed at the most rearward location, and one in the mid-section of the airplane. These megaphones must be readily accessible to a required flight attendant seat.

Explanation. This proposal increases the number of portable battery-powered megaphones accessible to flight attendants on passenger-carrying airplanes with a seating capacity of more than 199 passengers from two to three. The present rule requires one megaphone for airplanes with a seating capacity of 60–99 passengers and two for airplanes with a seating capacity of more the 99 passengers. When two megaphones re required, they must be located at the forward and rearward extremes of the airplane. With the increased size of modern passenger airplanes, emergency information transmitted over megaphones located at the two extremes of the airplane may not be audible to passengers near the middle. Thus, for airplanes with a seating capacity of more than 199 passengers, a third, mid-fuselage megaphone is proposed.

This proposal would also revise §§ 121.309(f)(1) and (f)(2) to require the megaphones to be readily accessible from a required flight attendant seat. Because "required" flight attendant seats are normally occupied during takeoff and landing, this will ensure that the megaphone is normally at an occupied seat for all passenger seating configurations. An other than required flight attendant seat may not be occupied on all flights.

Ref. Proposal 428; § 121.309; Committee 1; Agenda Item C–2.

11–7. By revising § 121.318(b)(4) and adding a new (b)(5) to read as follows:

§ 121.318 Public address system.

* * * * *

(b) * * *

(4) After (a date 2 years after the effective date of this amendment), transmission must be audible in each occupiable compartment, at each passenger and flight attendant seat, and in each lavatory.

(5) After (a date 2 years after the effective date of this amendment), it must be capable of operation from a power source independent of the main electrical generating system, without jeopardizing the inflight emergency electrical power system.

Explanation. The proposal to revise paragraph (b)(4) provides public address capability in all occupiable compartments, including lower lobe galleys when installed. This revision would ensure that flight attendants who may be in the lower lobe galley spaces receive information disseminated by way of the public address system to enable them to perform their safety functions more effectively. The FAA estimates that a 2-year compliance time is necessary for § 121.318(b)(4) since many operating airplanes do not have public address system speakers in each occupiable compartment or in each lavatory. This allows sufficient time for design, manufacture, and installation of the equipment. Specific comments on the appropriateness of the time period, including the number of airplanes affected and the costs involved, are requested when commenting on this proposal.

Proposed § 121.318(b)(5) requires power to be supplied to the public address system from a power source independent of the main electrical generating system. Currently, the only type of emergency evacuation communications equipment required is the portable megaphone required by § 121.309. The National Transportation Safety Board's Special Study, NTSB–AAS–74–3, "Safety Aspects of Emergency Evacuations from Air Carrier Aircraft", revealed that although the regulations do not require public address systems for emergency communications, these systems are often used to instruct the crew to initiate emergency evacuations. However, since the public address systems are not always connected to the emergency electrical supply, they are not always usable when the aircraft power is interrupted. There have been several incidents where the pilot aborted the takeoff and stopped. All switches were shut off and the flight crew could not readily order an emergency evacuation because no electrical power was available to the public address system. Also, there has been an accident caused by the failure in flight of all four engines due to fuel depletion. The flight crew's ability to give preimpact warning and instruction was hampered because the aircraft's public address system lost power when the engines stopped operating. Reliable communication is important to initiate and direct an evacuation or give preimpact instructions; thus, the power source for the public address system should be independent of the main supply.

The FAA anticipates that, to make the operation of the public address system independent of the main electrical generating system, system redesign and development is required, in addition to an airplane retrofit program. There are more than 3,250 airplanes operated under Part 121 which will likely require retrofit of the revised system. After careful consideration of the system redesign and development needed, the costs and time involved in retrofitting 3,250 airplanes, an other factors, the FAA concludes that two years is needed to comply with the requirement after it becomes effective. The FAA requests that specific comments and data supporting or opposing this time period, and the costs involved, be submitted in response to this notice.

Ref. Proposals 452 and 453; § 121.318; Committee 1; Agenda Item C–3.

11–8. By revising § 121.323(f) to read as follows:

§ 121.323 Instruments and equipment for operation at night.

* * * * *

(f) An altimeter that meets the performance and environmental standards of the applicable Technical Standard Order or the equivalent. However, after (a date two years after the effective date of this amendment) the altimeter for turbojet powered

airplanes must not be a three-pointer type.

Explanation. See the explanation for Proposal 11–5.

Ref. Proposal 458; § 121.323; Committee 1; Agenda Item C–4.

11–9. By revising § 121.325(b) to read as follows:

§ 121.325 Instruments and equipment for operations under IFR or over-the-top.

* * * * *

(b) An altimeter that meets the performance and environmental standards of the applicable Technical Standard Order or the equivalent. However, after [a date two years after the effective date of this amendment] the altimeter for turbojet powered airplanes must not be a three-pointer type.

* * * * *

Explanation. See the explanation for Proposal 11–5.

Ref. Proposal 459; § 121.325; Committee 1; Agenda Item C–4.

11–10. By revising § 121.329(b)(1) to read as follows:

§ 121.329 Supplemental oxygen for sustenance: Turbine engine powered airplanes.

* * * * *

(b) * * *

(1) At cabin pressure altitudes above 10,000 feet, up to and including 12,000 feet, oxygen must be provided for and used by each flight crewmember on flight deck duty, and must be provided for other crewmembers, for that part of the flight at those altitudes that is of more than 30 minutes duration.

* * * * *

Explanation. Inserting commas before and after the phrase "and must be provided for other crewmembers" would make it clear that the part of the rule that begins with "for that part of the flight" applies to the flight crew on flight deck duty as well as other crewmembers and removes any possible ambiguity.

The proposed amendment to substitute the word "occupant" for "passenger" and to add a new § 121.219(c)(4) has not been proposed for the reasons for removing Proposal 461 from consideration stated in Appendix II.

Ref. Proposals 462 and 463; § 121.329; Committee 10; Agenda Item F.

11–11. By amending § 121.333 by replacing the phrase "cabin attendant" with the phrase "flight attendant" at two places in paragraph (d), by replacing the phrase "cabin attendant" with the phrase "flight attendant" in the last sentence of paragraph (e)(3), and by revising paragraph (f) to read as follows:

§ 121.333 Supplemental oxygen for emergency descent and for first aid: Turbine engine powered airplanes with pressurized cabins.

* * * * *

(f) *Passenger briefing.* Before flight is conducted above flight level 250, a crewmember shall instruct the passengers on the necessity of using oxygen n the event of cabin depressurization, shall point out to them the location of such equipment, and shall demonstrate the proper means of activation and use of oxygen-dispensing equipment, including proper donning procedures. Demonstration masks shall be identical in external appearance to those used aboard the airplane on which the demonstration is given, and shall include an adjustable headstrap and the required length of tubing with safety pin and lanyard (where applicable) attached.

Explanation. This proposal provides specific requirements for the demonstration masks and a demonstration of proper donning for these masks. Current cabin announcements on the use of oxygen do not always include the complete information, nor do the demonstrations use equipment similar to that installed on the airplane. The proposal also replaces the phrase "cabin attendant" with the correct phrase "flight attendant."

During the Operations Review Program, the proponent stated that § 121.333(d) should be amended since misinterpretations exist as to the number of portable oxygen bottles that are to be abroad the aircraft for flight attendant use. Present § 121.333(d) clearly states that portable oxygen equipment is required for each attendant and the FAA sees no need for further clarification.

The proponent also recommended that § 121.333(d) be amended to include the statement "Such portable oxygen equipment shall be regularly inspected for any possible deficiencies by the airline and properly maintained." This statement has not been included since the certificate holder's continuous airworthiness maintenance program, approved in accordance with the requirements of Subpart L of Part 121, specifies inspection frequencies that provide for proper upkeep of the portable oxygen equipment.

Ref. Proposal 465; § 121.333; Committee 10; Agenda Item F.

11–12. By revising § 121.351(a) to read as follows:

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

(a) No person may conduct an extended overwater operation unless the airplane is equipped with the radio equipment necessary to comply with § 121.349 and an additional and independent radio system that complies with § 121.347(a)(1).

* * * * *

Explanation. This regulation has been erroneously interpreted to require only one means of en route radio communication. This proposal clarifies the fact that two independent radio communication systems are required.

Ref. Proposal 471; § 121.351; Committee 1; Agenda Item C–5.

11–13. By revising § 121.359(d) to read as follows:

§ 121.359 Cockpit voice recorders.

* * * * *

(d) In complying with this section, an approved cockpit voice recorder having an erasure feature may be used provided that the recorded information for the last 30 minutes of the current or most recent flight is not erased or otherwise obliterated. Except as provided in paragraph (e), when the recorder is removed from the airplane for maintenance, or the recording is removed for test or read-out, the recorded information may be erased or otherwise obliterated after maintenance, test, or read-out has been accomplished.

* * * * *

Explanation. This proposal would clairfy the current rule by requiring that the recorded information for the last 30 minutes of the current or most recent flight may not be erased or otherwise obliterated, except as specifically noted and subject to the exceptions provided in paragraph (e), which require a longer retention period in the event of an accident or occurrence requiring immediate notification of the National Transportation Safety Board.

Ref. Proposal 472; § 121.359; Committee 1; Agenda Item C.6.

11–14. By revising § 121.391(c) to read as follows:

§ 121.391 Flight attendants.

* * * * *

(c) The number of flight attendants approved under paragraphs (a) and (b) of this section must be set forth in the certificate holder's operations specifications. However, seats that have been blocked off do not have to be considered in determining the seating capacity of the airplane and the required number of flight attendants, provided the procedures authorizing the certificate holder's operations manual

are complied with, except that flights with blocked seats must have a minimum of two flight attendants.

(1) The blocking off of seats is authorized in the following situations—

(i) Specific flight or flights listed in the certificate holder's operations specifications which include the minimum number of flight attendants and maximum number of passengers permitted and which have been verified from operating experience as being consistently operated from origination to termination with passenger loads at or less than the reduced seating capacity proposed;

(ii) Specific flights which require substitution of aircraft due to mechanical irregularities or weather related delays, requiring additional crewmembers at locations where additional crewmembers cannot be obtained without more than a 2-hour delay or flight cancellation. Operations may not be conducted beyond the nearest station at which a replacement for the crewmember is available or can be made available without more than a 2-hour delay or flight cancellation; or

(iii) Specific flights on which a crewmember cannot continue due to illness and a replacement crewmember cannot be obtained at that location without more than a 2-hour delay or flight cancellation. Operations may not be conducted beyond the nearest station at which a replacement for the crewmember is available or can be made available without more than a 2-hour delay or flight cancellation.

(2) The procedures used to block off seats must be approved by the Administrator, set forth in the certificate holder's operations manual, and must contain at least the following—

(i) The location of and means to block the affected passenger seats;

(ii) Methods to notify the pilot in command and other crewmembers when the passenger seating capacity is reduced and the maximum seating capacity authorized;

(iii) Methods to designate a flight crewmember who will verify that the number of passengers on board is not more than the authorized reduced seating passenger capacity; and

(iv) Methods to provide each crewmember on the aircraft being operated in a reduced seating configuration with specific instructions on their emergency duties and seating locations appropriate to the modified seating configuration to ensure the optimum emergency evacuation capability.

(3) Except when seats are blocked in accordance with paragraph (c)(1)(i), the certificate holder shall deliver written notification to its FAA certificate-holding office within 72 hours after it blocks seats in accordance with this paragraph. The notification shall contain a detailed statement of the specific basis for the authorization.

* * * * *

Explanation. The number of flight attendants required on passenger-carrying aircraft is based upon the seating capacity of the aircraft. The actual number of passengers on a particular flight does not affect this requirement. The existing rule allows the number of required flight attendants to be reduced, but only if a sufficient number of passenger seats are physically removed from the cabin. This proposal would allow the operator to reduce the passenger-carrying capacity of its aircraft in specified situations by blocking passenger seats and thereby reduce the number of flight attendants required to be aboard the aircraft. Specific situations in which the FAA could provide authorization for the blocking off of seats, and corresponding reduction in required number of flight attendants, are: (1) Flights which experience has shown to operate with passenger loads at or less than the reduced seating capacity proposed, such as late night and early morning flights; (2) specific flights which require unplanned substitution of aircraft due to mechanical irregularities or weather related delays at locations where additional crewmembers cannot be obtained at that location without more than a 2-hour delay or flight cancellation; or (3) specific flights on which a crewmember cannot continue due to illness and a replacement crewmember cannot be obtained at that location without more than a 2-hour delay or flight cancellation. The proposed 2-hour time period for delay of flight is consistent with the 2-hour increase in flight crewmember flight and duty time proposed for rulemaking in Notice 78–3 (43 FR 8070; February 27, 1978).

The FAA has granted limited exemptions from § 121.391(a)(3), with conditions similar to those specified in proposed § 121.391(c)(1), to permit a reduction in the number of flight attendants required on particular flights by blocking off a number of seats, and no safety problems have been noted.

These exemptions have enabled the air carriers concerned to operate in a more efficient and less costly manner. If the need to change an aircraft at an intermediate stop during a flight requires substitution of a larger aircraft, another flight attendant might be required. An operator might be required to cancel or substantially delay the flight until the extra flight attendant could be transported to the location of the aircraft if extra flight attendants were not based at that stop. Elimination of such delays and cancellations is in the public interest. By limiting the circumstances under which seats can be blocked and by closely monitoring the use of this authority, safety will not be adversely affected.

The FAA has taken steps to ensure that the conditions under which seats can be blocked are strictly followed. The FAA will closely monitor all actions taken under this authority. The certificate holders would be required to develop procedures which must be submitted for approval to their certificate-holding office. The required procedures shall consider such factors as overall cabin size, number and location of exits, location of blocked seats, and number and location of flight attendants. For approval, the procedures must ensure the optimum emergency evacuation configuration. In most cases, this would require that the flight attendants be seated immediately adjacent to the passengers with at least one flight attendant forward and one aft of them. In other cases, the optimum configuration might be with the flight attendants all forward, all aft, or some other location. In any case, the certificate holder must designate an arrangement which ensures the optimum emergency evacuation configuration. These procedures must also assure that the capability for accomplishing an emergency evacuation within 90 seconds is not reduced. The FAA will not authorize an operator to reduce the flight attendant complement below the number required by § 121.391 for the number of seats not blocked. In addition, the certificate holder would be required to submit written notification to the certificate-holding office within 72 hours of its use of this authority under §§ 121.391(c)(1)(ii) and (iii). This notification shall include the basis for use of this authority and will enable the FAA to review all action taken in accordance with this authority.

This proposal also lists specific procedures which must be set forth in the certificate holder's operations manual and which must be followed when blocking seats. These procedures include such matters as the location of and means used to block the affected passenger seats, and methods to provide each crewmember on the aircraft being operated in a reduced seating configuration with specific instructions on their emergency duties.

Additionally, this proposal contains a provision that flights with blocked seats must have a minimum of two flight attendants.

This proposed regulation is not intended to provide for frequent reductions in the number of flight attendants. The strict limitations placed on its use provide a regulation which provides relief, on an occasional basis, only to certificate holders who need such relief. By limiting and controlling the situations during which this proposed regulation can be employed, safety will not be adversely affected.

This proposal only allows for the blocking of seats; the FAA has no intention of allowing, under this paragraph, the blocking or deactivation of exits. Although exits may be blocked or deactivated under certain approved circumstances, the proposed revisions to § 121.391 do not affect existing guidance used to evaluate the reduction of the number of emergency exits.

Ref. Proposals 491 and 495; § 121.391; Committee 7; Agenda Item C.

§ 121.417 [Amended]

11–15. By amending § 121.417(c) by substituting the word "for" for the word "on" in the first sentence.

Explanation. The present rule requires each crewmember to perform certain emergency drills and to actually operate certain equipment during initial training and once each 24-calendar months during recurrent training on each type aircraft. As indicated by § 121.417(c)(6)(vii), it was intended that this initial and recurrent training could be accomplished on an airplane or on a training device approved under the training program requirements of § 121.407. By changing the phrase "on each type aircraft" in § 121.417(c) to "for each type aircraft", the intent is clarified.

Ref. Amendment 121–148 (43 FR 46230; October 5, 1978).

11–16. Amending § 121.439 by adding a sentence at the end of paragraph (a) and by revising paragraphs (b), (c), and (d) and adding a new (e) to read as follows:

§ 121.439 Pilot qualification: Recent experience.

(a) * * * In addition, any person who fails to make the three required takeoffs and landings within any consecutive 90-day period must reestablish recency of experience as provided in paragraph (b) of this section.

(b) In addition to meeting all applicable training and checking requirements of this part, a required pilot flight crewmember who has not met the requirements of paragraph (a) of this section must reestablish recency of experience as follows:

(1) Under the supervision of a check airman, make at least three takeoffs and landings in the type airplane in which that person is to serve or in a visual simulator approved for the takeoff and landing maneuvers for the type of airplane in which that person is to serve.

(2) The takeoffs and landings required in paragraph (b)(1) of this section must include—

(i) At least one takeoff with a simulated failure of the most critical powerplant;

(ii) At least one landing from an ILS approach to the lowest ILS minimum authorized for the certificate holder; and

(iii) At least one landing to a full stop.

(c) The requirements of paragraph (b)(2) of this section may be accomplished in an approved visual simulator which has not been approved for the takeoff and landing maneuvers if the requirements of paragraph (b)(1) of this section are accomplished in the airplane. In this case, the first three landings accomplished in operations under this part will satisfy the landing requirement of paragraph (b)(1) of this section if the pilot has previously logged 100 hours in the same type airplane in which he is to serve and is observed by a check airman.

(d) When using a simulator to accomplish any of the requirements of paragraph (a) or (b) of this section, each required flight crewmember position must be occupied by an appropriately qualified person and the simulator must be operated as if in a normal in-flight environment without benefit of the slew or freeze features.

(e) A check airman who observes the takeoffs and landings prescribed in paragraphs (b)(1) and (c) of this section shall certify that the person being observed is proficient and qualified to perform flight duty in operations under this part and may require any additional maneuvers that are determined necessary to make this certifying statement.

Explanation. The objective of Amendment Number 121–144 (43 FR 22643; May 25, 1978) was to require three takeoffs and landings within any consecutive 90-day period to establish recency of experience and to require a pilot who has gone a period of 90 days without a takeoff and landing to reestablish recency of experience in accordance with § 121.439(b). The rule is not clear with regard to the second objective and proposed § 121.439(a) clarifies the intent. The NTSB, in recommendation A 74–104, identified two accidents in which they attributed lack of recent experience in type as a contributing factor. Pilots who have gone at least 90 days without three required takeoffs and landings should have to reestablish experience by meeting the more extensive requirements of § 121.439(b). Accomplishing three takeoffs and landing after an extended period of inactivity is not sufficient to reestablish experience to the necessary level of competency.

Section 121.439 as amended by Amendment 121–144 has caused considerable confusion regarding implementation of the requirements of paragraph (b) of that section. Clarifying instructions were issued by the FAA after the effective date of the amendment but there is still considerable variance in the procedures used for compliance. Therefore, in an effort to clarify the FAA's intent with regard to reestablishing recency of experience under present paragraph (b), those provisions have been revised. It was not the intent of the FAA to allow persons reestablishing recency of experience to obtain credit for those takeoffs and landings accomplished in a simulator which is not approved for the takeoff and landing maneuvers. Only those simulators approved for the takeoff and landing maneuver provide the capability of evaluating a pilot's ability to successfully land the airplane. When a simulator which has not been approved for the takeoff and landing maneuver is used toward satisfying the requirements for reestablishing recency of experience, the qualifying pilot should at least be required to meet the minimum landing requirement for pilots maintaining recency of experience. Therefore, in such cases, it is proposed to require a pilot to accomplish three landings in the airplane under the supervision of a check airman, either under line operations or in a training environment. To allow this flexibility for accomplishing the landings, this proposal changes the present requirement in § 121.439(c) for two landings on the line to three landings. The present requirement for 100 hours in airplane type remains. Proposed § 121.439(b) and (c) clarify the landing requirement. Also, it has been reported that in some instances simulators are not being employed in a proper manner when used to satisfy the requirements of § 121.439. Proposed paragraph (d) assures that the qualifying pilot is exposed to as realistic an "in-flight" environment as possible. The proposed requirements of this paragraph are in consonance with recently issued total simulation requirements (45 FR 44176; June 30, 1980).

Ref. Proposals 541 and 542; § 121.439; Committee 4; Agenda Item E.

11–17. By revising § 121.543(b)(3)(i) to read as follows:

§ 121.543 Flight crewmembers at controls.

* * * * *

(b) * * *

(3) * * *

(i) In the case of the assigned pilot in command, by a pilot who holds an airline transport pilot certificate and an appropriate type rating, is currently qualified as pilot in command or second in command and is qualified as pilot in command of that aircraft during the en route cruise portion of the flight. A second in command qualified to act as a pilot in command en route need not have completed the following pilot in command requirements: the 6-month recurrent flight training required by § 121.433(c)(1)(iii); the operating experience required by § 121.434; the takeoffs and landings required by § 121.439; the line check required by § 121.440; and the 6-month proficiency check or simulator training required by § 121.441(a)(1); and

* * * * *

Explanation. This proposal would change the current regulation by allowing the assigned pilot in command to be relieved for a rest period by a pilot who is currently qualified as a second in command and is also qualified as pilot in command of the aircraft during the en route cruise portion of the flight. In addition, this relief pilot must hold an airline transport pilot certificate and an appropriate type rating.

Operations Review Program Amendment No. 5 (43 FR 22643; May 25, 1978) provided procedures which allowed an assigned pilot in command to leave that pilot's assigned duty station for a rest period if relieved by a pilot qualified to act a pilot in command who holds an airline transport certificate and appropriate type rating. However, since this amendment became effective, exemptions have been issued which allow the pilot in command to be relieved, under certain conditions, by a pilot who is fully qualified as a second in command and fully qualified as a pilot in command during the en route cruise portion of the flight except for the 6-month recurrent flight training and the 6-month proficiency check or simulator training. The granting of the exemptions does not adversely effect safety since the airplane would be operated at all times during the en route phase by pilots adequately qualified for that phase of flight. If adopted, this proposal would eliminate the need for any further exemptions of this type, thereby reducing the paperwork burden on the public and FAA and satisfying the intent of Executive Order 12044.

Ref. Proposal 565; § 121.543; Committee 3; Agenda Item D.

11–18. By revising the first sentence of § 121.563 to read as follows:

§ 121.563 Reporting mechanical irregularities.

The pilot in command shall ensure that all mechanical irregularities occurring during flight time are entered in the maintenance log of the airplane at the end of that flight time. * * *

Explanation. It has brought to the attention of the FAA that a change made to § 121.563 in Operations Review Amendment No. 8 was not explained in the proposal and that the change has a significant impact on the requirement for reporting mechanical irregularities. In revising § 121.563, the word "time" was inadvertently omitted from the first sentence. Section 1.1 defines "flight time" as the time from the moment the aircraft first moves under its own power for the purpose of flight until the moment it comes to rest at the next point of landing ("Block-to-block" time). On the other hand, § 121.703(b) defines "during flight" as being the period from the moment the aircraft leaves the surface of the earth on takeoff until it touches down on landing. As it was never the intent of the FAA to change the period over which mechanical irregularities must be reported, this revision is proposed to correct this oversight. Additionally, the phrase "next place of landing" at the end of the sentence is changed to "end of that flight time" for clarity and for consistency with the definition of the term "flight time" appearing earlier in the sentence.

11–19. By revising § 121.589(a)(2) to read as follows:

§ 121.589 Carry-on baggage.

(a) * * *

(2) As provided in paragraphs (c) or (d) of § 121.285; or

* * * * *

Explanation: This proposal would add a reference to new paragraph (d) of § 121.285 concerning carriage of cargo in passenger compartments. See the explanation for proposal 11–2.

11–20. By amending § 121.703(a) by deleting the word "and" from the end of paragraph (a)(15), by replacing the period at the end of paragraph (a)(16) with a semicolon, and by adding new paragraphs (a)(17), (a)(18) and (a)(19) to read to follows:

§ 121.703 Mechanical reliability reports.

(a) * * *

(17) Doors and exits designated as emergency exits, including automatic or manual operating systems and components;

(18) Emergency escape slides and components and systems or hardware for manual or automatic deployment; and

(19) Galley or passenger service equipment and crewmember or passenger accommodations which could result in injury to a crewmember or passenger, restrict the emergency egress of either, or adversely affect the airworthiness of the aircraft.

* * * * *

Explanation. This proposal would require each certificate holder to report the occurrence or detection of each failure, malfunction or defect concerning the listed systems, components, and equipment in the mechanical reliability report. Emergency evacuation systems have increased in complexity in recent years. The absence of specific reporting requirements prevents adequate accumulation, coding and dissemination of technical information needed by the FAA and industry to take timely corrective measures regarding these highly safety oriented items.

The FAA has a duty to ensure that the environment to which the occupants of the airplane, both passengers and flight attendants, are exposed is as safe as practicable. Unreported failures of galley equipment or passenger service equipment, for example, could eventually lead to conditions that would pose a direct safety hazard to the occupants of the airplane under normal and emergency conditions. Thus, the reporting of such failures, malfunctions, or defects, as required by proposed § 121.703(a)(19), is considered necessary.

Ref. Proposal 643; § 121.703; Committee 2; Agenda Item P.

PART 135—AIR TAXI OPERATORS AND COMMERCIAL OPERATORS

11–21. By amending § 135.149(a) to read as follows:

§ 135.149 Equipment requirements: General.

* * * * *

(a) An altimeter that meets the performance and environmental standards of the applicable Technical Standard Order or the equivalent. However, after (a date two years afgter the effective date of this amendment), the altimeter for turbojet powered airplanes must not be a three-pointer type.

* * * * *

Explanation. See the explanation for Proposal 11–5. In addition to the changes discussed under Proposal 11–5, the phrase "and is adjustable for barometric pressure" is deleted since this aspect is covered under the applicable Technical Standard Order.

Ref. This proposal was not contained in the Operations Review but is a companion change to a proposal in Part 121 which was a part of the Operations Review.

11–22. By amending § 135.415(a) by deleting the word "and" from the end of paragraph (a)(15), by replacing the period at the end of paragraph (a)(16) with a semicolon, and by adding new paragraphs (a)(17), (a)(18) and (a)(19) to read as follows:

§ 135.415 Mechanical reliability reports.

(a) * * *

(17) Doors and exits designated as emergency exits, including automatic or manual operating systems and components;

(18) Emergency escape slides and components and systems or hardware for manual or automatic deployment; and

(19) Galley or passenger service equipment and crewmember or passenger accommodations which could result in injury to a crewmember or passenger, restrict the emergency egress of either, or adversely affect the airworthiness of the aircraft.

* * * * *

Explanation. See the explanation for Proposal 11–20 which adds the same requirements in § 121.703.

Ref. This proposal was not contained in the Operations Review but is a companion change to a proposal in Part 121 which was a part of the Operations Review.

PART 145—REPAIR STATIONS

11–23. By deleting § 145.11(a)(4); by deleting the word "and" and the semicolon at the end of § 145.11(a)(3) and replacing them with a period; by adding the word "and" at the end of § 145.11(a)(2); and by revising § 145.11(a)(1) to read as follows:

§ 145.11 Application and issue.

(a) * * *

(1) A list by type, make, or model, as appropriate, of the airframe, aircraft engine, propeller, appliance, or part thereof, for which the applicant seeks approval;

* * * * *

Explanation. This proposal provides the FAA with a listing of products for which repair station certificate and rating is sought. This list assists the FAA in identifying which initial or additional ratings are being applied for under § 145.31 and which limited ratings are being applied for under § 145.33. When applying for a rating under § 145.31, the application need only identify the type of rating desired (airframe, powerplant, propeller, radio, instrument, or accessory) and the class. When applying under § 145.33, more specific information is necessary on the make and model as specified in the appropriate paragraph of § 145.33. Placing this information on the application will assist the repair station applicant in properly preparing the application and the FAA inspector in evaluating the applicant's compliance with applicable requirements. Section 145.11(a)(4) is redundant because of proposed § 145.11(a)(1) would be deleted.

Ref. Proposal 860; § 145.11; Committee 6B; Agenda Item C–1.

11–24. By revising § 145.41 to read as follows:

§ 145.41 Recommendation of persons for certification as repairmen.

(a) When a person applies for a domestic repair station certificate and rating(s), or additional rating(s), that require a repairman, that person must—

(1) Recommend at least one person for certification as a repairman;

(2) Certify to the Administrator that the person recommended meets the requirements of § 65.101 of this chapter; and

(3) Certify that the person recommended is able to perform and supervise the assigned work.

(b) Each person recommended per paragraph (a)(1) of this section must be at or above the level of shop foreman or department head, or be responsible for supervising the work performed by the repair station. A qualified person so recommended may be certificated as a repairman.

Explanation. This proposal makes clear that the person to be certificated as a repairman must be certified as meeting the requirements of § 65.101 by the person making the recommendation. In addition, it establishes the positions and activities that must be assigned to the individual as part of the eligibility for certification.

Ref. Proposal 872; § 145.41; Committee 4; Agenda Item G.

11–25. By revising the second sentence of § 145.47(b) to read as follows:

§ 145.47 Equipment and materials: Ratings other than limited ratings.

* * * * *

(b) * * * The station shall test all inspection and test equipment at regular intervals to ensure correct calibration to a standard of the National Bureau of Standards, or a standard provided by the equipment manufacturer or, in the case of foreign equipment, to the standard of that foreign country if approved by the Administrator. * * *

* * * * *

Explanation. This proposal provide specific standards to which test and inspection equipment must be calibrated in order to standardize tests and inspections and provide more uniformity.

Ref. Proposal 875; § 145.47(b); Committee 6B; Agenda Item C–3.

11–26. By amending Appendix A of Part 145 by adding an asterisk (*) after the words "Replacement of valve guides and seats" in paragraph (b)(1)(i); by adding an asterisk (*) after the words "Precision drilling, tapping, boring, milling and cutting operations" in paragraph (b)(1)(iii); and by revising paragraph (a)(3) to read as follows:

Appendix A

* * * * *

(a) * * *

(3) Alloy skin and structural components:

Repair and replace metal skin, using power tools and equipment,

Repair and replace alloy members and components such as tubes, channels, cowlings, fittings, attach angles, etc.,

Alignment of components, using jigs or fixtures as in the case of joining fuselage sections or other similar operations,

Make up wooden forming blocks or dies,

Fluorescent inspection of alloy components,*

Fabricate alloy members and components such as tubes, channels cowlings, fittings, attach angles, etc.*

* * * * *

Explanation. This proposal eliminates the current requirements in paragraph (a)(3) providing that repair stations must be able to fabricate alloy members and components. This is no longer necessary since fabrication of alloy components is rarely necessary in the process of sheet metal repair. The general practice is to order replacement parts. This proposal also relaxes certain requirements of paragraphs (b)(1)(i) and (b)(1)(iii) by providing that repair stations need not have the equipment and material on the premises for performing the job functions of replacing valve guides and seats, precision drilling, tapping, boring, milling, and cutting if they contract that particular type of work to an outside agency having such equipment and

material. This change recognizes an already accepted practice.

Ref. Proposal 889; Part 145; Appendix A; Committee 6B; Item C–4.

PART 147—AVIATION MAINTENANCE TECHNICIAN SCHOOLS

§ 147.35 [Amended]

11–27. By amending § 147.35(a) by inserting the words "and hours spent in each subject of instruction" after the word "grades" in the first sentence.

Explanation. This proposal would require that each transcript issued to a student who graduates from a school or who leaves before graduation contain the hours spent in each subject of instruction. Students transferring from one school to another have experienced difficulty because of a lack of this information. This has resulted in students not receiving proper credit for courses completed and being improperly placed within the curriculum of the new school. This proposal would make it easier for the new school to evaluate the student's prior curriculum and properly place that student within its curriculum. The original proposal discussed at the conference used the term "area of instruction" as opposed to the term "subject" as contained in this proposal. The term "subject" is more appropriate since it is used in other sections of Part 147.

Ref. Proposal 899; Part 147.35; Committee 6B: Agenda Item D.

Proposal 110. This proposal would have amended § 65.85 to add a provision that a mechanic may perform the inspections required by Part 91. This proposal was based on the assumption that annual and progressive inspections would be replaced by continuous inspections. Mechanics are now allowed to perform the continuous inspections of Subpart D of Part 91. The proposals, which would have established continuous inspections, were not adopted. Thus, there is no need to adopt this proposal since the mechanic is already authorized to perform those inspections required by Part 91.

Proposals 391 and 396. These proposals would have deleted the current requirements in §§ 121.177(a)(3) and 121.189(d) (1) and (2) concerning horizontal separation of 300 feet beyond the airport boundaries and added a requirement to clear all obstacles in the departure area as specified in the United States Standard for Terminal Instrument Procedures (TERPS). The current rules are satisfactory and TERPS should not be referenced in the rules since the information contained in TERPS is subject to change without public notice and procedure.

Appendix I.—*Proposals Withdrawn by Proponent*

The following proposals were withdrawn by the proponent during or after the conference. The withdrawal of the FAA proposals does not commit the FAA to any further course of action.

14 CFR (FAR)	Proposal No.	Committee No.	Agenda item	Proponent
121.215	409	1	C–1	Air Transport Association
121.215	411	1	C–1	Federal Aviation Administration.
121.305	419	1	C–1	Do.
121.305(j)	422	1	C–1	Do.
121.313, 121.564	446	1	C–3	Do.
121.315, 121.549	447	1	C–3	Do.
121.349(a)	469	1	C–6	Do.
121.371(d)	480	6A	F	Do.
121.375	482	6A	F	Do.
121.377	484	6A	F	Do.
121.379	485	6	A	Do.
121.391	491	7	C	Do.
145.31	867	6B	C–2	Do.
145.49	876	6B	C–3	Do.

Appendix II.—*Proposals Removed From Further Consideration*

Based on the FAA's review of the discussions at the Operations Review Conference and the information submitted by interested persons, the following proposals are removed from consideration for the reasons listed:

14 CFR (FAR)	Proposal No.	Committee No.	Agenda item	Proponent
65.85	110	4	B–3	Sam Corso.
121.177(a)(3)	391	3	C–2	Air Line Pilots Association.
121.189(c)	393	3	C–2	Do.
121.189(c)(1)	394	3	C–2	Do.
121.189(d)(1)	395	3	C–2	Air Transport Association.
121.189(d) (1) and (2)	396	3	C–2	Air Line Pilots Association.
121.189(d)(2)	397	3	C–2	Air Transport Association.
121.189	398	3	C–2	Air Line Pilots Association.
121.191(b)(6)	402	3	C–1	Air Transport Association.
121.193	403	3	C–1	Do.
121.195(b)	404	3	C–3	The deHavilland Aircraft of Canada.
121.195(d)	405	3	C–3	Do.
121.195(f)	406	3	C–3	Air Line Pilots Association.
121.197(b)	408	3	C–3	Do.
121.215	410	1	C–1	Association of Flight Attendants.
121.219	412	1	C–1	Do.
121.291	417	6A	E	Air Transport Association.
121.305	420	1	C–1	Air Line Pilots Association.
121.307	423	1	C–1	Do.
121.309	424	1	C–2	Association of Flight Attendants.
121.309(f)	427	1	C–2	National Transportation Safety Board.
121.310	430	1	C–2	Do.
121.310(a)	431	1	C–2	Air Transport Association.
121.310	432	1	C–2	Association of Flight Attendants.
121.310(j)	435	6A	E	Air Transport Association.
121.310	436	6A	E	Air Line Pilots Association.
121.311	440	1	C–3	Association of Flight Attendants.
121.313(e)	443	1	C–3	Sun Chemical Corp.
121.317	448	1	C–2	Association of Flight Attendants.
121.319	454	1	C–4	Do.
121.319	455	1	C–4	Air Line Pilots Association.
121.326	460	1	C–4	Thomson-CSF and Sfena.
121.327	461	10	F	Association of Flight Attendants.
121.321	464	10	F	Do.
121.347 and 121.351	468	1	C–5	Air Transport Association.
121.349(c)	470	1	C–6	Aerospace Industries Association.
121.360(a)	474	1	C–6	Mr. Richard L. Newman.
121, Subpart L	475	2	G	Mr. Sam J. Corso.
121, Subpart L	476	2	G	Do.
121.361	477	2	O	International Association of Machinists and Aerospace Workers.
121.371(b)	479	6A	F	Association of European Airlines.
121.375	483	6A	F	International Association of Machinists and Aerospace Workers.
121.380(a)(2)(vii)	487	2	D	U.K. Civil Aviation Authority.
121.391(a)	493	7	C	Transport Workers Union of America.

Appendix II.—*Proposals Removed From Further Consideration—Continued*

Based on the FAA's review of the discussions at the Operations Review Conference and the information submitted by interested persons, the following proposals are removed from consideration for the reasons listed:

14 CFR (FAR)	Proposal No.	Committee No.	Agenda item	Proponent
121.571	581	6A	H	National Transportation Safety Board.
121.571	582	7	D	Do.
145.2	859	6B	C-1	Mr. Sam J. Corso.
145.11(a)	861	6B	C-1	Sun Chemical Corp.
145.13	862	6B	C-2	S.G.A.C./France.
145.17	863	6B	C-2	Sun Chemical Corp.
145.31	865	6B	C-2	Mr. Sam J. Corso.
145.33	868	6B	C-2	Do.
145.39	871	4	G	Sun Chemical Corp.
145.47	874	6B	C-3	Mr. Sam J. Corso.
145.49	877	6B	C-3	Do.
145.51	878	6B	C-4	Do.
145.51	882	6B	C-4	Air Transport Corp.
145.53	883	6B	C-4	Sun Chemical Corp.
145.71	887	6B	C-4	S.G.A.C./France.
145, app. A	890	6B	C-4	Mr. Sam J. Corso.

Proposal 393. This proposal would have revised § 121.189(c) to require all thrust reversers to be operative before an airplane may take off on a wet, icy, snow-covered, or slush-covered runway. This proposal is considered overly restrictive in that the performance credit for the thrust reversers was not considered when certificating the airplane under the provisions of Part 25 of this chapter. Inoperative thrust reversers, like other equipment, should be handled in the Minimum Equipment List (MEL) including, where necessary, appropriate restrictions and limitations.

Proposal 394. This proposal would have amended § 121.189 to redefine accelerate-stop distance. Accelerate-stop distance was redefined in § 121.191(c)(1) by Airworthiness Review Program Amendment No. 6 (43 FR 2302; January 16, 1978).

Proposals 395 and 397. These proposals would have revised §§ 121.189(d) (1) and (2) to provide for a net takeoff flight path that clears all obstacles "* * * that penetrate a 1.2 percent gradient measured from the end of the runway as defined in Part 77 * * *." The current rules in this regard are satisfactory in that the certificate holder and the pilot in command are responsible for determining physical obstacle clearances and adjusting weights to obtain required clearances in accordance with procedures set forth in the Airplane Flight Manual.

Proposal 398. This proposal would have amended § 121.189(e) by adding a requirement for takeoffs from runways that have a friction coefficient less than that for a dry runway. Although the basic concept contained in this proposal has merit, the recommendation that 20 percent be added to the dry distance performance does not appear to be based on factural test data. Past efforts in this regard have not resulted in agreement within the technical community on the standards to be used in determining friction coefficient, the equipment to be used in making this determination, or the criteria to be used in the application of these standards on a day-to-day basis at airports served by Part 121 operators. The FAA plans to issue an ANPRM to solicit more information on this issue.

Proposals 402 and 403. These proposals would have amended §§ 121.191 and 121.193 to allow the consumption of more fuel and oil after engine failure than is allowed for in the en route net flight path data in the Airplane Flight Manual. The current rules define requirements for dispatch based upon the Flight Manual data and do not relate to pilot inflight techniques or judgement. The pilot is not prohibited from selecting any power setting considered necessary for the safety of flight once an engine has been rendered inoperative.

Proposal 404. This proposal would have amended § 121.195(b) by adding specific landing performance provisions for Short Takeoff and Landing aircraft (STOL). Insufficient justification was presented in this proposal to warrant a rule change to Part 121, since no specific performance data was presented on which to base an amendment to the rule. The FAA knows of no reason to amend § 121.195(b) for STOL operations.

Proposal 405. This proposal would have revised § 121.195(d) to restrict a turbine engine powered airplane from landing on a runway containing water, slush, snow or ice unless the runway provided the same margin of safety as a dry runway. Major differences of opinion exist within the national aviation community concerning such basic runway factors as: (1) An acceptable vehicle with which to measure runway friction; (2) a definition of a reference wet surface (i.e., damp versus depth of water, snow, or slush); and (3) factors to be used in establishing acceptable performance margins. All of these considerations will require resolution before rulemaking action can be initiated.

Proposals 406 and 408. These proposals would have amended §§ 121.195 and 121.197 to require consideration of missed approach climb gradients for the landing runway at destination and alternate airports. While climb gradient information is desirable, the proposal would require consideration of destination runways, as distinguished from airports, which would further complicate dispatch procedures. Insufficient justification was presented to warrant a rule change and service experience does not indicate a safety problem.

Proposals 410. This proposal would have amended § 121.215 to require receptacles for towels, paper or similar waste to be fireproof and to have means to contain or extinguish all possible fires. The subject matter of this proposal is contained in Airworthiness Review Amendment No. 8 (45 FR 7750; February 4, 1980).

Proposal 412. This proposal would have amended § 121.219 to require that each occupiable compartment be suitably ventilated. The proposal would have little effect since § 121.219 applies only to transport category airplanes that were types certificated under regulations in effect before October 31, 1946. We assume that the proponent intended to provide a parallel provision, in the operating rules, to certain proposed changes to the ventilation rules in § 25.831, which were also submitted by the proponent for the Airworthiness Review Program. Section 25.831 has been amended by Airworthiness Review Amendment No. 5 (42 FR 36960; August 18, 1977) to require that a means be provided to control the temperature and quantity of ventilating air supplied to the crewmember compartments or area is ventilated by air interchange with other compartments or areas under all operating conditions. Therefore, this proposal is redundant and unnecessary.

Proposal 417. This This proposal would have allowed means other than actual demonstration to be used to comply with the emergency evacuation performance requirements of § 121.291. The recommendation contained in this proposal was included in Airworthiness Review Program Amendment No. 7 (43 FR 50578; October 30, 1978) and was developed to serve both airworthiness and operational requirements relating to

demonstrations of emergency evacuations.

Proposal 420. This proposal would have revised § 121.305 to require that the pitot heat system be automatically energized whenever an engine is running and that an indicating system be provided. Amendments 25–43 and 91–148, effective April 12, 1978, amended §§ 25.1326 and 91.50 to require a pitot heat indication system in all transport category airplanes equipped with flight instrument pitot heating systems. With regard to the portion of this proposal to require the automatic energizing of the pitot heat system when an engine is running, insufficient justification was presented to warrant such a change since the current manual procedures (checklist items) for energizing the system are adequate. These procedures provide protection against unwanted energizing of the system and possible damage (i.e., overheating and possible burnout of elements on the ground).

Proposal 423. This proposal would have expanded § 121.307 to make it consistent with the powerplant instrument requirements in § 25.1305. Section 121.157 requires all airplanes entering the air carrier fleet after June 30, 1942, to be certificated as a transport category airplane, whcih is more restrictive than § 121.307. It would be redundant to repeat the powerplant requirements in Part 121 when compliance has already been demonstrated to Part 25.

Proposal 424. This proposal would have amended § 121.309 to provide that access to emergency equipment is not restricted and that the emergency equipment is similar in type, location, and operation for each given type aircraft of each air carrier. It would have also required a CO_2 or dry-chemical fire extinguisher near each lavatory and galley area, a first-aid kit in the cabin of each aircraft, one megaphone for 21 to 99 passengers, and an additional megaphone for each additional 100 passenger seating capacity increment. The words "readily accessible" in the current rule require unrestricted access to emergency equipment. The use of dry-chemical fire extingushers can cause a problem with electrical and electronic components. First-aid kits are required and are normally located in the cabin of the aircraft. The present rule requires one megaphone for an airplane with a seating capacity of more than 60 and less than 100 passengers. Section 121.309 is being revised in Proposal 11–6 to require three megaphones on airplanes with a seating capacity of more than 199 passengers. This requirement has proven satisfactory in past operations and the proponent did not submit any justification to warrant changing the rule to include those aircraft with more than 20-passenger capacity as proposed.

Proposal 427. This proposal would have revised § 121.309(f) to require that the certificate holder designate the flight attendant responsible for use of the megaphone(s) during an emergency evacuation and relocate the megaphone(s) so that they are within easy reach of the flight attendant(s) while seated. The proposal would also require that consideration be given to the installation of new, light, and compact megaphones to facilitate stowage and use.

It is not practical for the certificate holder to designate the flight attendant who will be responsible for using the portable megaphones when the need exists, since all flight attendants are trained in the use of megaphones and their locations, and are expected to use them in case of an emergency. Further, it is inappropriate to require the certificate holder to consider using a specific type or model of megaphone, as long as they meet FAA standards. Proposal 11–6 requires that megaphones must be readily accessible from a required flight attendant seat.

Proposal 430. This proposal would have amended § 121.310(a) to require that emergency evacuation slides on all floor-level exits be automatically inflated upon deployment. The justification given was based on the National Transportation Safety Board's Special Study, NTSB–AAS–74–3, "Safety Aspects of Emergency Evacuations from Air Carrier Aircraft." That study revealed that evacuation slides which had to be manually inflated required more time to make an exit usable than fully automatic slides (that is, automatically deployed and automatically inflated). More rapid slide deployment and inflation would allow evacuation to begin sooner.

Present § 121.310(a) requires that assisting means for floor-level emergency exits meet the requirements of § 25.809(f)(1) in effect on April 30, 1972. Section 25.809(f)(1) in effect on April 30, 1972, requires that all such slides be automatically deployed and automatically erected except that the slide may be erected manually when installed at service doors and passenger doors. Present § 121.310(a) goes on to say that, if the Administrator finds that the design of the exit makes compliance impractical, he may grant a deviation from the requirement of automatic deployment, provided the slide automatically erects upon deployment.

This deviation would be just the opposite of the exception permitted in § 25.809(f)(1) discussed above. In fact, very few if any airplanes have obtained such a deviation; rather, most narrow-bodies airplane slides are automatically deployed and manually inflated.

All aircraft operating under § 121.310(a) have demonstrated an evaucation time of 90 seconds or less. This time included the opening of doors, deployment and erection of slides, and evacuation of occupants. If fully automatic slides were required on all airplanes, evacuation time could possibly be shortened by a few seconds. However, significant cost impacts would result and the minor saving in evacuation time would not justify the lost time and revenue that would be involved in retrofitting all large air carrier aircraft, except the newer wide-body aircraft, with automatic slides. Not only would new slides be required on a significant portion of the fleet, but also the exit opening system would have to be redesigned to comply with the current reuirements in § 25.809(f)(1). Amendment 25–32 (37 FR 3966; February 24, 1972) revised § 25.809(f)(1) to require that each passenger emergency exist which is also a passenger entrance door or a service door must be provided with means to prevent deployment of the assisting means when it is opened from either the inside or the outside under non-emergency conditions for normal use. This requirement is necessary when fully automatic slides are installed to prevent injury to ground personnel when opening the exit to deplane the passengers or for servicing.

The current regulations provide an acceptable level of safety and the recommended change does not justify the significant economic burden that would result.

Proposal 431. This proposal would have amended § 121.310 to require automatic assist means to be armed only during taxiing in areas other than the parking or gate area. The justification given was that this would preclude inadvertent deployment at the gate by inadvertent opening of the door from the outside. Adequate safety justification was not provided for the change, since the slides should be armed at all times when passengers are on board, including that time the aircraft is parked at the boarding gate, to assure proper evacuation in the event of an emergency while at the gate.

Inadvertent slide deployment can best be minimized by providing additional training to flight attendants and other pertinent ground personnel and by incorporating procedural changes in the flight attendants' manual.

Proposal 432. The proposal would have amended § 121.310 to require the

application of self-illuminating material to the emergency exit placards, the aisles, and the emergency exit marking band, and would require 20-inch aisleways and a 36-inch seat pitch. The rules governing emergency exit location, illumination, and access are presently defined in §§ 25.801 through 25.813. Insufficient justification was provided for this proposal. The proposal was vague as to any problems to be expected and did not specify that any increase in safety would be achieved.

Proposal 435. This proposal would have amended § 121.310(j) to allow the deactivation of exists other than those required for the particular passenger seating configuration. All aspects of this proposal were considered when the affected regulations were last evaluated and revised in 1967. The proponent did not introduce any new factors that would justify lowering the level of safety by deactivating useable exits and the FAA is not aware of a need for a revision to the existing rule.

Proposal 436. This proposal would have amended § 121.310 to require the installation of an automatic type emergency locator transmitter (ELT) in all airplanes operating under Part 121. Airplanes operated under Part 121 are currently required to have a flight monitoring or flight following system covering their route systems and are normally under radar surveillance. Scheduled flights by scheduled air carriers certificated by the Civil Aeronautics Board (CAB) were specifically excluded from the requirement by Section 601(d)(2)(B) of the Federal Aviation Act of 1958 and are not subject to change through FAA rule making.

Proposal 440. This proposal would have amended § 121.311 by eliminating side-facing seats, placarding seats that will not remain upright, providing seat belt/shoulder harnesses for flight attendants, and standardizing seat belts on airplanes. Side-facing seats have been eliminated as discussed in Airworthiness Amendment No. 8 (45 FR 7750; February 4, 1980). The rule provides that each passenger seat back be in the upright position for takeoff and landing. Any malfunctioning seat shall be fixed prior to flight or, if it occurs in flight, at the next available location. If shoulder harnesses are provided, the current rule provides that they must be fastened during takeoff and landing unless the harness interferes with the crewmember duties. Rule making pertaining to the requirement for combined seat belt and shoulder harness for each flight attendant seat is contained in Airworthiness Amendment No. 8. Most seat belts are Technical Standard Order approved and as such are well standardized. In addition, the pretakeoff demonstration describes the proper operation of the seat belts installed on the airplane.

Proposal 443. This proposal would have amended § 121.313 to require a static port heater or equivalent to prevent malfunctioning due to icing. This proposal is already covered by §§ 23.1325(b)(3) and 25.1325(b) for new airplane designs. Existing airworthiness requirements are adequate and insufficient justification was presented to require retrofitting of all aircraft operating under Part 121.

Proposal 448. This proposal would have amended § 121.317 to clarify that passenger information signs be "clearly" visible to passengers and flight attendants and to change the words "cabin attendant" to "flight attendants." Operations Review Amendment No. 4 (43 FR 22636; May 25, 1978) amended § 121.417 to require that passenger information signs meet the requirements of § 25.791, which require all signs to be legible to each person under all probable conditions of cabin illumination, and also deleted the words "cabin attendants."

Proposal 454. This proposal would have amended § 121.319 to require: interphone availability or accessibility from all occupiable compartments; an oral and visual alerting system for flight attendants in all compartments including compartments separate from the main passenger compartment; and a means of two-way communication between a flight attendant and ground personnel. Airworthiness Review Program Amendment No. 7 (43 FR 50578; October 30, 1978) amended § 121.319 to provide a crewmember interphone system between the pilot compartment and each passenger compartment and the pilot compartment and each galley located on other than the main passenger deck level. The performance of the alerting system between the cockpit and flight attendants with oral or visual signals has been effective and no change is required. There is no requirement for communication between the flight attendant station and the ground as this is handled through the cockpit. The portion of this proposal to provide communications between all occupiable compartments and ground personnel could cause serious safety problems during emergency situations. The responsibility for communication with ground personnel should remain with the pilot in command and should not be delegated during an emergency to a flight attendant in the passenger compartment. For additional discussions see Notice 75–14 (40 FR 11736; March 13, 1975) and Amendment 121–121 (49 FR 42185; September 11, 1975).

Proposal 455. This proposal would have added a new § 121.319 to require approved autopilots for all turbojets and that they be fully operative, except for flights below flight level 240 or for less than 2 hours when specified modes must be operative. While there are advantages in having fully operative autopilots, it is incorrect to suggest that modern turbojet aircraft cannot be operated safely without an autopilot functioning in all modes (as heading or altitude hold modes).

Proposal 460. This proposal would have added a new § 121.326 to prohibit landing on runways without a radio or visual system providing information on deviation from a standard approach slope, unless the airplane is fitted with an instrument capable of providing instant information on speed vector direction and the balance between thrust, drag, lift, and mass. The FAA is presently evaluating equipment, such as heads-up display systems, that would provide a system in the cockpit with which the flight crew would have the capability of establishing a visual approach slope. Rule making would be premature before completion of the evaluation.

Proposals 461 and 464. These proposals would have amended §§ 121.327 and 121.331 respectively by replacing the word "passenger" with the word "occupant" to include flight attendants under the requirements of paragraph (c) to provide them an equal level of safety. Supplemental oxygen is provided for flight attendants under the crewmember requirements of §§ 121.327(b) and 121.331(b) and there would be a conflict if flight attendants were also included under the supplemental requirements for passengers under paragraph (c). Use of the word occupant in paragraph (c) creates this conflict.

The proposal would have also required in §§ 121.327 and 121.331 that oxygen dispensing units be immediately and readily available for use by all occupants in all occupiable compartments. Transport category airplanes that have as their certification basis CAR 4b effective September 1, 1958 (Amendment 4b–9) or later amendments, or Part 25 and are certificated for operation above 25,000 feet must have oxygen dispensing units that are immediately available to each occupant wherever seated. For airplanes certificated for operation above 30,000 feet, the oxygen dispensing units must be automatically presented to the

occupants. The inclusion of the supplemental oxygen requirements in CAR 4b, later recodified as Part 25, was necessitated by the advent of turbine powered airplanes with normal operating altitudes higher than the operating altitudes of reciprocating engine powered airplanes. Turbine powered airplanes certificated to CAR 4b prior to Amendment 4b-9 have the supplemental oxygen requirements of Amendment 4b-9 imposed as special conditions. Thus, all airplanes operating under Part 121 have supplemental oxygen requirements that meet the intent of the proposal.

Proposal 468. This proposal would have amended §§ 121.347 and 121.351 to require communication with appropriate ground stations along the route but not necessarily at each point along the route. This relaxes the current requirement that a flight must be able to communicate with at least one appropriate ground station from any point on an extended overwater route. Lack of communication capability during any polar or extended overwater operation could place the aircraft in a serious, if not dangerous, situation. The current regulations provide an acceptable level of safety and the changes recommended did not sufficiently justify a reduction in the level of safety.

Proposal 470. This proposal would have amended § 121.349 to allow substitution of certain area navigation computer systems (RNAV) for one very high frequency omnidirectional station (VOR) receiver or one distance measuring equipment (DME) system to provide independent navigation capability. Substituting an RNAV system for one VOR receiver would eliminate dual instrument landing system (ILS) capabilities. The current regulations provide an acceptable level of safety and no change is necessary.

Proposal 474. This proposal would have amended § 121.360 to require a ground proximity warning system on all turbine powered airplanes. The current rule requires the equipment only on large turbine powered airplanes. Separate rulemaking action amended Part 135 of this chapter to require a ground proximity warning system in all turbojet powered airplanes having a passenger seating capacity, excluding any pilot seat, of 10 seats or more. The extension of this requirement to all turbine powered airplanes is being addressed in a separate rulemaking action.

Proposals 475 and 476. These proposals are part of a group to move all maintenance rules from Parts 91, 121, 135, etc., and consolidate them in a new Subpart B of Part 43. These proposals comprise an extensive recodification process with no commensurate benefit to aviation safety since it would not streamline, reduce, or simplify the regulations, but would require a tremendous administrative workload and involve changing many advisory circulars and internal instructions.

Proposal 477. This proposal would have deleted § 121.361(b) and prohibited the use of parts returned to service by persons outside of the United States who do not hold U.S. airmen certificates, on the basis that it takes work away from U.S. certificated mechanics and repairmen. This rule change would have deleted the existing parts pool arrangements which have proven to be advantageous. The proposed change would not enhance safety and would impose an unnecessary inconvenience and an economic burden on Part 121 certificate holders.

Proposal 479. This proposal would have revised § 121.371 to allow an FAA-approved repair station to assume full responsibility for accomplishing required inspections. The current rules make certificate holders responsible for all work performed on their airplanes regardless of the certification status of persons or maintenance entities performing such maintenance. This proposed rule change would dilute this responsibility, with a possible detrimental effect on safety.

Proposal 483. This proposal would have revised § 121.375 to require each certificate holder to prepare and keep current a written training pogram curriculum for maintenance personnel for each type of airplane operated, and also require annual recurrent training. The current rules do not specify the type of training program or frequency of training, allowing certificate holders the opportunity to adjust their training program to their specific needs. These training programs are monitored by the FAA for their adequacy.

Proposal 487. This proposal would have amended §§ 121.380, 43.9, and 43.11 to require the current status of applicable service bulletins, including methods of compliance, to be recorded. The recommended rule change has not been sufficiently justified since these current recording requirements are adequate to provide a record of all maintenance and alterations performed and are subject to periodic review by the FAA.

Proposal 493. This proposal would have amended § 121.391 to change the passenger to flight attendant ratio from the current 50-to-1 to 30-to-1. Emergency evacuation demonstrations performed under current FAA requirements have safely and satisfactorily proved that the 50-to-1 ratio is more than adequate. Additionally, insufficient justification was presented to properly support a change in the passenger to flight attendant ratio.

Proposal 581. This proposal would have amended § 121.571 to require that all operators extract the regulations pertinent to passenger safety from the Federal Aviation Regulations and publish them as passenger information. The current dissemination of passenger information by passenger briefings and briefing cards is considered sufficient. Many regulations are "pertinent to passenger safety", yet their dissemination to passengers is not practical because many of the regulations are complex and would tend to confuse the passengers. They are adequately covered in crewmember training programs which instruct crewmembers in all aspects of passenger safety.

Proposal 582. This proposal would have amended § 121.571 to require that passengers be alerted, during pretakeoff briefings, of the need to familiarize themselves with the procedures involved in the operation of emergency exits. The current passenger briefings and the information contained on the printed briefing cards already convey this information on the operation of emergency exits. Dissemination of this information is being emphasized during crewmember training programs and during passenger briefings. In addition, this information is clearly posted at each emergency exit.

Proposal 859. This proposal would have deleted § 145.2 and, along with related proposals, would restructure the current repair station rating systems. The implementation of this proposal, and the accompanying changes which would be necessary in other parts of the regulations, directives, and supporting advisory circulars, are not justified on the basis of increased safety.

Proposal 861. This proposal would have added a new § 145.11(a)(5) which would require applicants for repair stations with any instrument rating (Class 1, 2, 3, or 4) to list, by type and make of instrument, those appliances for which approval is sought. Proposed § 145.11(a)(1) satisfies the intent of this proposal.

Proposal 862. This proposal would have amended § 145.13 to allow foreign countries who have developed requirements and procedures for repair station certification to provide certification and surveillance services for the FAA. The certification and surveillance authority, as related to foreign repair stations certificated by

the FAA, must remain with the FAA. Since foreign repair stations under the FAR are primarily for the purpose of maintaining U.S. registered aircraft operating outside the U.S., the FAA is not prepared to certificate a foreign repair station, or allow certification status to continue on the basis of an affidavit instead of an on-site inspection by the FAA.

Proposal 863. This proposal would have revised § 145.17(a) to impose a 2-year renewal requirement on FAA approved domestic repair stations. The FAA current surveillance activity ensures the continuing capability of these stations and the renewal requirement would place an economic burden on repair stations and the FAA with no commensurate gain in safety.

Proposal 865. This proposal would have revised § 145.31 by replacing the current class ratings, which include descriptive information about the services involved, with a categorical listing which would denote only the general area of services or products involved. The current rating structure should remain as it is since changing the names of the ratings would not enhance safety, be an economic burden on industry (because of having to recertificate the repair stations and additional requirements), and cause confusion to the public.

Proposal 868. This proposal would have revised § 145.33 by replacing the current limited ratings with a process specification that describes the procedure to be used. The current rating structure is adequate and changing it would not enhance safety, would require recertification of all repair stations to include the process specification procedure, and would be an economic burden on industry and FAA.

Proposal 871. This proposal would have amended § 145.39(d) to require that persons who supervise, perform the work without supervision, or inspect the work for which the repair station is rated, must be appropriately certificated and rated as a mechanic or repairman under Part 65. It would also allow a person working under the supervision of a holder of a mechanic or repairman certificate to perform the same functions that the supervisor is authorized to perform if the supervisor personally observes the work and is readily available, in person, for consultation. The current rules impose sufficient requirements. They provide that each person who is directly in charge of the maintenance function of a repair station must be appropriately certificated as a mechanic or repairman under Part 65. To add requirements for additional ratings for additional persons as proposed is unnecessary and creates an additional burden without a commensurate increase in safety.

Proposal 874. This proposal would have revised § 145.47 to eliminate the current requirement for periodic inspection and calibration of test equipment being used. Calibration of this equipment on a continuing basis is a necessary safety requirement and is required to be performed at regular intervals to ensure correct calibration.

Proposal 877. This proposal would have deleted § 145.49. It is based on Proposal 868 which would have eliminated limited ratings and is removed from consideration for the same reasons stated for Proposal 868.

Proposal 878. This proposal would have revised § 145.51 and was predicated on Proposal 865 which would have replaced the present repair stations class and limited ratings with a categorical system denoting only the general area of services or products involved. The current rating system should be retained and therefore this proposal is removed from consideration for the reasons stated for Proposal 865.

Proposal 882. This proposal would have amended § 145.51 to allow a certificate holder, which has an engineering organization acceptable to the Administrator, to approve the technical data for major repairs and major alterations. This proposal has been included in the provisions of Special Federal Aviation Regulations (SFAR) No. 36 (43 FR 3084; January 23, 1978).

Proposal 883. This proposal would have amended § 145.53 to restrict technical data, equipment or facilities to that recommended by the manufacturer. This proposal is unduly restrictive in that the manufacturers' instructions, while desirable, are not the only available source. Further, the prohibition sought in the proposal is already encompassed in the existing § 145.53.

Proposal 887. This proposal would have revised § 145.71 by deleting the requirement that a determination of need must be found by the Administrator before a certificate and rating(s) could be issued for a foreign repair station. The certification of foreign repair stations is based on a requirement for maintaining or altering U.S. registered aircraft operating outside the United States. Thus, this rule change would negate the basic purpose of FAA certification of foreign repair stations.

Proposal 890. This proposal would have deleted Appendix A of Part 145 and reissued the information in an advisory circular. The material in Appendix A is a regulatory requirement and is not appropriate for inclusion in an advisory circular.

(Secs. 313, 314, and 601 through 610 of the Federal Aviation Act of 1958, as amended (49 U.S.C. 1354, 1355, and 1421 through 1430); sec. 6(c) of the Department of Transportation Act (49 U.S.C. 1655(c)); and 14 CFR 11.45)

Note.—The Federal Aviation Administration has determined that this document involves a regulation which is not significant under Executive Order 12044, as implemented by Department of Transportation Regulatory Policies and Procedures (44 FR 11034; February 26, 1979). A copy of the draft evaluation prepared for this document is contained in the docket. A copy of it may be obtained by writing to the individual named in the "FOR FURTHER INFORMATION CONTACT" paragraph.

Issued in Washington, D.C., on January 9, 1981.

Kenneth S. Hunt,

Director of Flight Operations.

[FR Doc. 81-1764 Filed 1-16-81; 8:45 am]

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Monday
January 19, 1981

Part XVI

Department of Transportation

Federal Aviation Administration

Elimination of Duties and Activities of Flight Crewmembers Not Required for the Safe Operation of Aircraft

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Parts 121 and 135

[Docket No. 20659; Amdt. Nos. 121-168; and 135-11]

Elimination of Duties and Activities of Flight Crewmembers Not Required for the Safe Operation of Aircraft

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: These amendments prohibit performance of nonessential duties and activities by flight crewmembers which are not required for the safe operation of aircraft during critical phases of flight. Nonessential flight crewmember duties and activities can create distractions in the flight crew compartment. These amendments require aircraft operators and flight crewmembers to assure an environment in the flight crew compartment that is free from such potentially dangerous distractions.

EFFECTIVE DATE: May 18, 1981.

FOR FURTHER INFORMATION CONTACT: Marvin J. Walker, Regulatory Review Branch (AVS-22), Safety Regulations Staff, Associate Administrator, for Aviation Standards, Federal Aviation Administration, 800 Independence Avenue, SW., Washington, DC 20591; telephone (202) 755-8714.

SUPPLEMENTARY INFORMATION:

History

This final rule is based on Notice of Proposed Rule Making No. 80-12 published in the **Federal Register** on August 28, 1980, (45 FR 57684). All interested persons have been given an opportunity to participte in the making of the rule, and due consideration has been given to all matters presented.

Background

Notice 80-12 was issued as a result of the FAA's growing awareness that certain activities and nonessential duties assigned to flight crewmembers by the air carrier are not required for the safe operation of aircraft. These nonessential duties and activities are possible sources of dangerous distraction to flight crewmembers and can result in a compromise of safety, especially during critical phases of flight. A review of data derived from the Federal Aviation Administration/ National Aeronautics and Space Administration (NASA), Aviation Safety Reporting System (ASRS), revealed many examples of flight crew errors, omissions, and noncompliance with air traffic control (ATC) clearances which reportedly resulted from distractions caused by the performance of nonessential duties and activities by flight crewmembers. A review of National Transportation Safety Board (NTSB) accident investigation reports further revealed that inadequate cockpit discipline in the flight crew compartment is a commonly cited cause of aviation accidents.

Notice 80-12 proposed adding new §§ 121.542 and 135.100 to the Federal Aviation Regulations (FAR) to eliminate nonsafety related duties and activities during critical phases of flight, thereby greatly reducing accident potential. Critical phases of flight were defined in the notice as all ground operations involving taxi, takeoff and landing, and other flight operations except cruise flight.

Discussion of Comments

Eighteen comments were received in response to Notice 80-12, representing the views of individuals, labor organizations, trade associations, airline companies, and other government agencies. The NTSB in its comment expressed unqualified approval of the proposals, as did one citizen's committee which responded to the notice. A majority of commenters expressed approval of the intent of the proposals. Several, however, suggested changes which would tailor the proposals to specific airline operations. Where practicable, these suggestions have been adopted.

Several commenters object that the definition of critical phases of flight as everything but cruise flight is too stringent, particularly for short-haul up and down operations where there is a minimum, if any, cruise portion of flight. They state that a sterile cockpit until cruise is simply not workable in the instance of these shorter flights and suggest that a hard altitude be specified instead. The FAA agrees. The definition of critical phases of flight is expanded in the flight operations area to allow nonessential duties and activities to be conducted during cruise flight at any altitude, and during climbout and descent above 10,000 feet.

One commenter specifically questions the practicality of prohibiting all extraneous conversation between a pilot and passengers on board small charter aircraft operating under Part 135 of the FAR. The FAA does not agree. The objective of the rule is to reduce distractions in the cockpit. Extraneous conversation in the cockpit during critical phases of flight causes flight crew distraction in small as well as large aircraft. Therefore, Part 135 operators carrying passengers in the same compartment occupied by flight crewmembers should ensure that those passengers are briefed concerning their responsibilities under the law. The FAA considers extraneous conversation, as it pertains to this rule, to be a dialogue not related to the safe operation of an aircraft, such as discussions concerning politics or the passing scenery.

A number of commenters object to the proposals as being ambiguous and lacking definition. They state that the proposals would place both operators and flight personnel in an untenable interpretation dilemma since the list of duties and activities prohibited in the proposals is noninclusive. These commenters suggest that the FAA not issue open-ended rules such as the ones proposed, but rather leave determinations as to which specific duties and activities are unnecessary for the safe operation of aircraft and when they are to be prohibited to the individual operators involved. They suggest that each operator submit a cockpit sterilization procedure to the FAA for approval by the Administrator. The FAA does not agree that the proposals are in any way ambiguous or vague. The rules are clear; they categorically state that airlines shall not require their flight crewmembers to perform nonsafety related duties during critical phases of flight and that flight crewmembers shall not conduct nonsafety related activities which could cause distractions in the flight crew compartment during critical phases of flight. They further state that the pilot-in-command shall not permit any activity during a critical phase of flight which would distract flight crewmembers from the performance of their duties. Critical phases of flight is an expression which is commonly used in discussions concerning flight crew workloads. These are the phases of a flight in which the flight crew is busiest, such as during takeoff and landing and instrument approaches. When many complex tasks are performed in a short time interval, distracting events could cause errors and significant reductions in the quality of work performed. The performance of a nonsafety related duty or activity when flight crew workload is heavy could be the critical event which precludes a flight crewmember from performing an essential function such as extending the landing gear prior to touchdown.

Several of these commenters further state that the proposals would be too difficult to enforce. They suggest that the intent of the proposals to achieve a sterile cockpit during critical phases of

flight could best be furthered by having each operator determine which duties and activities should be prohibited and incorporate them into its training program. The FAA does not agree that the rule is too difficult to enforce. Principal operation inspectors will assure air carrier compliance through review of manuals and procedures. Individual compliance will be assured through en route surveillance, as in the past. Violations of this rule will be pursued as vigorously as those of any other FAR. The FAA does not object to individual operators incorporating additional examples of nonessential duties and activities into their manuals and training programs, however the minimum provisions of these rules must be met.

Several commenters state their belief that individual airline sterile cockpit procedures already in existence have worked well, and that therefore the proposals are not necessary. They state that the adoption of sterile cockpit procedures on a voluntary basis is the most desirable alternative to the proposals in Notice 80–12. The FAA does not agree. A background history of events leading to the formulation of the proposals, including attempts by the FAA to promote voluntary compliance with practices which would prevent cockpit distractions during critical phases of flight, was given in Notice 80–12. Efforts by the FAA to encourage periods of voluntary cockpit sterilization have not been totally successful as evidenced by hundreds of recent ASRS reports detailing incidents of distractions in the flightcrew compartment, and by the continued occurrence of aircraft accidents such as the September 1978 PSA mid-air collision near San Diego in which such unnecessary activities as crewmembers engaging in extraneous conversation have been found to play a part.

Several commenters question the need for the proposed rules given the existence of Federal Aviation Regulations which concern flight safety and cockpit management. They point to regulations which vest the pilot-in-command with full control and responsibility as to the operation of an aircraft, and which prohibit persons from operating an aircraft in a careless or reckless manner. The existence of these regulations alone is insufficient. None of the current Federal Aviation Regulations specifically prohibits performance of nonsafety related duties and activities during critical phases of flight. The need for such a rule is made clear in Notice 80–12 where the Eastern Airlines crash in Charlotte, North Carolina, and the PSA collision near San Diego are discussed as examples of accidents in which a breakdown of cockpit discipline played a part.

One commenter questions the use of ASRS data to support the proposal. He inquires into the type and amount of data reviewed and whether the data was randomly picked. The FAA reviewed 475 ASRS examples of distractions in the cockpit. The period of review spanned from July 1976, when the ASRS program was first conceived, to March 1980. The following table lists the categories stored in the computer and the number of reports in each category for which distraction was judged to be the reason for the reported error:

Categories reviewed	Number of distractions
Altitude alert	209
Alerts and warnings	16
False alarms	20
Ground proximity warning system	39
Cockpit display	60
Aircraft equipment malfunction	91
Checklist	40
	475

ASRS reports of distractions in categories involving paperwork problems, public address systems, flight attendants, company radios, and extraneous conversations were also reviewed. A given ASRS report reviewed by the FAA may have spoken to a combination of the above categories.

This commenter objects to use of the NTSB report on the PSA midair collision in San Diego in support of the proposal, since the Air Line Pilots Association (ALPA) has petitioned the NTSB to reconsider the probable cause of that collision. The FAA does not agree that reference to the NTSB report was in any way inappropriate. ALPA's June 9, 1980, petition for reconsideration of the probable cause of the San Diego crash does not challenge the NTSB's statements concerning the extraneous conversation taking place in the PSA cockpit preceding the collision. In this regard, the NTSB in its accident report stated: "Although the conversation was not causal, it does point out the dangers inherent in this type of cockpit environment during descent and approach to landing." The FAA is in agreement with the NTSB's assessment of the dangers associated with extraneous conversation. The fact that ALPA has petitioned the NTSB has no bearing on these rules.

This commenter states further that if additional cockpit management regulations are needed, they should be dealt with in Part 91 of the regulations which are applicable to all pilots and not just to air carriers and air taxi operators. The FAA does not agree. The amendments apply to Parts 121 and 135 in order to assure the highest level of safety possible for those engaging in air transportation. Applying the same amendments to Part 91 would be impractical and unnecessary because of the many different types of operations conducted under that part and because Part 91 operations do not involve the traveling public.

One commenter who is in favor of the proposal suggests that the definition of critical phases of flight should not include taxi since accidents during taxi are extremely rare. The FAA does not agree. Serious accidents during taxi have occurred, several of which have involved fatalities. For example, on March 27, 1977, a K.L.M. Boeing 747 collided with a taxiing Pan American Boeing 747 at Los Rodeos (Tenerife) Airport killing 583 persons. On December 20, 1972, 10 persons lost their lives when a North Central Airlines DC–9 collided with a taxiing Delta Airlines Convair 880. This commenter is also concerned that certain passenger information announcements by flight crews during taxi will be prohibited by the proposal. Studies of ASRS reports show that cabin announcements made by flight crewmembers during critical phases of flight can be dangerously distracting. The rules are clear. Flight crewmembers shall not make cabin announcements during taxi, unless such announcements are in response to safety related situations such as announcements made to direct passengers to take their seats until the aircraft has arrived at the gate.

One commenter asks if a flight attendant may, for example, enter the cockpit to report an illness on board the aircraft or whether there could be a report made of malfunctioning galley equipment. A flight attendant's decision to enter the cockpit during critical phases of flight to make a report must be tempered by good judgment. Certainly, a flight attendant would not, for example, be prohibited from reporting an illness or disturbance which was of a serious nature. Proper flight attendant training will greatly aid in making the proper decision. Flight attendants shall not enter the cockpit during critical phases of flight to report cabin mechanical malfunctions that are not safety related, such as broken movie projectors or inoperative coffee makers.

One commenter is concerned that the sterile atmosphere generated by the

proposals could mask subtle incapacitation. The FAA does not agree. There are several other symptoms of subtle incapacitation other than the absence of verbal communications and flight crewmembers are trained to recognize them. Another commenter points out that extraneous conversation under certain circumstances enhances safety by assuring alertness of flight crewmembers. There is considerable merit to this comment and the FAA's decision to modify the definition of critical phases of flight is based in part upon this concern. However, in view of this modified definition of critical phases of flight, the FAA has determined that the prohibition against extraneous conversation will not adversely affect safety because of the relatively short period of time during a flight in which such conversation is prohibited.

Similarly the FAA disagrees with the views of another commenter who states that the working conditions which would result from the proposals would encourage an atmosphere of noncommunication and distrust between cockpit crew and cabin attendants. Again, extraneous conversation is to be prohibited for such a relatively short period of total flight time that overall communication between cockpit crew and cabin attendants will not be significantly affected.

One commenter states that good judgment cannot be legislated, and that it must be accomplished by establishment of sound company policy and procedures, and effective training. The FAA agrees that the institution by each operator of proper cockpit sterilization procedures in its manuals and training programs would further the intent of the rules. However, while the FAA supports the existence of such company policy, its existence alone is not sufficient since company policy does not have the effect of law and cannot be enforced by the FAA.

One commenter recommends that the rules address the conduct of nonfunctioning (jumpseat) crewmembers in the cockpit. The FAA agrees that the presence of such persons in the cockpit could be potentially distracting, and therefore the proposals are revised to require that the pilot in command prohibit activity which is distracting to flight crewmembers by any cockpit occupant during critical phases of flight. The FAA does not consider the mere presence of a duly authorized FAA inspector or nonfunctioning crewmember in the cockpit to be a distraction which is in violation of these rules.

Description of the Amendments

These amendments add two new sections to the Federal Aviation Regulations, §§ 121.542 and 135.100. Both sections use identical language in prohibiting the performance of nonessential duties and activities by flight crewmembers or other occupants of the cockpit during critical phases of flight. The following are some examples of flight crewmember duties which are unnecessary for the safe operation of an aircraft: company-required calls made for such nonsafety related purposes as ordering galley supplies and confirming passenger connections; PA announcements made to promote passenger entertainment including announcements pointing out sights of interest; and time spent in the flight crew compartment filling out company paycards and personnel records.

With respect to the prohibition against the performance of nonsafety related activities, the proposals have been revised to reflect that no flight crewmember shall engage in any activity during a critical phase of flight which would distract any flight crewmember from his or her duties or which would interfere in any way with the proper conduct of those duties. In addition, the pilot in command is now required to prohibit any activity by any cockpit occupant during a critical phase of flight which is distracting to a flight crewmember. Notice 80-12 addressed only the conduct of those persons who were required flight crewmembers. The proposals were revised to respond to commenters concerned with disruptive conduct by crewmembers deadheading on board a flight. In addition, the proposals have been revised by adding an example of a nonessential activity; i.e., reading publications not related to the proper conduct of a flight. Critical phases of flight is expanded in the final rules to allow nonessential duties and activities to be conducted above 10,000 feet, and during cruise flight at any altitude. The definition of critical phases of flight is modified in response to those commenters who state that the definition set forth in Notice 80-12 is too stringent for short haul operations.

The proposals have been further revised by adding the word "communications" to the list of those activities which are sometimes prohibited. Such communications may, for example, include interphone exchanges between cabin crew and flight deck crew, and the sounding of bells in the cockpit to summon the attention of flight deck crewmembers.

Adoption of the Amendments

Accordingly, Parts 121 and 135 of the Federal Aviation Regulations (14 CFR 121 and 135) are amended effective May 18, 1981, as follows:

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

1. By adding a new § 121.542 to read as follows:

§ 121.542 Flight crewmember duties.

(a) No certificate holder shall require, nor may any flight crewmember perform, any duties during a critical phase of flight except those duties required for the safe operation of the aircraft. Duties such as company required calls made for such nonsafety related purposes as ordering galley supplies and confirming passenger connections, announcements made to passengers promoting the air carrier or pointing out sights of interest, and filling out company payroll and related records are not required for the safe operation of the aircraft.

(b) No flight crewmember may engage in, nor may any pilot in command permit, any activity during a critical phase of flight which could distract any flight crewmember from the performance of his or her duties or which could interfere in any way with the proper conduct of those duties. Activities such as eating meals, engaging in nonessential conversations within the cockpit and nonessential communications between the cabin and cockpit crews, and reading publications not related to the proper conduct of the flight are not required for the safe operation of the aircraft.

(c) For the purposes of this section, critical phases of flight includes all ground operations involving taxi, takeoff and landing, and all other flight operations conducted below 10,000 feet, except cruise flight.

Note.—Taxi is defined as "movement of an airplane under its own power on the surface of an airport."

PART 135—AIR TAXI OPERATORS AND COMMERCIAL OPERATORS

2. By adding a new § 135.100 to read as follows:

§ 135.100 Flight crewmember duties.

(a) No certificate holder shall require, nor may any flight crewmember perform, any duties during a critical phase of flight except those duties required for the safe operation of the aircraft. Duties such as company

required calls made for such nonsafety related purposes as ordering galley supplies and confirming passenger connections, announcements made to passengers promoting the air carrier or pointing out sights of interest, and filling out company payroll and related records are not required for the safe operation of the aircraft.

(b) No flight crewmember may engage in, nor may any pilot in command permit, any activity during a critical phase of flight which could distract any flight crewmember from the performance of his or her duties or which could interfere in any way with the proper conduct of those duties. Activities such as eating meals, engaging in nonessential conversations within the cockpit and nonessential communications between the cabin and cockpit crews, and reading publications not related to the proper conduct of the flight are not required for the safe operation of the aircraft.

(c) For the purposes of this section, critical phases of flight includes all ground operations involving taxi, takeoff and landing, and all other flight operations conducted below 10,000 feet, except cruise flight.

Note.—Taxi is defined as "movement of an airplane under its own power on the surface of an airport."

(Secs. 313(a) and 601 through 605 of the Federal Aviation Act of 1958 (49 U.S.C. 1354(a), 1421 through 1425); Sec. 6(c), Department of Transportation Act (49 U.S.C. 1655(c)).

Note.—The Federal Aviation Administration has determined that this document involves regulations which are not significant under Executive Order 12044, as implemented by Department of Transportation Regulatory Policies and Procedures (44 FR 11034, February 26, 1979). A copy of the regulatory evaluation prepared for this action is contained in the regulatory docket. A copy of it may be obtained by contacting the person identified above under the caption "FOR FURTHER INFORMATION CONTACT."

This rule is a final order of the Administrator of the FAA under the Federal Aviation Act of 1958, as amended [49 U.S.C. 1485]. As such, it is subject to review only by the courts of appeals of the United States or the United States Court of Appeals for the District of Columbia.

Issued in Washington, DC, on January 14, 1981.

Langhorne Bond,

Administrator.

[FR Doc. 81-1824 Filed 1-14-81; 1:32 pm]

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federal register

Monday
January 19, 1981

Part XVII

Department of Transportation

Federal Aviation Administration

Access to Flight Data Recorder and Cockpit Voice Recorder Tapes

DEPARTMENT OF TRANSPORTATION

14 CFR Parts 121 and 135

[Docket No. 20661; Notice No. 80-14B]

FAA Access to Flight Data Recorder and Cockpit Voice Recorder Tapes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Supplemental Notice of Proposed Rulemaking.

SUMMARY: These proposals, if adopted, would establish the regulatory procedures necessary for the Administrator to obtain flight data recorder information and cockpit voice recorder information. The data are important to the furtherance of aviation safety. The information will be used to study the human factor elements associated with aircraft operation and design to determine what, if any, regulatory changes should be made to enhance aviation safety. The importance of this rulemaking should not be underestimated; the human element is the primary cause of aviation accidents. These proposals would not change the Administrator's policy regarding use of information derived from cockpit voice recorders, but would limit the Administrator's ability to use flight data recorder data in enforcement proceedings. More specifically, cockpit voice recorder data would not be used for enforcement purposes. Flight data recorder data would continue to be used for enforcement purposes but not when such data are removed for the purpose of studies discussed herein.

This supplementary notice discusses a number of comments received in response to Notice of Proposed Rulemaking No. 80-14 (45 FR 57694), and solicits additional comments.

DATE: Comments must be received on or before May 18, 1981.

ADDRESSES: Send comments on the proposals in duplicate to: Federal Aviation Administration, Office of the Chief Counsel, Attn: Rules Docket (AGC-204), Docket No., 800 Independence Avenue SW., Washington, D.C. 20591; or deliver comments in duplicate to: FAA Rules Docket, Room 916, 800 Independence Avenue SW., Washington, D.C.

Comments may be examined in the Rules Docket weekdays between the hours of 8:30 a.m. and 5 p.m.

FOR FURTHER INFORMATION CONTACT: Everett W. Pittman, Regulatory Review Branch (AVS-22), Safety Regulations Staff, Associate Administrator for Aviation Standards, Federal Aviation Administration, 800 Independence Avenue SW., Washington, DC 20591; telephone (202) 755-8714.

SUPPLEMENTARY INFORMATION:

Comments Invited

Interested persons are invited to participate in the making of the proposed rules by submitting such written data, views, or arguments as they may desire. Communications should identify the regulatory docket or notice number and be submitted in duplicate to the address listed above. Commenters wishing the FAA to acknowledge receipt of their comments on this notice must submit with those comments a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket No. 20661." The postcard will be date/time stamped and returned to the commenter. All communications received on or before the closing date for comments will be considered by the Administrator before taking action on the proposed rules. The proposals contained in this notice may be changed in the light of comments received. All comments submitted will be available in the Rules Docket for examination both before and after the closing date for comments. A report summarizing each substantive public contact with FAA personnel concerned with this rulemaking will be filed in the docket.

Availability of NPRMs

Any person may obtain a copy of this supplemental notice of proposed rulemaking (NPRM) by submitting a request to the Federal Aviation Administration, Office of Public Affairs, Attention: Public Information Center, APA-430, 800 Independence Avenue SW., Washington, D.C. 20591, or by calling (202) 426-8058. Communications must identify the notice number of this NPRM. Persons interested in being placed on a mailing list for future NPRMs should also request a copy of Advisory Circular No. 11-2 which describes the application procedure.

Background

This supplemental notice of proposed rulemaking is based on Notice of Proposed Rulemaking No. 80-14, published in the **Federal Register** on August 28, 1980 (45 FR 57694). Notice 80-14A was published in the **Federal Register** on October 30, 1980, extending the initial comment period. In response to those notices, 52 comments were received. An analysis of those comments has pointed out several areas where clarification of the proposed rules is needed, and the rules proposed herein have been so modified. More importantly, though, is the misinterpretation of several aspects of the proposals contained in Notice 80-14. Since the FAA is convinced of the importance of industrywide cooperation in the study and analysis of human error, and such cooperation cannot be founded on a basis of misunderstanding, this supplemental notice has been issued. It is hoped that the discussion of intent presented herein, and the modifications to the rules presently proposed, will serve to clarify the original intent of the agency.

Notice 80-14 was issued in response to the FAA's need for more hard statistical data on day-to-day working conditions in the cockpit. Recent aircraft certification experience has revealed that more data exists regarding all factors affecting cockpit functions than the FAA has yet utilized. Data derived from the implementation of these proposals will be used in the FAA's Aviation Human Factors Program which includes a major emphasis on identification and reduction of factors causing crew errors. The FAA's Aviation Human Factors Program is a new initiative designed to improve the man-machine interface element of the aviation system. The program is being developed with the full participation of the world aviation community. A major aspect of the program is a series of open workshops at which the FAA, industry and consumers will meet to dicuss present and future human factors issues, priorities, and optimum courses of action. The inflight data collection set forth in these amendments is one small but essential part of the overall Aviation Human Factors Program. In addition, all other pertinent data sources will be analyzed in the study of the human factors affecting aviation safety.

A number of commenters criticized the proposals set forth in Notice 80-14 because the notice did not set forth a detailed plan for the use of data to be collected. Such criticism is misdirected. The purpose of the proposals in Notice 80-14 was to establish a basis for development of a detailed work plan for this aspect of the agency's human factors program. Development of such a work plan is expected to be time consuming, and involve a large number of representatives from all facets of the international aviation industry. It would have been inappropriate to invest the considerable effort required, on the part of all concerned, in the development of these specific plans if the data required for the analysis—i.e., the cockpit voice and flight data recorder tapes, cannot be made available. Thus, the proposed rule changes were set forth before the detailed plan was developed. In this

connection, it is the specific intent of FAA to involve the international aviation community in the planning of this, and other aspects of the human factors program, through participation in a series of workshops. The first was held in Cambridge, Massachusetts on November 24–25, 1980. The second is being held January 15–16, 1981, during the second FAA/Commuter Airline Synposium at Washington, D.C. The third will be held in March of 1981, on a date to be announced in the Federal Register.

The comment of one major airline union deserves specific discussion at this point. Notice 80–14 is criticized therein for stating that cockpit voice recorder data is expected to reveal more about the Air Traffic Control system and runway/taxi transgressions. The commenter claims that "* * * the FAA already has access to recorded data covering both situations * * *. In the case of runway/taxi transgressions, the FAA already has authority to review flight data recorders and cockpit voice recorders * * *." This comment indicates a serious misunderstanding of existing explicit FAA authority. It is exactly because the FAA does not have explicit access to cockpit voice recorder data for such analysis that Notice 80–14 was proposed. Flight data recorders and air traffic controller tapes do not tell the full story in a runway transgression. To perform a complete analysis of such situations in order to get at the underlying cause, the agency must have access to the cockpit voice recorders, which it does not have at present.

Flight data reorder and cockpit voice recorder data should prove invaluable in a variety of other human factors studies, including assessments of flight crew workload and the impact on workload of FAA-mandated systems. An inflight data base will, for example, provide essential information for the human engineering of new cockpit layouts and cockpit designs. Such data may also be used to address any continuing issues regarding the safety of two-member versus three-member crews. Study of the human factors issues in the cockpit environment through use of cockpit voice recorder and flight data recorder data may also shed light on pilot training effectiveness. These data might be used in evaluating or determining the workload impact and coordination effectiveness between pilot and air traffic controller. Furthermore, with the availability of this data, studies related to aircraft performance and pilot response may be implemented and furthered.

The need to study human factors in the cockpit environment is supported by findings of the National Transportation Safety Board (NTSB) that errors of judgment or management play a major role in airline accidents. Historically, pilot error is a factor in approximately 60 percent of air carrier and 88 percent of general aviation fatal accidents. Although the majority of fatal aviation accidents involve some element of crew error, categorization of accidents as to the nature of the crew error and the identification of underlying human problems has never been accomplished. Utilization of flight data recorder tapes and cockpit voice recorder tapes will enable the FAA to study and analyze the complex interactions in the man-machine environment.

A number of commenters implicitly or explicitly indicate that FAA enroute inspection should be able to provide first-hand data on cockpit workload. The FAA disagrees, principally for two reasons. First, pilots' unions themselves consistently claim that the "real-world" environment is different from that which the FAA believes to be representative. The Air Line Pilots Association (ALPA), in its comment, states that "The most significant data that would be obtainable would reveal how airplanes are flown under operational conditions. In this respect, the data would show how unrealistic many of the certification tests required by FAA really are." The FAA interprets this statement as one of the clearest possible reasons for having access to, and carefully analyzing, flight data and cockpit voice recorder data. Secondly, the FAA has reviewed its data on air carrier enroute inspections since the early 1960's. Nearly half a million inspections have been performed in revenue service, during a time when the number of air carrier flights approached 100 million. An analysis of these data indicates strongly that the operation of air carrier aircraft is conducted in a different manner when an FAA inspector is on-board, compared to when he or she is not. The proof of this claim lies in an examination of the accident rates experienced for the two types (inspector/no inspector) of revenue flights. The only practical way to determine what these differences are is to analyze flight data and cockpit voice recorder tapes. Taken together, these are two powerful arguments in favor of this proposed development in the Aviation Human Factors Program.

There were two major questions raised concerning this program—what is its scope and what is its cost? On November 24 and 25, 1980, the FAA held the opening workshop of its series on Aviation Human Factors. Determinations regarding the use and quantity of information derived from implementation of these proposals, as well as procedural matters involving data collection, processing, and analysis, will be made as the information from these workshops is further developed. Development of the program will, therefore, take place with the full participation and input of all segments of government and private industry. As a result, the number of cockpit voice recorder and flight data recorder tapes analyzed will vary with time. The cost will also vary. However, as the FAA stated in NPRM 80–14A, the FAA fully intends to reimburse the carriers for the direct costs associated with removal and replacement of the units. Thus, the direct cost impact on the public will be minimal, if any. To set the procedures for reimbursement, and to set forth the ministerial details as to actual collection of the data, the FAA will establish an agency order and an advisory circular. Both of these documents will be available to the public. This procedure will assist the agency in coordinating this data collection effort with the Aviation Human Factors Program. In summation, the FAA has fulfilled its obligation to assess the cost impact on the public, and has determined to bear this cost impact itself with funds approved by the Congress.

A final point worthy of discussion is the concern raised about invasion of privacy and self-incrimination. These are discussed more fully below. In summary, however, the FAA intends to ensure, to the fullest extent permitted by law, that personal data is not released to the public as a result of this program. Further, the FAA does not intend to use the flight data recorder and cockpit voice recorder tapes employed in this human factors effort in any civil penalty or certificate action involving any crewmember. Specific guarantees are provided to these ends in the amended rules proposed herein.

Discussion of Comments

The FAA received 52 comments in response to Notice 80–14. These comments represent the views of individuals, flight crewmembers, citizens committees, airline companies, airplane manufacturers, and other government agencies. One commenter states that the NPRM has the potential of becoming one of the most beneficial aids to future aircraft safety improvement in recent regulatory history and volunteers to assist in development of procedures. A citizens committee, in support of the Notice,

concurs with the FAA that the data obtained will be extremely valuable in enhancing the safety of aircraft operations, and an avionics organization, in its comment, wishes to go on record in full support of the proposals. Virtually all of the remaining 49 comments, the majority of which were received from individual flight crewmembers, oppose the proposals.

In general, the objections to the proposals show a remarkable lack of concern for advancing the cause of aviation safety. Commenters mainly object because they allege that the cockpit voice recorders were not installed for the purpose proposed here, and they allege an invasion of privacy. While these objections are dealt with in more detail below, it is important to focus on a central fact—all air carriers, commuters, air taxis and pilots are authorized to operate pursuant to a statute that demands strict adherence to aviation safety. The American public has entrusted this charge to the FAA and to those who operate by virtue of the FAAct. When it is possible to advance aviation safety, protests that the cockpit voice recorder was not intended for the purpose proposed herein have a hollow ring. The science of human factors has advanced, as has the FAA's ability to use this data to make aviation safer. Use of this tool in this scientific endeavor to advance aviation safety is consistent with the state-of-art in the study of human factors.

Turning more specifically to the individual objections, several commenters state that cockpit voice recorders and flight data recorders were intended to be used only as aids in accident investigations, and not as "tools of discipline" with information gathered from them used to aid in enforcement of Federal Aviation Regulations. The Federal Aviation Regulation requiring the installation of cockpit voice recorders contains no provision limiting the use of cockpit voice recorders to accident investigations. That rule only prohibits the use of cockpit voice recorder data in civil penalty or certiticate actions. Flight recorder data, however, are no different form any other record or report required by the regulations, and may be reviewed and used in investigations and enforcement actions pursuant to § 13.7 of the FARs. These proposals will not in any way change the Administrator's policy regarding use of information derived from cockpit voice recorders in enforcement proceedings. However, in order to promote maximum cooperation in this aspect of its human factors effort, and in response to a number of comments received in response to Notice 80–14, the FAA has amended the proposed rules to include an immunity provision. As now phrased, the proposed rules provide that when, for the purposes of human factors research (and only in such cases), both the cockpit voice recorder and flight data recorder are ordered to be removed from an aircraft by the Administrator for human factors analysis, none of the data contained on the flight data recorder may be used by the Administrator in civil penalty or certificate actions. This does not dilute the agency's authority to continue to use flight data recorder records for enforcement purposes outside the human factors program. It does, however, guarantee that records removed for the purpose of human factors research will be used only for that purpose, and not for purposes of enforcement.

The NTSB, in its comment, states that in the case of *Administrator* v. *Rapattoni and Swanson* the FAA is on record that cockpit voice recorder tapes should only be used in connection with accident investigations. The NTSB is incorrect in its assessment of that brief. Any comments made therein must be considerd in light of the issue presented in the brief; that is, the use of cockpit voice recorder tapes in connection with enforcement proceedings. The FAA merely expressed disagreement with use by the NTSB examiner in that case of cockpit voice recorder information in an enforcement action, stating, "It is clear that the FAA, by the language of the disclaimer contained in the rule and by the language used in adopting the rule, did not envision that the recorded information could or would be used by anyone else in an enforcement action." By such statements the FAA did not establish precedent limiting the use of cockpit voice recorder data to accident investigations.

Several commenters object that to allow the FAA unlimited access to cockpit voice recorder data would result in an invasion of a pilot's privacy. One commenter is concerned that only those with a legitimate need to know should ever be aware of the identity of crewmembers who are involved in a particular occurrence. This concern is not justified. Although the FAA will have access to cockpit voice recorder tapes, the identity of those pilots whose voices are recorded will not be available from the tapes. It, therefore, would be unlikely for any invasion of privacy to result from use of the tapes. Furthermore, under our system of law a person's right of privacy must be weighted against the public interest in order to determine whether a valid invasion of privacy claim arises. If the public interest in the material is substantial, and the intrusion upon one's privacy is of a lesser degree, then the public's interest will prevail and no actionable violation of the affected person's right of privacy will result. The public's interest in promoting safety supersedes any slightly possible intrusion into a flight crewmember's privacy.

Two commenters raise questions concerning possible disclosure of the cockpit voice recorder tapes pursuant to the Freedom of Information Act (FOIA) (5 U.S.C. 552). The NTSB suggested that public availability of the tapes could "adversely affect verbal communication procedures and thus reduce the usefulness of the cockpit voice recorder in the investigation of accidents." Another commenter expresses fear that under the FOIA the tapes would be available to the news media with no assurance that the FAA could, or would, protect the anonymity of crewmembers; it is this aspect, says the commenter that "makes the program completely unacceptable to the airlines." The commenter further states that "this aspect of the program is also unacceptable to the crewmember associations."

These concerns are valid. In response, the FAA plans to extract all significant data from the tapes and then erase them as soon as they are accurately transcribed. If partial disclosure is compelled under the FOIA, at least three factors combine to assure that crew anonymity can and will be preserved. First, the crew will not be identifiable through the tape or transcript thereof; although the tapes invariably contain call signs that identify the airline and flight number, they do not contain a date which would be necessary to identify the crew. Second, the agency, in transcribing tapes reviewed under this rule, will not make a verbatim transcript of all statements made by individuals in the cockpit. If extraneous comments are made, a notation will appear on the transcript noting "extraneous comments." The exact words used will not appear. This is similar to notations that appear on accident transcripts. Third, should anonymity nevertheless not be assurable, the FAA will, to the extent necessary to protect the privacy of individual crewmembers, delete personal discussions from any released tape or transcript, under the authority of Exemption 6 of the FOIA (5 U.S.C. 552(b)(6)). That exemption authorizes withholding of information concerning

personal matters unless there is a public interest to be served by disclosure that would outweigh the invasion of privacy that could result from disclosures. It is the FAA's view that a public interest claim would have to be overwhelming to meet that standard since the protectability of the privacy interest is so obviously essential to the accomplishment of FAA's public purpose, i.e., it seems apparent the program cannot succeed if crewmembers must be concerned about disclosure of personal matters outside the FAA. The FAA, for this reason, hereby announces its intention to defend to the fullest extent permitted by law against disclosures from either tapes or transcripts that can be traced to identifiable individuals. In this connection, if it is possible to identify the crew whose conversation is recorded on a cockpit voice recorder tape sought under the FOIA, the FAA will consult the crew as to what should be withheld. Any disclosures resulting from this process are no more likely to result in invasions of privacy than the transcripts of germane matters from cockpit voice recorder tapes made public by the NTSB in its accident investigation reports.

The FAA is also aware that, from time to time, discussions of company or union confidential matters may appear on the tapes. The carrier or union concerned will be consulted, as appropriate, regarding possible withholding of such matters under the authority of Exemption 4 of the FOIA (5 U.S.C. 552(b)(4)).

A number of commenters, including the NTSB, express concern that by allowing an aircraft to fly up to 8 hours without a cockpit voice recorder, valuable information would be lost should an accident occur. The FAA is also concerned about the possibility of an accident occuring during the period when the tapes are removed from an aircraft, and every effort will be made to remove the cockpit voice recorder at an airport where a replacement is available. It should be noted that the FAA does not seek possession of unmanageable numbers of tapes but only of a very small sample as dictated by the statistical design developed under the Human Factors Program. This is likely to result in a review of a very small percentage of all tapes on board aircraft. In the event that immediate replacement of the cockpit voice recorder is not possible under unusual circumstances, the FAA has determined that the public interest in allowing FAA access to these tapes greatly outweighs the loss of information which may occur in the remote possibility of an accident.

One commenter states that the proposals would fit a scheduled service where the airplane is in a maintenance base every 6 flight hours, but will not work for long-range overseas flights or where the aircraft is in charter service. Based on this comment, the FAA has reconsidered its position on allowing an aircraft operating under Part 121 of the FAR to fly only 8 hours with its tapes removed. To enable long range aircraft to fly the longest leg possible this 8-hour flight limitation is changed to 14 hours. Such a revision will enable long aircraft flights, such as westbound flights from New York to Tokyo, to reach a main base where tapes or recorders can be replaced. Again, the agency will make every reasonable attempt to minimize the time during which aircraft are flown without tapes. Data collection procedures will be based on the assumption that the primary removal location will be staffed with enough experienced personnel and spare parts so that recorders can be removed and replaced without interferring with scheduled airlines departures.

Several commenters believe that compliance with the proposals should be made strictly voluntary. One commenter suggests that a pilot who feels that the information compiled from a flight would be valuable for FAA study could call for removal of the tapes, with his or her company's approval, for dispatch to the FAA. The FAA would welcome any tapes removed on a voluntary basis for a human factors study but believes that tapes selected on an on demand basis will more accurately represent a crew's normal performance of its workload. Tapes voluntarily submitted to the FAA would tend to show flight crew behavior at its best since the crew involved knows that its conduct, as reflected in the tape, will be subject to scrutiny.

At least one commenter is concerned about the cost which must be borne by the operator for implementation of the rules. As stated in Notice 80–14A (45 Fr 72017) the FAA will assume the direct costs reasonably related to this program. The FAA will provide funds to reimburse air carriers for the direct costs involved in this data collection effort. Discussion of these costs will be included in an impending agency order and advisory circular.

Several commenters state that satisfactory data can only be obtained by direct observation of the crew at work, since many things are done in the cockpit without a word being spoken. The FAA does not agree. As discussed in Notice 80–14, when FAA inspectors are on board a flight, cockpit work follows standard procedures and workload patterns appear to duplicate those found during certification test flights. Flight crews have charged that workload distributions in actual line operations are higher than those experienced during FAA enroute inspections and line checks. Such charges can not be adequately evaluated without the review of flight data recorder and cockpit voice recorder tapes to confirm the existence and determine the causes of the stated problems. Other commenters suggest that a human factors study should be conducted instead in aircraft simulators operating under line oriented flying procedures since emergency procedures can be added to normal routine in a simulator. Simulators will be used in the study of human factors where appropriate. In addition, the collection of real world data will provide additional credibility and a validation baseline for human factors analysis. Therefore, there is a need to obtain data from aircraft in flight.

Several commenters suggest that there is an already existing body of human factors data which the FAA could analyze to satisfy the requirements of these proposals. They suggest that the FAA look to such things as studies undertaken by aircraft manufacturers and other civil aviation authorities, as well as data obtained by the United Kingdom in its studies. They suggest that parties such as active and retired airline personnel be utilized to establish the needed data base. The FAA agrees that there are many current sources of human factors information; however, this information is not of such magnitude that analysis of additional information should not be sought in the interest of aircraft accident prevention. In fact, the data base of the human factors information presently available has been used to determine that further data is needed. For example, NTSB study of cockpit voice recorder tapes following the Eastern Airlines crash at Charlotte, North Carolina, revealed that the probable cause of the accident was the flightcrew's lack of altitude awareness at critical points during the approach due to poor cockpit discipline. Through a study of the cockpit voice recorder tapes the NTSB found that company required callouts were not made. The NTSB stated that the extraneous conversation conducted by the flightcrew during the descent, as reflected in the tapes, was symptomatic of a lax atmosphere in the cockpit which continued throughout the approach. Similarly, NTSB study of cockpit voice

recorder tapes following the National Airlines crash in Pensacola, Florida, revealed that poor cockpit management and judgment contributed greatly to that accident. The tapes in that crash revealed that the probable cause of the accident was in part the flightcrew's unprofessionally conducted nonprecision instrument approach in that the captain and the crew failed to monitor the descent rate and altitude and the first officer failed to provide the captain with required altitude and approach performance callouts. Further study of inflight data is vital in understanding the nature of such crew errors and in identifying underlying human factors problems. With regard to those comments concerning data compiled by the United Kingdom, such data and other pertinent data surces will also be analyzed to identify human factor safety issues. These other sources may well include information derived from parties such as airline personnel.

At least one commenter points out that since most recorders contain only the last 30 minutes of the flight on tape, it is very doubtful if any departure or any enroute information would be obtainable for study. The FAA does not agree. If the Administrator determines that the cockpit voice recorder recordings of a specific segment of enroute flight are desired for human factors study, the aircraft pilot in command will be notified to disconnect the power source to the recorder. This notification to the pilot in command will include the time and place at which the power source is to be disconnected. For example, the disconnect may be requested immediately by the FAA Principal Operations Inspector or by the Administrator through the certificate holder, or it may be at some specified point in the future such as immediately after completion of the landing roll. At this time, the FAA is not proposing to extend the 30 minute duration of the tape.

Several commenters suggest that the FAA as an enforcement agency cannot be impartial in its study of cockpit voice recorder and flight data recorder tapes. They state that implementation of the proposed program could best be accomplished by an impartial nongovernment agency. The FAA does not agree that its function as a enforcement agency will in any way influence its study of the inflight data. A principal responsibility of the agency is development of effective regulations. Human factors is an important element in aviation safety, and is a regulatory area deserving of application of an improved state-of-the-art. The purpose of the proposed rules is to lay the groundwork for improved understanding of human factors in line operations of commuters and air carriers, so that regulations may be improved to reflect the latest state-of-the-art.

The Air Line Pilots Association (ALPA), in its comment, objects to use of NTSB reports on the Eastern Airlines DC–9 crash at Charlotte, North Carolina, and the National Airlines crash at Pensacola, Florida in support of the proposals, since it claims that it has petitioned the NTSB to reconsider the probable cause of those crashes. Diligent search of NTSB records and contact with NTSB personnel has failed to disclose any petition pending by ALPA for reconsideration of the probable cause of the Eastern Airlines DC–9 crash at Charlotte, North Carolina. In regard to the National Airline's crash at Pensacola, Florida, the FAA does not agree that reference to the NTSB report in that case was in any way inappropriate. Whether ALPA will be able to overturn the NTSB's report is speculative. However, the report referred to in support of Notice 80–14 is currently a proper and valid compilation of the NTSB's findings. Furthermore, the Pensacola crash, whether reconsidered by the NTSB or not, is at the very least an example of the type of unsafe activity which might take place in the cockpit. Study of inflight data will assist in the implementation of regulations and programs designed to prevent the occurrence of such breakdowns in cockpit discipline.

Several commenters are concerned that implementation of the proposals may degrade safety by inhibiting normal cockpit communication. They state that FAA access to every utterance in the cockpit is likely to inhibit normal crewmember behavior and to also destroy the working relationship between pilots and controllers. Cockpit voice recorder equipment has been required since 1966. Given this long period of time in which flight deck crewmembers have worked aware that their cockpit conversations are being recorded, implementation of these proposals will not likely inhibit normal crewmember behavior or in any way affect the routine cockpit work environment. Certainly crewmembers should not be apprehensive about making normal cockpit communications with other crewmembers or controllers.

Several commenters gave their views regarding the logistics of tape exchanges. They commented, for example, on the reasonableness of a cockpit voice recorder or cockpit voice recorder magazine change in a 15- to 30-minute time-frame using qualified personnel. The significance of these comments is appreciated since the FAA does not intend to impose any unreasonable costs or delays on any operator or to allow unqualified persons to remove or replace recorders. The removal and replacement of recorders will be accomplished by air carrier personnel. For the majority of aircraft 30 minutes is a more than sufficient period of time for qualified personnel to change the entire cockpit voice recorder. To prevent possible disruption of airline schedules and the unnecessary delaying of passengers, the FAA intends to remove the cockpit voice recorder at a base where a replacement is available. If under unusual circumstances a replacement recorder is not available, the FAA has increased the number of hours which a long range airplane may fly without a cockpit voice recorder from 8 hours to 14 hours so that airline schedules need not be disrupted.

One commenter states that the proposals could not produce any substantial amount of meaningful data given that the recorders are not designed for rapid acquisition and processing of data for study purposes. The FAA does not envision any rapid processing or quick analysis of the tape information. No attempt will be made to play back the cockpit voice recorder in the field. The cockpit voice recorder will be removed, replaced by a serviceable unit if available, and then carried to a designated readout facility. Qualified personnel will play back the recording. These individuals will take the time needed to accurately and thoroughly review the data.

Several commenters state that the FAA has neither the manpower nor the capability to use flight data recorder and cockpit voice recorder data for the purposes set forth in the Notice. The FAA does not agree. The FAA does indeed have adequate resources to implement the proposals. The FAA Office of Aviation Safety will coordinate development of a system to collect, reduce and analyze collected data. Through interagency agreements with other government agencies and contracts with industry, an effective system for data processing will be established.

Several comments were made regarding the limited number of parameters on the oscillographic flight data recorder which preserves its data by engraving traces on metal foil and which presently account for over 80 percent of the flight data recorders in use. The FAA is aware of the limitations in the older type recorders as compared

to the new and improved expanded parameter Digital Flight Data Recorders (DFDR). However, the FAA still considers the recorded value of dynamic or continually changing parameters such as time, altitude, airspeed, heading, and vertical acceleration, very useful data for the purpose of these proposals, and some commenters concur in this point.

At least one commenter states that the data provided through these proposals will not prove useful in assessing cockpit crew workload since the desired human factors information must be gained in part with the help of performance parameters and measurement instrumentation, including TV cameras, oculometers and head position transducers. The FAA disagrees that flight data recorder and cockpit voice recorder data alone will not be useful in providing a human factors data base. While this commenter's proposal may have some merit, the FAA must not reject every good approach merely because it is not the best possible one. In addition, it may not be compatible with aircraft operations under Parts 121 or 135 of the Federal Aviation Regulations to install and operate the type of equipment suggested, as it would likely be distracting an disruptive to flight deck crewmembers.

One commenter stresses the technical limitations and poor intelligibility of the cockpit voice recorders. The commenter states that these limitations are well known to the FAA since a recent FAA cockpit voice recorder maintenance improvement program revealed widespread problems in cockpit voice recorder maintenance procedures. Discovery of such widespread problems in the recorders by the FAA cockpit voice recorder maintenance improvement program has resulted in numerous corrective actions that have assured better recording performance and recovery intelligibility. In addition, the FAA has recently established a regulatory program to further improve the audio quality and intelligibility of cockpit voice recorders. There are still some technical limitations with the recording equipment, especially in regard to the different environments it is subjected to in different types of aircraft. However, despite such limitations, an invaluable amount of accident investigation information has been obtained by the NTSB from such equipment. The four channel unit that records, for a period of 30 minutes, all radio communications to and from the aircraft, as well as interphone communications, sounds from the flight deck, and signals identifying navigation and approach aids, will provide essential human factors information concerning numerous safety matters.

The NTSB and several other commenters state that it would be difficult to use cockpit voice recorder data to measure crew workload other than the communication workload itself. The FAA does not agree. This inflight data must first be compile and analyzed before such a judgment can be made. Furthermore, the FAA plans to use this inflight data base in a variety of studies, only one of which involves crew workload.

Several commenters support the basic idea behind the proposals; i.e., the gathering of inflight data for the purpose of studying human factors elements involved in daily airline operations, but object that the Notice makes no provision for how its objectives are to be achieved. They ask such questions as what hard data is to be gathered, who is to do the analysis, what role will the computer play, etc. As stated earlier, details regarding such matters as collection and analysis of the inflight data will be determined by the aviation community as a whole, in large part through their participation in the Human Factors workshop series initiated last November. The FAA Human Factors Task Force has been assigned the responsibility of coordinating the formulation of a program to organize and analyze the human factors data obtained through the implementation of these proposals. This group, with the help of interagency agreements with other government agencies and contracts with private industry, is in the process of developing a comprehensive Human Factors Program plan including the study of flight data recorder and cockpit voice recorder data. Furthermore, the inflight data, in addition to furthering studies currently underway, will provide useful information for possible future studies affecting many areas of aviation safety.

These same commenters believe that implementation of the rules as proposed should be re-evaluated annually. The FAA continually re-evaluates and revises regulations and programs. In addition, the public is invited to petition for rulemaking when they believe changes are necessary.

One commenter states that the cockpit voice recorder tape cycle times should be extended beyond the present 30 minutes so as to cover the entire flight. Adequate information will be available with the equipment currently in use given that the Administrator can obtain cockpit voice recorder tapes of any specific segment of a flight simply by notifying the pilot in command to pull a circuit breaker or disconnect the power source to the recorder. As stated earlier, the FAA does not deem that a retrofit of all cockpit voice recorder equipment is necessary at this time to acquire a sufficient human factors data base.

Description of the Proposed Amendments

Sections 121.343, 121.359 and 135.159 of the Federal Aviation Regulations would be amended to require that cockpit voice recorder and flight data recorder information be made available to the Administrator at such time and place as the Administrator may designate for study of the human factors affecting aviation safety. Since the flight data recorder may have many hours remaining on it, the certificate holder would be allowed to continue to use the recorder until reaching a point where it could be replaced. However, if the Administrator determines that the recorded data will be erased or otherwise obliterated, or will be needed before the aircraft reaches a point where the recorder can be replaced, he may request the information immediately.

Since the cockpit voice recorder contains only a 30-minute tape, the Administrator would request in most cases that the power to the recorder be disconnected at a time specified to the pilot in command. In Notice 80–14 the FAA proposed to allow the aircraft to continue to operate for up to 8 hours flight time with the tapes removed. Due to public response the FAA has reconsidered this limitation and the proposed rules would now permit aircraft operating under Part 121 of the FAR to operate up to 14 hours with the tapes removed. However, the proposed rules would also provide that the aircraft may not depart an airport where the tapes can be replaced.

The FAA is concerned that operation of an aircraft without a cockpit voice recorder may result in the loss of valuable data should an accident occur, and therefore will attempt to remove the cockpit voice recorder at an airport where a replacement is available. The proposals further provide that no person may erase or otherwise obliterate the information requested by the Administrator.

As a result of public response to Notice 80–14, an additional subsection was added to each of the proposed rules which states that the information obtained from the cockpit voice recorder will not be used by the Administrator in any civil penalty or certificate action. Flight data recorder data are no different from any other record or report required by the regulations, and information from these recorders may continue to be reviewed and used in

investigations and enforcement proceedings. However, in cases where the Administrator directs removal of a flight data recorder record in conjunction with a cockpit voice recorder record for purposes of analysis in the study of human factors, data contained on the flight data recorder may not be used in any civil penalty or certificate action against any crewmember.

The Proposed Amendments

Accordingly, the Federal Aviation Administration proposes to amend Parts 121 and 135 of the Federal Aviation Regulations (14 CFR 121 and 135) as follows:

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

1. By revising § 121.343 by inserting the words "and (e)" after the words "paragraph (d)" in the first and last sentence of paragraph (c); by redesignating paragraphs (d), (e), (f), and (g) as (e), (f), (g), and (h) respectively, and adding a new paragraph (d) to read as follows:

§ 121.343 Flight recorders.

* * * * *

(d) The recorded data prescribed in paragraph (a) of this section shall be made available to the Administrator at such time and place as the Administrator may designate.

* * * * *

2. By revising § 121.359 by adding new paragraphs (f), (g), (h), (i), (j), and (k) to read as follows:

§ 121.359 Cockpit voice recorders.

* * * * *

(f) The recorded data prescribed by this section shall be made available to the Administrator at such time and place as the Administrator may designate.

(g) Notwithstanding paragraph (a) of this section, an airplane which has had its cockpit voice recorder or cockpit voice recorder magazine removed under paragraph (f) or disabled in compliance with paragraph (h) of this section, in order for the Administrator to obtain the recorded data, may be operated without an operative cockpit voice recorder for 14 flight hours following removal or disabling provided the airplane does not depart an airport where a replacement cockpit voice recorder or cockpit voice recorder magazine is available.

(h) The pilot-in-command shall ensure that—

(1) Upon notification by the Administrator or the certificate holder, the power soure to the cockpit voice recorder is disconnected at the time and place designated, and

(2) The previously recorded information is not erased or otherwise obliterated.

(i) No person may erase or otherwise obliterate recorded data which the Administrator has requested.

(j) The Administrator will not use the information obtained from the cockpit voice recorder in any civil penalty or certificate action.

(k) If the Administrator orders the removal, for the purpose of analysis of the information in the study of human factors, of both the cockpit voice recorder or cockpit voice recorder magazine under § 121.343(d) and the flight data recorder under § 121.359(f), then the Administrator will not use the information obtained from the flight data recorder in any civil penalty or certificate action.

PART 135—AIR TAXI OPERATORS AND COMMERCIAL OPERATORS

3. By revising § 135.151 by adding new paragraphs (c), (d), (e), (f), and (g) to read as follows:

§ 135.151 Cockpit voice recorders.

* * * * *

(c) The recorded data prescribed by this section shall be made available to the Administrator at such time and place as the Administrator may designate.

(d) Notwithstanding paragraph (a) of this section, an airplane which has had its cockpit voice recorder or cockpit voice recorder magazine removed under paragraph (c) or disabled in compliance with (e) of this section, in order for the Administrator to obtain the recorded data, may be oprated without an operative cockpit voice recorder for 8 flight hours following removal or disabling provided the airplane does not depart an airport where a replacement cockpit voice recorder or cockpit voice recorder magazine is available.

(e) The pilot-in-command shall ensure that—

(1) Upon notification by the Administrator or the certificate holder, the power source to the cockpit voice recorder is disconnected at the time and place designated, and

(2) The previously recorded information is not erased or otherwise obliterated.

(f) No person may erase or otherwise obliterate recorded data which the Administrator has requested.

(g) The Administrator will not use the information obtained from the cockpit voice recorder in any civil penalty or certificate action.

(Secs. 313(a) and 601 through 605 of the Federal Aviation Act of 1958, as amended (49 U.S.C. §§ 1354(a), 1421, and 1424); Sec. 6(c), Department of Transportation Act (49 U.S.C. § 1655(c)); and 14 CFR Part 11.45)

Note.—The Federal Aviation Administration has determined that this document involves proposed regulations which are not significant under Executive Order 12044, as implemented by Department of Transportation Regulatory Policies and Procedures (44 FR 11034; February 26, 1979). A copy of the draft regulatory evaluation prepared for this action is contained in the regulatory docket. A copy of it may be obtained by contacting the person identified above under the caption "FOR FURTHER INFORMATION CONTACT."

Issued in Washington, D.C., on January 14, 1981.

Langhorne Bond,

Administrator.

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