ORDER

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

1110.140

5/3/04

SUBJ: CREWMEMBER/DISPATCHER QUALIFICATION AVIATION RULEMAKING COMMITTEE

1. PURPOSE. This order establishes the Crewmember/Dispatcher Qualification Aviation Rulemaking Committee (hereinafter referred to as Committee) according to the Administrator's authority under Title 49 of the United States Code (49 U.S.C.) section 106(p)(5).

2. DISTRIBUTION. This order is distributed at the director level throughout the Office of the Associate Administrator for Regulation and Certification in Washington headquarters; to the director level in the regions; and to all regional Flight Standards divisions.

3. BACKGROUND. The Federal Aviation Administration (FAA) has not made comprehensive changes to Title 14 of the Code of Federal Regulations (14 CFR) part 121, subparts N and O, since 1970. Because of FAA analyses and recommendations from the National Transportation Safety Board, the White House Commission on Aviation Safety and Security, two safety summits, Congressional review committees on aviation safety, and Joint Government/industry Commercial Aviation Safety Teams (CAST), the FAA has been working on a comprehensive review of 14 CFR part 121, subparts N and O. The focus of the rulemaking has been to make improvements in flight and ground training programs by requiring flight simulation to support flight training requirements, properly documenting operational procedures in the crewmember operating manual, looking at current practices in industry, and reorganizing the requirements to be easier to understand. The FAA would like to take advantage of authority granted to the Administrator by bringing industry into a review of proposed changes to the part 121, subpart N and O, requirements.

4. OBJECTIVES AND SCOPE. This Committee will provide a forum for the FAA and the aviation community to discuss proposed language regarding crewmember and dispatcher qualification.

a. The general goal of the Committee is to provide advice, guidance, and recommendations for changes to proposed rule language. The Committee will focus on changes to improve flight safety issues; the application of simulation to flight crewmember training, testing, or checking activities; and implementation of technical changes in training or qualification standards. This Committee provides a forum for the FAA and affected members of the aviation community to discuss issues and develop resolutions to facilitate the evolution of crewmember qualification.

b. To achieve these objectives, the Committee's initial task is to review draft changes to rule language in subparts N and O. Subsequent tasks will include providing advice, guidance, and

recommendations for changes to the qualification performance standards appendices in part 121. To accomplish these tasks, the Committee will have three specialized subcommittees. The subcommittees are:

(1) Flightcrew (pilot in command, second in command, and flight engineer);

(2) Flight attendant; and

(3) Dispatcher.

c. The Associate Administrator for Regulation and Certification will provide definitive tasking statements and assignments to the Committee.

5. PROCEDURES.

a. The Committee provides advice and recommendations to the Associate Administrator for Regulation and Certification. The Committee acts solely in an advisory capacity.

b. The Committee will discuss and present whatever input, guidance, and recommendations the members of the Committee consider relevant to disposing of tasks assigned to it.

c. The co-chairs will determine the earliest time that the Committee members are able to meet to discuss the initial task assigned to the Committee. The co-chairs will conduct Committee meetings as necessary to dispose of the tasks assigned. Subcommittee chairs will conduct meetings of their subcommittees, as scheduled by the Committee co-chairs, to provide input to tasks assigned to the Committee.

6. ORGANIZATION AND ADMINISTRATION.

a. The Associate Administrator for Regulation and Certification is the sponsor of the Committee and will have the sole discretion to accept or reject the members of the Committee, as proposed by the Committee co-chairs, and to increase or decrease the number of participants on the Committee. The Committee will consist of members of the aviation community representative of various viewpoints.

b. The Associate Administrator for Regulation and Certification will receive all Committee recommendations and reports. The Office of Rulemaking will provide administrative support for the Committee. The Flight Standards Service will provide the designated Federal official (FAA co-chair) for the Committee.

c. The co-chairs will:

(1) Determine, in coordination with the other members of the Committee, when Committee and subcommittee meetings are required and where they will be held.

(2) Arrange notification to all Committee and subcommittee members of the time and place for any meeting.

(3) Formulate an agenda for each Committee meeting and conduct the meeting.

(4) Arrange for the attendance of other FAA employees at Committee and subcommittee meetings, as necessary.

d. The subcommittee chairs will:

(1) Formulate an agenda for each subcommittee meeting and conduct the meeting.

(2) Report to the Committee all advice, guidance, and recommendations for changes to the new proposed language.

e. The Committee and subcommittees are required to keep written records of proceedings in whatever format the Committee and subcommittee chairs determine appropriate.

f. Although a quorum is desirable at Committee meetings, it is not required.

7. MEMBERSHIP.

a. Committee size will be approximately 30 members, including the co-chairs, subject matter representatives from industry and FAA, and a representative from the FAA's Office of Rulemaking. The Associate Administrator for Regulation and Certification may wish to have a representative from the FAA's Chief Counsel's office in attendance at Committee meetings to provide legal advice regarding any recommendations that may be made and a representative from the Office of Policy and Plans to provide economic advice. In addition, the Associate Administrator for Regulation and Certification may wish to have an observer from the Joint Aviation Authorities (JAA) attend Committee meetings.

b. Members of the Committee and subcommittees will be chosen by the Committee co-chairs, with the concurrence of the Associate Administrator for Regulation and Certification, and will form a representative cross-section of that segment of the aviation industry most closely associated with the issue at hand or most able to provide meaningful input to such deliberations.

c. Legal, economic, administrative, or contractual support provided by the FAA is not part of the Committee size. In addition, a JAA observer is not part of the Committee size.

8. COST AND COMPENSATION. The estimated cost to the Federal Government of the Crewmember/Dispatcher Qualification Aviation Rulemaking Committee is approximately $5,000 annually. Non-Government representatives serve without Government compensation and bear all costs related to their participation on the Committee. As non-Government representatives, the chair and all non-FAA Committee members serve without Government compensation and bear all costs related to their participation on the Committee.

9. PUBLIC PARTICIPATION. Persons or organizations that are not members of this Committee and are interested in attending a meeting must request and receive approval in advance of the meeting from one of the Committee co-chairs.

10. AVAILABILITY OF RECORDS. Subject to the conditions of the Freedom of Information Act, 5 U.S.C. section 522, records, report, agendas, working papers, and other documents that are made available to or prepared for or by the Committee will be available for public inspection and copying at the FAA Office of Rulemaking, 800 Independence Avenue, SW., Washington, D.C. 20591. Fees will be charged for information furnished to the public in accordance with the fee schedule published in 49 CFR part 7.

11. PUBLIC INTEREST. The formation of the Crewmember/Dispatcher Qualification Aviation Rulemaking Committee is determined to be in the public interest in connection with the performance of duties imposed on the FAA by law.

12. EFFECTIVE DATE AND DURATION. This Committee is effective on 5/3/04. The Committee will remain in existence until 5/3/06, unless sooner terminated or extended by the Administrator.

/s/ Marion C. Blakey
Administrator

June 9, 2004

Mr. Joe Marott
Director of Training
Southwest Airlines Co.
P.O. Box 36611
Dallas, TX 75235-1611

Dear Mr. Marott:

Thank you for your willingness to serve as the Co-Chair of the Crewmember/Dispatcher Qualification Aviation Rulemaking Committee (CDQ ARC). I am attaching for your use the tasking statement outlining the work expected of the CDQ ARC, a list of CDQ ARC members, and a copy of the CDQ ARC charter that was signed by Administrator Blakey on May 3.

We see the CDQ ARC as an innovative approach to rulemaking. This approach affords the regulated community an opportunity to provide advice and recommendations on regulations that affect the aviation industry.

The Federal Aviation Administration looks forward to working with you and helping you in any way necessary to help carry out this objective.

Sincerely,

/s/ Margaret Gilligan
for

Nicholas A. Sabatini
Associate Administrator for Regulation
and Certification

Enclosure

cc: Jan Demuth

N & O FINAL REPORT
04/08/2005

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EXECUTIVE SUMMARY

As of 31 March, 2005, the N & O ARC was complete except for Pilot and Flight Engineer QPS documents. These are to be completed prior to 27 May, 2005. Some 75 recommendations have been created with new rule language and preamble. Five more recommendations are to be finalized including 3 non-consensus items. Non-consensus items are:

- Is 36 months adequate for pilot emergency drill rehearsal?
- Should TCAS be required training in a flight simulator?
- Should Upgrade and Initial PIC programs have experience minimums to allow use of Level C simulators?

The FAA/industry committee team has produced a number of program improvements while making participants more knowledgeable. This Committee should be considered a resource for explaining the rule and implementing the final rule. Direct program improvements include:

- Better economic analysis from better understanding of cost factors.
- Integrating specifics of the Flight Standardization Board (FSB) report into operating requirements.
- Product improvement for dispatch programs.
- Task descriptions now include awareness factors.
- Emergency Drills, Fire detection and fighting much more objective and complete

STATUS as of 31 March

The Administrator chartered the N & O Aviation Rulemaking Committee on May 3 2004. The Associate Administrator for Aviation Safety initially tasked the ARC on June 9, 2004 and issued an amended tasking December 9, 2004.

This rulemaking activity involved removal of dispatcher information from todays subparts N & O and including this information in subpart P under "AIRCRAFT DISPATCHER QUALIFICATIONS". The remaining information pertaining to flight attendants and flight crewmembers is proposed as a new subpart entitled "FLIGHT CREWMEMBER QUALIFICATIONS". To review the proposed new information in subpart P and the new subpart for flight crewmember qualifications, tbe committee was divided into specialty committees of Dispatcher, Flight Attendant and Flight Crew. The membership of these committees is provided as Attch. 1. A whole-part-whole strategy was used to review the proposed language. This resulted in joint meetings of all specialties initially, and at the end, with meetings of the individual specialty committees as required in between.

As of 31 March 2005, all hut 5 rule language recommendations were completed with new rule language created and reviewed by joint committee. In addition, the QPS documents for Dispatcher and Flight Attendants were complete and reviewed. The Pilot QPS document is 85% complete with work in progress on task descriptions, and some charted information being brought from rule to QPS (programmed hours and individuals who may accomplish specific work activities). An additional flight crewmember meeting is proposed for review of Pilot QPS in late May. The Flight Engineer QPS will be cut and paste from Pilot QPS. Remaining rule language recommendation documents will be completed by Knowledge Sharing Network review. All to be complete NLT 27 May.

RECOMMENDATION DOCUMENTS

Completed

Flight Crew	30
Flight Attendant	24
Dispatcher	14
General	7
Total	75

Pending

Flight Crew	5

Recommendation Documents are available under separate cover as Attch 3 to this report.

NON-CONSENSUS ITEMS

1. Flight Attendant Recommendation Document GRN 100: The Pilot and Flight Engineer QPS currently indicate that recurrent practice in Emergency Drills (Doors-normal and emergency, and equipment-fire extinguishers, PBE etc.) must occur each 36 months, or every other 18 month cycle. The current requirement is every 24 months, or every other 12 month cycle. The new requirement was developed; 1, to accommodate the new 9 month period, 18 month cycle, and 2, based upon the judgment that 36 months was adequate for hands on refresher for pilots in emergency drills. Keeping in mind that classroom instruction in how to use the doors and emergency equipment will occur each 18 months.

The flight attendant recommendation would have the drills (or flight crewmembers) each 18 months commensurate with ground training. They believe that to extend the rehearsal period to 36 months from 24 months reduces the level of safety which cannot, but must be justified. The recommendation document cites NTSB recommendations and FAA analysis used in denials of exemption. The two exemption requests cited requested elimination of the drills, not to reduce the period between rehearsals. The two NTSB case studies showed that the crewmembers could clearly perform the function of deploying an evacuation slide. The error was in identification of the right handles. FAA cited the 24 month rehearsals critical to safety. However, the errors were due to a knowledge deficiency, not a procedural or drill practice error. Knowledge deficiencies are a product of ground training, not skill or drill training.

The original judgment of 36 months being adequate for rehearsal in these tasks still seems reasonable. Moreover, for overall safety, a non annunciated fire drill has heen added to flight training for pilots in keeping with the latest focus on getting the aircraft on the ground. This drill adds some 12 minutes to the simulator training program which all committee members support. In keeping with the new focus on in flight fires, it seems highly unlikely that pilots will be involved with fighting fires in flight. Therefore, it seems logical that the new program, even with 36 month rehearsals is safer than the old without the non annunciated fire drill.

ARC FAA Co-Chair Recommendation: stay with 36 month rehearsals.

2. Recommendation Document FCQ-46: The Pilot QPS originally required TCAS in flight training and, that it must be trained in a flight simulator. An initial recommendation document took issue with this requirement stating that there was no evidence that the current requirement is inadequate. Current guidance does not require TCAS to be a flight training requirement. TCAS is, however, a ground training requirement trained in a classroom or CBT environment. An adjustment was made to include lower order advanced flight training devices (AFTD) but left TCAS in the flight training requirements. This seemed reasonable and satisfied the initial concerned constituency, however, now a small segment of the flight crewmember committee believe that training should be required in a flight simulator and not be allowed in a lesser AFTD.

The ARINC contract has provided FAA with continuous data collection on TCAS encounters and analysis of the data to include unusual behaviors or encounters, and operational problems relating to pilot RA reactions. To date, nothing from this TCAS Transition Program (TTP) would indicate a need to mandate flight simulator TCAS training.

ARC FAA Co-Chair Recommendation: Stay with TCAS in flight training to support LOFT but allow lesser AFTD's for crediting TCAS training. As with the initial judgment for qualification in TCAS, there is no TCAS skill that cannot be taught in a lower order AFTD. Moreover, TCAS qualification can be accomplished through knowledge behaviors. However, it is now reasonable for each flight-training program to provide training in TCAS, preferably, but not required, in a LOFT environment. No evaluation is required in TCAS

3. Recommendation Document FCQ-48: The current Part 121 Appendix H provides specific experience requirements to enable a pilot to upgrade (train and certification check) to PIC and yet another set of experience requirements to enable Initial PIC training and certification, all in a level C simulation device. The proposed language reduced these requirements but did not eliminate them. These experience requirements have been challenged rather forcefully because of a lack of empirical evidence. Rather, a case is made that level C has performed well in qualification of pilots without using the aircraft. A segment of the Part 121 industry speaks to PIC initial and upgrade experience below that mentioned in proposed language. Therefore, what the experience penalty means is Level D or nothing. This is like saying to them that you must use simulators and not the aircraft, but you can't use Level C simulators, and if you don't have access to Level D simulators, you can't have a program for individuals in certain experience categories. This doesn't sound like the message we want to send.

A segment of our committee believes, however that we will be going back on agreements made with the international community relative to Level C, Level D simulator qualification and utilization. Just recently there have been communications to indicate that the European community is ready to go to a 2 flight simulator system. This system would include a level B and a level D with a twilight visual with reduced field of view. This new system would grandfather existing level A simulators and divide existing level C's into level B and Level D.

Any level C simulator manufactured since 1994 (about one half of the fleet of some 230 total) would most likely pass all unique level D performance tests that differentiate training capability (between level C and level D) in takeoff and landing areas. For these simulators there is no need for experience requirements. The level D tests are: (Characteristic buffet motions: high-speed buffet, extending landing gear, flaps, etc. measured and compared to airplane data), (low altitude level flight ground effect, mach effect at high altitude, effects of airframe icing, normal and reverse dynamic thrust effect on control surfaces, aero-elastic representations, nonlinearities due to side slip based upon airplane flight test data), and (realistic and frequency of cockpit noises and sounds

including engine and airframe sounds coordinated with weather representations required in special visual weather representations).

Do we penalize some level C devices unnecessarily? Do we create a program that recognizes this performance in later level C simulators? Or, do we remove experience requirements on level C simulators with a resultant unquantifiable risk of negative training that earlier level C simulators might incur?

ARC FAA Co-Chair Recommendation:

A. For this rule making program, remove operating experience for level C simulators based upon:

1. The proposed program is for simulator only (no airplane) training and evaluation.
2. 23 plus year experience with Level C simulators.
3. Maintaining a supervised operating experience program.
4. There is no empirical evidence to support experience penalties for allowing the use of Level C simulators.

B. We also understand the position of the National Simulator Program Manager. Outside the scope of this program we should consider implementing a new two level (B+ and D) simulator program. The reason for having two performance levels is to allow lesser performance for a device (B+) for recurrent and upgrade training and checking wherein the student is maintaining currency in line flying. For initial, transition, and re-qualification phase II and III, level D would be required. Remember also that this performance difference applies ONLY to takeoff and landing areas of flight, and any other area with an engine inoperative, or a flight control malfunction resulting in side slip. The new program must consider performance requirements for potentially hazardous environmental conditions such as wake vortex, icing, turbulence, etc. This new program would strengthen an existing successful program.

OTHER ARC CO-CHAIR RECOMMENDATIONS:

1. This meld of FAA and industry personnel has demonstrated a continuous desire to do the right thing in the interest of successful and reliable training and qualification of dispatchers, flight attendants, and flight crewmembers. Individuals who are willing to pitch in and get work done are also proving to be exceptional communicators and team players. A routine comment during most technical issue discussions has been "will the POI understand the program and be able to support his or her operator"? The answer to the question depends upon how field guidance is prepared and how the quidance is executed. This committee is willing to help explain materials to the public during the comment period, help develop Advisory materials where needed such as in knowledge assessment, participate in the development of field guidance materials, and assist in development and administration of field training programs.

Recommendation: Task the committee for additional program implementation activities.

PROGRAM IMPROVEMENTS FROM ARC DELIBERATIONS

- Better understanding of cost factors by APO resulted in more valid economic analysis.

- Flight crew training committee proposed changes to Part 142 that enabled use of training centers for part 121 operators. In addition, the 121 operating rule takes burden for providing training program standards and the standards for qualification of instructors and evaluators, regardless of where they come from.

- The flight crew training committee developed a simulator only method for maintaining takeoff and landing recency of experience by requiring detailed accomplishment of specific types of landings to include engine failures. Proposed new program more effective than the contemporary 3 takeoffs and landings in the aircraft, and more efficient than the proposed 3 takeoffs and landings in the simulator and 2 in the aircraft .

- The flight crew committee upheld the proposed language to incorporate specific FSB report references such as cross type landing currency, unique variant training requirements, etc. Legal researched alternative methods to accomplish this task.. AIR was supportive of providing specific references to the FSB report in the AFM. This is preferred to the possibility of referencing the FSB in rule language.

- The flight attendant committee provided much more depth and objectivity to Emergency Procedures, both for classroom and for procedure drill instruction. The flight crew program benefited as well.

- Recordkeeping requirements were reduced in all specialties to reflect status quo. Flight Crew reduced to reflect pilot records improvement act.

- The flight attendant committee created a more objective description of inflight fires and fighting thereof.

- Flight crew committee completely reworked pilot and first officer simulator training requirements. Result was more user friendly and easier to read.

- Flight crew committee restructure the re-qualification program to be in parallel with recurrent periods and cycle.

- Dispatchers developed a product improvement program for dispatch training and qualification programs.

- Flight crew and flight attendants added awareness elements of performance to job tasks. Flight attendants developed new job tasks.

- Flight crew committee was successful in reducing recurrent simulator program hours by two while still meeting the full task requirements for the 18 month cycle.

- Flight crew committee identified having the same number of hours for transition and upgrade qualification as a deficiency. Increased transition and reduced upgrade.

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Jan Demuth
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Attachment 1

N & O ARC Committee Membership
*Committee Co-Chairmen

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FAA-2008-0677
Qualification, Service and Use of Crewmembers and Aircraft Dispatchers
Aviation Rulemaking Committee (ARC) Recommendation Documents
2004-2005

(1) Dispatcher recommendation Documents: Pages 1-41
(2) Flight Attendant Recommendation Documents: Pages 42-149
(3) Flight Crewmember Recommendation Documents: Pages 150-208

On May 3, 2004, the FAA Administrator formed the Crewmember/Dispatcher Qualification Aviation Rulemaking Committee (ARC) to provide a forum for industry discussion of issues and development of recommendations for crewmember qualification requirements. Specifically, the ARC was tasked with reviewing an FAA-draft notice of proposed rulemaking (NPRM) and providing advice, guidance, and recommendations for proposed rule language. The ARC, comprised of three subcommittees (flightcrew, flight attendant, and dispatcher requirements), concluded its work on May 3, 2006. The following documents are the recommendations that the ARC submitted to the FAA, and which the FAA considered in the drafting of the NPRM that was published for public comment on January 12, 2009 (74 Fed. Reg. 1280). Some of these industry recommendations contain suggested language for the preamble of the proposed rule with draft FAA findings, and are drafted in a manner that suggest the FAA adopted the ARC recommendations as part of the ARC process. The FAA's rationale for the proposed rule, review of the recommendations, and final determination on those recommendations are represented only in the NPRM published on January 12, 2009.

Dispatcher Recommendation Documents:

RECOMMENDATION DOCUMENT
Number: DIQ 1 Introduction
Issue: Explanation of QPS and continuous improvement process.
Discussion & Analysis: The Dispatchers Team created Flowchart 1, which essentially is a side-by-side comparison of the curriculum for initial training and the curriculum for combined certification & initial training. The Dispatchers team reorganized the QPS and attachments to be consistent with Flowchart 1. The team's edits to the proposed QPS added or deleted areas of instructions as necessary. The introduction section of the QPS was revised to clearly explain the relationship between the QPS and the regulations and the relationship between the QPS and the continuous improvement process.
Recommendation: The five tables and the flowchart should be added to the Introduction section of the QPS. The Introduction should clearly explain the relationship between the QPS and the regulations and the relationship between the QPS and the continuous improvement process. The discussions titled "What are Qualification Performance Standards (QPS)?" and "What are the training and evaluation requirements of the QPS and where can they be found?" should be revised as illustrated in the Dispatchers team's new draft QPS.
Committee Review: Summary of discussion with Committee
Final Action: Final recommended action by Committee Go forward with changes recommended by subcommittee.

Notes:

RECOMMENDATION DOCUMENT

Number: DIQ 2 Tables & Charts

Issue: People should be able to look in one place to find all of the tables and charts illustrating the Aircraft Dispatcher training curriculum.

Discussion & Analysis:

Originally Proposed	**Dispatcher Team changes**
§ 121.462b Tables 1 and 2	Dispatcher Team - QPS Tables 1 and 2
N/A	Dispatcher Team – QPS Tables 3
QPS, Attachment 2, Tables 1A and 1B	Dispatcher Team - QPS Tables 4
§ 121.462d Table A	Dispatcher Team - QPS Table 5
N/A	Flowchart 1

Table 5 – there is a proposal within the Dispatcher team to add a column to table 5 to address Certificated Dispatcher and permit them to administer Supervised Operating Experience.

Recommendation:

The Dispatcher team recommends the new and modified tables and flowchart be included in the introduction to the QPS.

Committee Review: Summary of discussion with Committee

Final Action: Final recommended action by Committee

Go forward with changes recommended by subcommittee.

Notes:

RECOMMENDATION DOCUMENT

Number: DIQ 3 Home Study

Issue: Should home study be permitted or not?

Discussion & Analysis:

Attachment 3 states that home study is not permitted.

In Attachment 2 under "Basic Aircraft Training Requirements for Initial or Combined Certification and Initial" and "Airplane Type Specific Training Requirements for Initial, Combined Certification and Initial, Recurrent, Transition, and Requalification" the QPS states the following:

"Home Study may be assigned for ground training modules. Two hours of home study is credited as no more than one hour toward required program hours. Home study may not account for more than 50% of the required approved program hours in any curriculum."

Should these restrictions on home study be removed?

Recommendation:

All groups should be consistent on whether or not home study will be permitted.

Committee Review: Summary of discussion with Committee

Final Action: Final recommended action by Committee
Follow decisions made in GEN Rec Doc on same topic (GEN 121-8xx Knowledge and Comprehension Assessment.doc).
Distance learning will be permitted, so long as there is an instructor led component or components (as outlined in the QPS).

Notes:

RECOMMENDATION DOCUMENT

Number: DIQ 4 Attachment 1

Issue: Title of attachment needs to be consistent with the substance of the attachment. The organization and flow of the attachment needs to be intuitive.

Discussion & Analysis:

Attachment 1 addresses "General Knowledge Segment for Initial, Combined Certification and Initial, Requalification, and Recurrent."

The team's edits to the proposed QPS added or deleted areas of instructions as appropriate.

Recommendation:

Adopt Dispatchers Team's changes.

Committee Review: Summary of discussion with Committee

Final Action: Final recommended action by Committee
Go forward with changes recommended by subcommittee.

Notes:

RECOMMENDATION DOCUMENT

Number: DIQ 5 Attachment 2

Issue: Title of attachment needs to be consistent with the substance of the attachment. The organization and flow of the attachment needs to be intuitive.

Discussion & Analysis:
Proposed title was "Airplane Type Specific Training Requirements-Subjects And Tests-Tasks, Environments, Tests And Checks For Initial, Transition, Requalification And Recurrent Curriculums."
Revise title of Attachment 2 to read: "Basic Aircraft And Specific Airplane Type Training Requirements - Subjects And Tests - For Initial, Combined Certification & Initial, Transition, Requalification, And Recurrent Curriculums"

Revise Attachment 2 to address the following:

- Basic Aircraft Training Requirements for Initial or Combined Certification and Initial.

- Airplane Type Specific Training Requirements for Initial, Combined Certification and Initial, Recurrent, Transition, and Requalification.

Recommendation:

Adopt Dispatchers Team's changes.

Committee Review: Summary of discussion with Committee

Final Action: Final recommended action by Committee
Go forward with changes recommended by subcommittee.

Notes:

RECOMMENDATION DOCUMENT

Number: DIQ 6 Attachment 3

Issue: Title of attachment needs to be consistent with the substance of the attachment. The organization and flow of the attachment needs to be intuitive.

Discussion & Analysis:
Attachment 3 addresses "Generic Training Requirements - Subjects And Tests – For Certification"

This attachment should be revised to require "A minimum of 10 questions from each area of instruction that adequately address the subjects within each area of instruction specified" rather than "A minimum of 10 questions must be administered on each area of instruction. A minimum of 5 questions must be administered on each subject within an area of instruction."

Also the minimum score on the knowledge test should be changed from 90% to 80% as follows: "To satisfactorily accomplish the knowledge test, a score of 80% or better in each area of instruction is required and a person qualified to administer the examination must correct the test to 100%. Correction of missed questions must include a discussion of which answer is correct, and why the answer selected is incorrect. Retraining is required in each area of instruction when a score of 80% or better is not achieved. Retraining is followed by re-examination of the student in each retrained area of instruction. The administrator must approve the form and content of the test."

§ 121.462c(e)(1) references a group 90% pass rate within of previous 6 months. Should we have consistency with this percentage and the percentage used for the knowledge test minimum?

Recommendation:

Adopt Dispatcher team's changes.

Committee Review: Summary of discussion with Committee

Final Action: Final recommended action by Committee

Remove 121.462c(e)(1) with respect to 90% pass rate.
Make sure that dispatcher QPS conforms to related decisions in GEN docs.

Notes:

RECOMMENDATION DOCUMENT

Number: DIQ 7 Attachment 4

Issue: Title of attachment needs to be consistent with the substance of the attachment. The organization and flow of the attachment needs to be intuitive.

Discussion & Analysis:

The title to Attachment 4 should be changed to "Curriculum Evaluation Requirements And Performance Standards For Initial, Combined Certification & Initial, Transition, Requalification, And Recurrent Curriculums"

The Dispatcher team has proposed multiple revisions to Attachment 4

Revisions were made to language that was repetitive or not applicable.

Recommendation:
Adopt Dispatcher team's changes.

Committee Review: Summary of discussion with Committee

Final Action: Final recommended action by Committee

Go forward with changes recommended by subcommittee.

Notes:

RECOMMENDATION DOCUMENT

Number: DIQ 8 Attachment 5

Issue: Make definitions consistent with international usage and industry usage.

Discussion & Analysis:

Attachment 5. Definitions And Acronyms

Add to QPS Attachment 5 all of the definitions revised in § 121.460b.

Add the following definitions to the QPS definitions:
Check Dispatcher. An employee of the certificate holder who is authorized to perform proficiency checks and tests.

Crewmember Operating Manual (COM). An FAA-approved document designed to meet the needs of crewmember operations. The COM contains such information as cockpit checklists, systems descriptions, detailed procedures, etc. The COM may be used with the AFM or contain

the AFM information clearly marked as such.

Dispatch Program Designee. A check dispatcher approved in accordance with 14 CFR 183.25 to perform the duties of a dispatch designee for the certificate holder.

Flag Area of Operation. A specific geographical area that may require compliance with unique policies, procedures, regulations, and requirements.

Practical Test. A test administered by a program designee for certification of an aircraft dispatcher.

Recommendation:

Adopt Dispatcher team's changes.

Committee Review: Summary of discussion with Committee

Final Action: Final recommended action by Committee

Go forward with changes recommended by subcommittee.

Notes:

RECOMMENDATION DOCUMENT

Number: DIR 1 65 Consistency with 121

Issue:
Part 65 is not consistent with changes being proposed for part 121.

Discussion & Analysis:
May need revise § 65.53 to capture the idea that dispatchers must meet knowledge requirements. Team needs to review §§ 65.53 and 65.55.

Need to review changes proposed for §§ 65.57 and 65.70 to ensure that they are consistent with revisions to the proposed changes to part 121.

Recommendation:

Dispatcher team reviewed part 65 to make consistent with changes proposed for part 121.

Committee Review: Summary of discussion with Committee
Part 65 - Hours
200 at Dispatch school + 80 at operator = 280

Part 121 - Hours
216

Qualification from a part 65 school has no bearing on the 121 qualification.

Final Action: Final recommended action by Committee

Go forward with changes recommended by subcommittee.

Notes:

RECOMMENDATION DOCUMENT

Number: DIR 2 121.460b

Issue:
Certain terms need to be added to the general definitions section in § 121.460b. Some other terms need to be revised.

Discussion & Analysis:
The terms that apply to the various types of training curriculums should be defined as a subset of the term "training curriculum." These terms are Combined Certification and Initial training curriculum, Initial training curriculum, Recurrent training curriculum, Requalification training curriculum, and Transition training curriculum.

Recommendation:
The term "serve" and its definition should be removed from 121.460 and placed in 121.460b. The words "of the aircraft dispatcher" should be removed from the definition of "Requalification."

§ 121.460b Terms and definitions.
The following terms should be defined in 121.460b:
Serve. Performing the duties of an aircraft dispatcher, aircraft dispatch instructor, or check dispatcher for a certificate holder.

Supervised Operating Experience (SOE). Training and other supervised activities conducted for the purpose of satisfying initial, combined certification and initial, and requalification training requirements.

Training curriculum. A portion of a training program that covers the training and evaluation activities.

Combined Certification and Initial training curriculum. A curriculum specifically approved under part 121 that integrates an approved certificate holder's initial training curriculum with part 65 requirements, including a practical/proficiency test administered by a dispatch program designee. The curriculum allows for both the issuance of a dispatch certificate and qualifying the individual to serve as a dispatcher for the certificate holder. The aircraft dispatcher's certificate would be issued under 14 CFR part 65, not part 121.

Initial training curriculum. A curriculum of training and testing modules that must be accomplished satisfactorily to qualify an aircraft dispatcher to serve as a dispatcher for a type airplane or types of airplanes and operation. This curriculum is used to qualify a dispatcher to serve for the first time for the certificate holder in operations under this part.

Recurrent training curriculum. A curriculum of training, testing, checking, and reviews, which must be accomplished satisfactorily within specified periods to maintain aircraft dispatcher qualification.

Requalification training curriculum. Training and other activities conducted specifically

to restore qualified status to an aircraft dispatcher previously qualified for the certificate holder when qualification is lost due to failure to meet recurrent training curriculum requirements.

Transition training curriculum. A curriculum of training and testing modules to be accomplished satisfactorily by an aircraft dispatcher who is presently qualified as an aircraft dispatcher on a type airplane in operations under this part for the certificate holder, to allow that aircraft dispatcher to serve as an aircraft dispatcher for a different type airplane.

Committee Review: Summary of discussion with Committee

Final Action: Final recommended action by Committee

Go forward with changes recommended by subcommittee. However, the committee may further review training terms.

Notes:

RECOMMENDATION DOCUMENT

Number: DIR 3 121.460e

Issue: "Grace period"

Discussion & Analysis:

121.460e Acceptable time for accomplishing recurrent requirements.

The use of the term "grace period" is not consistent between recurrent training and operating familiarization. "Grace Period" is also not consistent with the POI handbook and common usage.

Eligibility period is a three month window, which includes the base month, the month prior to the base month and the month after the base month.

Recommendation:

Replace "grace period" with "eligibility period" for consistency between recurrent training and operating familiarization.

Committee Review: Summary of discussion with Committee

Final Action: Final recommended action by Committee

Go forward with changes recommended by subcommittee.

Notes:

RECOMMENDATION DOCUMENT

Number: DIR 4 121.461

Issue: In paragraph 121.461(b) the word "exclusively" is overly restrictive. In paragraph 121.461(d) there needs to be a discussion of "combined certification and initial curriculum."

Discussion & Analysis:

§ 121.461 Aircraft dispatcher: Qualification requirements.

- In para.(b) Employment. The word "exclusively" should be removed to clarify that a person serving as aircraft dispatcher is not precluded from working for entities other than the certificate holder.
- 121.461(d) should be amended to address initial and combined certification and initial curriculums.
- (f) Operating familiarization.

The concept of eligibility period should be added to para (f) for clarification. The following sentence should be added to clarify in the rule what had previously been agency policy "The operating familiarization must be conducted within an area for which the person dispatches."

Recommendation:
In addition to addressing the changes discussed above the Dispatcher team recommends several non-substantive changes.

Revise to read as follows:

§ 121.461 Aircraft dispatcher: Qualification requirements.

No certificate holder conducting domestic or flag operations under this part may use a person nor may any person serve as an aircraft dispatcher in domestic or flag operations under this part, unless that person meets the following requirements:

(a) Certificate. The person has in his or her possession an aircraft dispatcher certificate issued to the person by the FAA without limitations, in accordance with part 65 subpart C of this chapter.

(b) Employment. The person serving as an aircraft dispatcher is employed by the certificate holder.

(c) Training and evaluation. The person has satisfactorily accomplished, in a training program approved under this subpart for the certificate holder, the appropriate training and evaluation required by this section, as follows:

(1) The person has satisfactorily accomplished in accordance with the QPS the following training curriculums and the associated program hours specified in § 121.462b:

(i) Within the preceding 12 months, initial, combined certification and initial, transition, or recurrent ground training curriculums as prescribed in § 121.464 or § 121.466 as applicable.

(A) An aircraft dispatcher is eligible for transition training only if the aircraft dispatcher is otherwise qualified and has served as an aircraft dispatcher on another airplane type in operations under this part for the certificate holder.

(B) To be eligible for recurrent training, an aircraft dispatcher must be otherwise qualified and have satisfactorily accomplished the initial and, if applicable, transition training for the certificate holder.

(ii) Differences training, if necessary, as prescribed in § 121.469.

(iii) Requalification training, if necessary, as prescribed in § 121.461xx.

(2) The person has satisfactorily accomplished a proficiency test or check in accordance with § 121.464(c) or § 121.466(c), as applicable.

(3) A person must have satisfactorily accomplished supervised operating experience, as prescribed in § 121.461x2

(d) Continuity of training.

(1) Initial for certificated dispatchers. Within 120 days of beginning the initial training curriculum as described in paragraph (c)(1) of this section a person who holds an aircraft dispatcher certificate must have satisfactorily accomplished both of the following:

(i) All of the required initial training curriculum.

(ii) A proficiency test as prescribed in § 121.464(c).

(2) Combined Certification and initial course. If a person who does not possess an aircraft dispatch certificate, fails to satisfactorily accomplish the combined certification and initial curriculum within 180 days from the commencement of training, including the practical and proficiency test, then the person must accomplish the combined certification and initial curriculum.

(e) Failure to accomplish training. If a person fails to satisfactorily accomplish the initial training curriculum within 120 days, or combined certification and initial within 180 days, from

the commencement of training, as required by paragraph (d) of this section, including the proficiency test, the person must accomplish from the beginning the initial training curriculum, or combined certification and initial, as required by paragraph (c) of this section, including the proficiency test.

(f) Operating familiarization. The person satisfactorily accomplished operating familiarization within the eligibility period as specified in § 121.460e and in accordance with § 121.461x as follows:

(1) If the person dispatches in either domestic operations or flag operations, but not both, within the eligibility period, the person must have satisfactorily accomplished operating familiarization in the type of operation, domestic or flag, and in an airplane type that the person dispatches. The operating familiarization should be conducted within an area for which the person dispatches.

(2) If the person dispatches both domestic and flag operations, within the previous 24 months, the person must have satisfactorily accomplished operating familiarization in both domestic and flag operations in an airplane type that the person dispatches.

Committee Review: Summary of discussion with Committee

Final Action: Final recommended action by Committee

Go forward with changes recommended by subcommittee.

Notes:

RECOMMENDATION DOCUMENT

Number: DIR 5 121.461x

Issue:
Proposed § 121.461x restricts simulator operating familiarization to LOFT carriers.

Discussion & Analysis:

The sentence in § 121.461x(b) "The observation must be during Line Oriented Flight Training (LOFT)" is too restrictive. Not all carriers use LOFT, e.g., AQP carriers.

Recommendation:

In § 121.461x(b) the sentence "The observation must be during Line Oriented Flight Training (LOFT)" should be replaced with "The observation must be during simulator training."

Committee Review: Summary of discussion with Committee

Guidance will clarify that this observation will not be done during any kind of evaluation.

Final Action: Final recommended action by Committee

Go forward with changes recommended by subcommittee.

Notes:

RECOMMENDATION DOCUMENT

Number: DIR 6 121.461x2

Issue:

- Supervised operating experience vs. IOE
- To be eligible to receive SOE a person should have satisfied the requirements in the Aircraft Dispatcher QPS."

Discussion & Analysis:

Proposed paragraph (b) describes the eligibility requirements to receive the supervised operating experience required in paragraph (a) of this section. To receive SOE the person must have received appropriate "training in accordance with the requirements listed in the Aircraft Dispatcher QPS."

Changing "initial" operating experience to "supervised" operating experience-
1) Operating experience for a dispatcher does not only pertain to initial.
2) IOE is appropriate for pilots, but not for dispatchers.

Recommendation:

- "Initial Operating Experience" (IOE) should be replaced with "Supervised Operating Experience" (SOE).
- This section should provide references to the experience requirements for a check dispatcher under § 121.461a(b)(3), and the minimum hours of supervised operating experience for domestic or flag operations. These minimum hours are prescribed in Table 1, Table 2, or Table 3 of the QPS.

Section 121.461x2 should be revised to read as follows:

§ 121.461x2 Aircraft dispatcher: Supervised operating experience.

(a) No person may serve as an aircraft dispatcher nor may any certificate holder use a person as an aircraft dispatcher unless that person has been supervised by a current and qualified dispatcher, who meets the experience requirements of a check dispatcher under § 121.461a(b)(3) of this subpart, for the minimum hours for domestic or flag operation prescribed in Table 1, Table 2, or Table 3 of the QPS, as applicable, and has successfully completed a proficiency test or check, as appropriate.

(b) No person is eligible to receive the supervised operating experience required in paragraph (a) of this section unless that person has satisfactorily accomplished appropriate training in accordance with the requirements listed in the Aircraft Dispatcher QPS.

Committee Review: Summary of discussion with Committee

Final Action: Final recommended action by Committee

Go forward with changes recommended by subcommittee.

Notes:

RECOMMENDATION DOCUMENT

Number: DIR 7 121.461xx

Issue: § 121.461xx Aircraft dispatcher: Requalification training.

Requalification as proposed was too restrictive.

Discussion & Analysis:

The recommended changes to proposed § 121.461xx provides a less restrictive means for requalification depending on the length of time the person has been unqualified. The recommended changes are structured to maintain safety by selecting training and refresher activities tailored to the amount of time since the person was last qualified.

Originally the proposal had three phases for Requalification. The Dispatcher team proposes to expand this to five phases to give the operator more latitude. Goal of requalification is for the dispatcher to cover what they missed.

Recommendation:

Requalification should be expanded to five phases. A chart illustrating the five phases of Requalification training should be included in the QPS (Table 3).

Committee Review: Summary of discussion with Committee

Final Action: Final recommended action by Committee

Go forward with changes recommended by subcommittee.

Notes:

RECOMMENDATION DOCUMENT

Number: DIR 8 121.461a

Issue: § 121.461a Dispatcher instructor and check dispatcher: Eligibility, training, and evaluation.

1) The requirement for the SME to conduct dispatch observation is too restrictive.
2) The requirement that ground instructors must have a dispatch certificate is too restrictive.
3) The proposed check dispatch requirements would provide too many loopholes for unqualified check dispatchers.
4) The requirement did not require recency or adequate experience.

Discussion & Analysis:

1) Dispatcher Observation program – a subject matter expert (SME) is not required to be familiar with a certificate holder's operation.

Unless otherwise authorized by the Administrator only ground instructors who have an aircraft dispatcher certificate may instruct the curriculums outlined in Attachments 1, 2, and 3 of the QPS

2) The POI should be authorized to allow SMEs without a dispatch certificate to instruct specific areas of instruction.

3) Para. (b)(2) - It is reasonable that persons acting as check dispatchers have had some recent experience performing the duties of an aircraft dispatcher. The group discussed the option of using "the previous 30 days" or "the previous 90 days." The consensus was for "60 days."

4) It is reasonable that a dispatcher have a minimum level of experience prior to serving as a check dispatcher. The group's consensus was that the candidate have at least a minimum level of experience, and allow the POI, after consultation with an FAA Dispatch Inspector, to authorize a person who does not meet or exceed the required minimum to perform the duties of a check dispatcher.

Recommendation:

1) Remove proposed paragraph (a)(2) - Dispatcher Observation program – there is no need for such a program

2) Redesignate (a)(3) as (a)(2) and revise it to read as follows:
Unless otherwise authorized by the Administrator only ground instructors who have an aircraft

dispatcher certificate may instruct the curriculums outlined in Attachments 1, 2, and 3 of the QPS.

3) Para. (b)(2) "The person has performed the duties of an aircraft dispatcher for at least 8 consecutive hours in the preceding 60 days."

4) Add new para. (b)(4) "Unless otherwise authorized by the Administrator, the person has been current and qualified as an aircraft dispatcher for a part 121 domestic or flag operation for at least 3 of the previous 5 years."

Committee Review: Summary of discussion with Committee
Requirements for SMEs will be different for Dispatchers and flight crewmembers. This is not a problem.

Cross utilization between 121 operator and 142 certificated training center.

Final Action: Final recommended action by Committee

Go forward with changes recommended by subcommittee.

Notes:

RECOMMENDATION DOCUMENT

Number: DIR 9 121.462a

Issue: Dispatchers receiving updates on computer applications and technology.

Discussion & Analysis:

The rule language should require that dispatchers remain current on changes to computer software applications, and new technologies that affect operational control.

Recommendation:

Revise proposed § 121.46a(b)(5) to read "Qualifies in new equipment, facilities, procedures, techniques, computer applications, and technology required to perform the duties of an aircraft dispatcher."

Committee Review: Summary of discussion with Committee

Final Action: Final recommended action by Committee

Go forward with changes recommended by subcommittee.

Notes:

RECOMMENDATION DOCUMENT

Number: DIR 10 121.464

Issue:

Need to address training for combined certification and initial.

Discussion & Analysis:

The Dispatcher team added training requirements to address circumstances where training for certification and initial are combined.

Recommendation:

"Combined certification and initial" should be included in the title to § 121.464 and in the introductory sentence.

Committee Review: Summary of discussion with Committee

Final Action: Final recommended action by Committee
Go forward with changes recommended by subcommittee.

Notes:

RECOMMENDATION DOCUMENT

Number: DIR 11 121.469x

Issue:

Removal of 121.469x Curriculum requirements: Other operations personnel.

Discussion & Analysis:

Proposed "121.469x Curriculum requirements: Other operations personnel." was removed from the dispatcher portion of the rule language.
It is addressed in AQP.
Is it covered elsewhere in the rule?

Recommendation:

Review revised rule language for other teams to ensure that curriculum requirements for "other operations personnel" are properly addressed.

Committee Review: Summary of discussion with Committee

Committee (Jan) will research this.

Final Action: Final recommended action by Committee
TBD.

Notes:

RECOMMENDATION DOCUMENT

Number: Applicability: Related Recommendation

Issue: Elimination of Part 121 Supplemental Release and Operational Control Rules.

Although outside the scope of this ARC, the Dispatcher sub-committee recommends that the FAA consider this issue.

Discussion:
This ARC has an opportunity to make a unique contribution by raising the regulatory bar towards a true single level of safety for scheduled operations without impacting current operators. The regulatory change together with the changes within the National Air Space and the airline business model provide a logically justifiable and appropriate opportunity.

In order to enhance safety and to achieve a single standard for scheduled air service, the Dispatcher sub-committee proposes requiring all part 121 operators (as of one year after the publication date of the final rule) comply with the dispatch and operational control requirements of part 121 Domestic and Flag regulations. This would be accomplished by amending the applicable 121 supplemental regulations. This proposal was raised by the ARC representative from the Airline Dispatchers Federation and is supported by the Dispatcher sub-committee.

The foremost safety and operational benefit available under the Part 121 Domestic and Flag rule that is not available under the current Part 121 Supplemental rule is the requirement for a trained, certified and qualified aircraft dispatcher to be on site and totally involved with and aware of the real time conditions, in order to provide proactive operational control and to share joint responsibility with the captain for the safe and legal operation of each flight. Research and experience has demonstrated that this is the safest, most reliable and most efficient application of operational control. The general public that travels on what is, or what appears to be scheduled flight service deserves and expects the highest single level of safety and operational control. The public is generally recognized to be unaware of the nuances of differing levels of the current regulatory requirements and oversight, and this ARC should not expect them to be. It is a matter of public trust that the regulators and professionals in this field will do all possible to safeguard anyone who purchases commercial air transportation.

The value of a dispatch system using certificated, trained and qualified personnel with joint responsibility is clearly demonstrated in research done by a team from NASA, the University of Nebraska and Ohio State University and reported at the 1993 Aviation Psychology Symposium. The findings clearly show that properly trained, knowledgeable and jointly responsible pilots and dispatchers, working together, provided both a better environment for decision making and problem resolution and better resolutions than either party working alone. While some change in mindset and responsibility process would be necessitated by the proposed change, the result would be a stronger and more defined CRM model leading to an improved safety environment.

The overall economic costs to either the affected Part 121 Supplemental carriers would be minimal and in many cases will quickly become an economic benefit. Most Part121 operators already have one or more persons on duty that perform varying pieces of the dispatch and operation control function that is required under Part 121 Domestic or Flag regulations. The existing personnel could become certificated aircraft dispatchers, if they are not already, or could be replaced by certificated dispatchers. Additional company specific training and recurrent training could be provided at minimal cost in coordination with pilot and other in-house and/or contract training. There may be relatively minor additional equipment or communications costs in order to assure the data and communications capability are in place to support positive operational control and joint responsibility. All of these additional requirements would be appropriate to the scope and complexity of the operation.

Any economic costs related to implementing this single level of safety can reasonably expected to be recovered through the more efficient flight planning rules of Part 121 Domestic and Flag regulations. Potentially, insurance costs would also be reduced. Additionally, better management and utilization of resources in real time through positive operational control will produce a financial contribution as well as less disruption to company activities and better utilization of the National Airspace System.

And finally, at least concerning this issue, the public trust is supported and maintained.

Following please find the draft proposed FAR changes required to eliminate the supplemental dispatch and operational control requirements from Part 121 and simplify the regulations with a single standard and level of safety using Part 121 Flag and Domestic dispatch and operational control rules. Depending on your word processor or viewer the deleted wording should appear with a comment and/or highlighted in yellow. Added wording should appear in italics, with comment and/or highlighted in green.

119.21
3) Supplemental operations in accordance with the applicable requirements of part 121 of this chapter, and shall be issued operations specifications for those operations in accordance with those requirements. However, based on a determination of safety in air commerce, the Administrator may authorize or require those operations to be conducted under paragraph (a)(1) or (a)(2) of this section. *Supplemental operations dispatch and operational control shall comply with Part 121 Domestic or Flag requirements as appropriate.*

Part 121

121.99 Communication facilities.

(a) Each certificate holder conducting domestic or flag operations must show that a two-way radio communication system or other means of communication approved by the Administrator is available at points that will ensure reliable and rapid communications, under normal operating conditions over the entire route (either direct or via approved point-to-point circuits) between each airplane and the appropriate dispatch office, and between each airplane and the appropriate air traffic control unit, except as specified as

§121.351(c).

§ 121.101 Weather reporting facilities.

(a) Each certificate holder conducting domestic or flag operations must show that enough weather reporting services are available along each route to ensure weather reports and forecasts necessary for the operation.

(b) Except as provided in paragraph (d) of this section, no certificate holder conducting domestic or flag operations may use any weather report to control flight unless—

(1) For operations within the 48 contiguous States and the District of Columbia, it was prepared by the U.S. National Weather Service or a source approved by the U.S. National Weather Service; or

(2) For operations conducted outside the 48 contiguous States and the District of Columbia, it was prepared by a source approved by the Administrator.

(c) Each certificate holder conducting domestic or flag operations that uses forecasts to control flight movements shall use forecasts prepared from weather reports specified in paragraph (b) of this section and from any source approved under its system adopted pursuant to paragraph (d) of this section.

(d) Each certificate holder conducting domestic or flag operations shall adopt and put into use an approved system for obtaining forecasts and reports of adverse weather phenomena, such as clear air turbulence, thunderstorms, and low altitude wind shear, that may affect safety of flight on each route to be flown and at each airport to be used.

§ 121.103 En route navigational facilities.

(a) Except as provided in paragraph (b) of this section, each certificate holder conducting domestic or flag operations must show, for each proposed route, that nonvisual ground aids are—

§ 121.107 Dispatch centers.

Each certificate holder conducting domestic or flag operations must show that it has enough dispatch centers, adequate for the operations to be conducted, that are located at points necessary to ensure proper operational control of each flight

CONSIDER RENUMBERING AND MOVING THE ABOVE PARAGRAPHS TO SUBPART D …RULES GOVERNING ALL CERTIFICATE HOLDERS UNDER THIS

PART.

§ 121.119 Weather reporting facilities.

Shall Comply with 121.101.

(a) No certificate holder conducting supplemental operations may use any weather report to control flight unless it was prepared and released by the U.S. National Weather Service or a source approved by the Weather Bureau. For operations outside the U.S., or at U.S. Military airports, where those reports are not available, the certificate holder must show that its weather reports are prepared by a source found satisfactory by the Administrator.

(b) Each certificate holder conducting supplemental operations that uses forecasts to control flight movements shall use forecasts prepared from weather reports specified in § 121.121 En route navigational facilities.

§ 121.121 En route navigational facilities. Shall comply with 121.103.

(a) Except as provided in paragraph (b) of this section, no certificate holder conducting supplemental operations may conduct any operation over a route unless nonvisual ground aids are—

(1) Available over the route for navigating airplanes within the degree of accuracy required for ATC; and

(2) Located to allow navigation to any airport of destination, or alternate airport, within the degree of accuracy necessary for the operation involved.

(b) Nonvisual ground aids are not required for—

(1) Day VFR operations that can be conducted safely by pilotage because of the characteristics of the terrain;

(2) Night VFR operations on lighted airways or on routes that the Administrator determines have reliable landmarks adequate for safe operation; or

(3) Operations on route segments where the use of celestial or other specialized means of navigation is approved.

(c) Except for those aids required for routes to alternate airports, the nonvisual ground navigational aids that are required for approved of routes outside of controlled airspace are specified in the certificate holder's operations specifications.

121.125 Dispatch Centers shall comply with 121.107.

(a)) A certificate holder conducting supplemental operations may arrange to have dispatch and operational control facilities and services provided by other certificated providers. In such a case the certificate holder continues to be primarily responsible for operational control of each flight.

§ 121.125 Flight following system.

(a) Each certificate holder conducting supplemental operations must show that it has—

(1) An approved flight following system established in accordance with subpart U of this part and adequate for the proper monitoring of each flight, considering the operations to be conducted; and

(2) Flight following centers located at those points necessary—

(i) To ensure the proper monitoring of the progress of each flight with respect to its departure at the point of origin and arrival at its destination, including intermediate stops and diversions therefrom, and maintenance or mechanical delays encountered at those points or stops; and

(ii) To ensure that the pilot in command is provided with all information necessary for the safety of the flight.

(b) A certificate holder conducting supplemental operations may arrange to have flight following facilities provided by persons other than its employees, but in such a case the certificate holder continues to be primarily responsible for operational control of each flight.

(c) A flight following system need not provide for in-flight monitoring by a flight following center.

(d) The certificate holder's operations specifications specify the flight following system it is authorized to use and the location of the centers.

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§ 121.127 Flight following system; requirements.

(a) Each certificate holder conducting supplemental operations using a flight following system must show that—

(1) The system has adequate facilities and personnel to provide the information necessary for the initiation and safe conduct of each flight to—

(i) The flight crew of each aircraft; and

(ii) The persons designated by the certificate holder to perform the function of operational control of the aircraft; and

(2) The system has a means of communication by private or available public facilities (such as telephone, telegraph, or radio) to monitor the progress of each flight with respect to its departure

at the point of origin and arrival at its destination, including intermediate stops and diversions therefrom, and maintenance or mechanical delays encountered at those points or stops.

(b) The certificate holder conducting supplemental operations must show that the personnel specified in paragraph (a) of this section, and those it designates to perform the function of operational control of the aircraft, are able to perform their required duties

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121.135

(4) Flight dispatching and operational control, including procedures for coordinated dispatch or flight control or flight following procedures, as applicable.

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§ 121.395 Aircraft dispatcher: Domestic and flag operations.

Each certificate holder conducting domestic or flag operations shall provide enough qualified aircraft dispatchers at each dispatch center to ensure proper operational control of each flight.

CONSIDER RENUMBERING AND MOVE TO SUBPART D.

PART 121—OPERATING REQUIREMENTS: DOMESTIC, FLAG, AND SUPPLEMENTAL OPERATIONS
Subpart P—Aircraft Dispatcher Qualifications and Duty Time Limitations: Domestic, and Flag, *and Supplemental* Operations; Flight Attendant Duty Period Limitations and Rest Requirements: Domestic, Flag, and Supplemental Operations

§ 121.461 Applicability.

This subpart prescribes—

(a) Qualifications and duty time limitations for aircraft dispatchers for certificate holders conducting domestic flag operations; and

CONSIDER RENUMBERING AND MOVE TO SUBPART D.

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§ 121.463 Aircraft dispatcher qualifications.

top

(a) No certificate holder conducting domestic or flag operations may use any person, nor may any person serve, as an aircraft dispatcher for a particular airplane group unless that person has, with respect to an airplane of that group, satisfactorily completed the following: …….

(b) No certificate holder conducting domestic or flag operations may use any person, nor may any person serve, as an aircraft dispatcher for a particular type airplane unless that person has, with

respect to that airplane, satisfactorily completed differences training, if applicable.

(c) No certificate holder conducting domestic or flag operations may use any person, nor may any person serve, as an aircraft dispatcher unless within the preceding 12 calendar months the aircraft dispatcher has satisfactorily completed operating familiarization consisting of at least 5 hours observing operations under this part, in one of the types of airplanes in each group to be dispatched. This observation shall be made from the flight deck or, for airplanes without an observer seat on the flight deck, from a forward passenger seat with headset or speaker. The requirement of paragraph (a) of this section may be reduced to a minimum of 2 1/2 hours by the substitution of one additional takeoff and landing for an hour of flight. The requirement of this paragraph may be satisfied by observation of 5 hours of simulator training for each airplane group in one of the simulators approved under §121.407 for the group. However, if the requirement of paragraph (a) is met by the use of a simulator, no reduction in hours is permitted.

(d) No certificate holder conducting domestic or flag operations may use any person, nor may any person serve as an aircraft dispatcher to dispatch airplanes in operations under this part unless the certificate holder has determined that he is familiar with all essential operating procedures for that segment of the operation over which he exercises dispatch jurisdiction. However, a dispatcher who is qualified to dispatch airplanes through one segment of an operation may dispatch airplanes through other segments of the operation after coordinating with dispatchers who are qualified to dispatch airplanes through those other segments.

§ 121.465 Aircraft dispatcher duty time limitations: Domestic and flag operations.

top

(a) Each certificate holder or conducting domestic flag operations shall establish the daily duty period for a dispatcher so that it begins at a time that allows him or her to become thoroughly familiar with existing and anticipated weather conditions along the route before he or she dispatches any airplane. He or she shall remain on duty until each airplane dispatched by him or her has completed its flight, or has gone beyond his or her jurisdiction, or until he or she is relieved by another qualified dispatcher.

(b) Except in cases where circumstances or emergency conditions beyond the control of the certificate holder require otherwise—

(1) No certificate holder conducting domestic or flag operations may schedule a dispatcher for more than 10 consecutive hours of duty;

(2) If a dispatcher is scheduled for more than 10 hours of duty in 24 consecutive hours, the certificate holder shall provide him or her a rest period of at least eight hours at or before the end of 10 hours of duty.

(3) Each dispatcher must be relieved of all duty with the certificate holder for at least 24 consecutive hours during any seven consecutive days or the equivalent thereof within any calendar month.

(c) Notwithstanding paragraphs (a) and (b) of this section, a certificate holder conducting flag operations may, if authorized by the Administrator, schedule an aircraft dispatcher at a duty station outside of the 48 contiguous States and the District of Columbia, for more than 10 consecutive hours of duty in a 24-hour period if that aircraft dispatcher is relieved of all duty with the certificate holder for at least eight hours during each 24-hour period.

CONSIDER RENUMBERING AND MOVE TO SUBPART D.

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§ 121.537 Responsibility for operational control: Supplemental operations.

(a) Each certificate holder conducting supplemental operations—

(1) Is responsible for operational control; and

(2) Shall list each person authorized by it to exercise operational control in its operator's manual.

(b) The pilot in command and the director of operations are jointly responsible for the initiation, continuation, diversion, and termination of a flight in compliance with this chapter and the operations specifications. The director of operations may delegate the functions for the initiation, continuation, diversion, and termination of a flight but he may not delegate the responsibility for those functions.

(c) The director of operations is responsible for cancelling, diverting, or delaying a flight if in his opinion or the opinion of the pilot in command the flight cannot operate or continue to operate safely as planned or released. The director of operations is responsible for assuring that each flight is monitored with respect to at least the following:

(1) Departure of the flight from the place of origin and arrival at the place of destination, including intermediate stops and any diversions therefrom.

(2) Maintenance and mechanical delays encountered at places of origin and destination and intermediate stops.

(3) Any known conditions that may adversely affect the safety of flight.

e) Each pilot in command of an aircraft is responsible for the preflight planning and the operation of the flight in compliance with this chapter and the operations specifications.

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(a) Each certificate holder conducting supplemental operations is responsible for operational control.

(b) The pilot in command and the aircraft dispatcher are jointly responsible for the preflight planning, delay, and dispatch release of a flight in compliance with this chapter and operations

specifications.

(c) The aircraft dispatcher is responsible for—

(1) Monitoring the progress of each flight;

(2) Issuing necessary instructions and information for the safety of the flight; and

(3) Canceling or redispatching a flight if, in his opinion or the opinion of the pilot in command, the flight cannot operate or continue to operate safely as planned or released.

CONSIDER RENUMBERING AND MOVE TO SUBPART D.

§ 121.557 Emergencies: Domestic and flag operations.

§ 121.559 Emergencies: Supplemental operations.

(a) In an emergency situation that requires immediate decision and action, the pilot in command may take any action that he considers necessary under the circumstances. In such a case, he may deviate from prescribed operations, procedures and methods, weather minimums, and this chapter, to the extent required in the interests of safety.

(b) In an emergency situation arising during flight that requires immediate decision and action by appropriate management personnel in the case of operations conducted with a flight following service and which is known to them, those personnel shall advise the pilot in command of the emergency, shall ascertain the decision of the pilot in command, and shall have the decision recorded. If they cannot communicate with the pilot, they shall declare an emergency and take any action that they consider necessary under the circumstances.

(c) Whenever emergency authority is exercised, the pilot in command or the appropriate management personnel shall keep the appropriate ground radio station fully informed of the progress of the flight. The person declaring the emergency shall send a written report of any deviation, through the certificate holder's director of operations, to the Administrator within 10 days after the flight is completed or, in the case of operations outside the United States, upon return to the home base.

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§ 121.591 Applicability.

This subpart prescribes dispatching rules for domestic and flag operations and flight release rules for supplemental operations.

§ 121.597 Flight release authority: Supplemental operations.

(a) Shall be in accordance with 121.593 or 121.595 as appropriate.

(a) No person may start a flight under a flight following system without specific authority from the person authorized by the operator to exercise operational control over the flight.

(b) No person may start a flight unless the pilot in command or the person authorized by the operator to exercise operational control over the flight has executed a flight release setting forth the conditions under which the flights will be conducted. The pilot in command may sign the flight release only when he and the person authorized by the operator to exercise operational control believe that the flight can be made with safety.

(c) No person may continue a flight from an intermediate airport without a new flight release if the aircraft has been on the ground more than six hours.

§ 121.599 Familiarity with weather conditions.

(a) *Domestic and flag operations.* No aircraft dispatcher may release a flight unless he is thoroughly familiar with reported and forecast weather conditions on the route to be flown.

(b) *Supplemental operations.* No pilot in command may begin a flight unless he is thoroughly familiar with reported and forecast weather conditions on the route to be flown.

§ 121.601 Aircraft dispatcher information to pilot in command: Domestic and flag operations.

§ 121.607 Communication and navigation facilities: Domestic and flag operations.

121.609 Communication and navigation facilities: Supplemental operations.

Shall comply with 121.607 as appropriate**.**

No person may release an aircraft over any route or route segment unless communication and navigation facilities equal to those required by §121.121 are in satisfactory operating condition.

§ 121.611 Dispatch or flight release under VFR.

No person may dispatch or release an aircraft for VFR operation unless the ceiling and visibility en route, as indicated by available weather reports or forecasts, or any combination thereof, are and will remain at or above applicable VFR minimums until the aircraft arrives at the airport or airports specified in the dispatch or flight release.

§ 121.613 Dispatch or flight release under IFR or over the top.

Except as provided in §121.615, no person may dispatch or release an aircraft for operations under IFR or over-the-top, unless appropriate weather reports or forecasts, or any combination thereof, indicate that the weather conditions will be at or above the authorized minimums at the estimated time of arrival at the airport or airports to which dispatched or released.

§ 121.615 Dispatch or flight release over water: Flag and supplemental operations.

(a) No person may dispatch or release an aircraft for a flight that involves extended overwater operation unless appropriate weather reports or forecasts or any combination thereof, indicate that the weather conditions will be at or above the authorized minimums at the estimated time of arrival at any airport to which dispatched or released or to any required alternate airport.

§ 121.617 Alternate airport for departure.

(a) If the weather conditions at the airport of takeoff are below the landing minimums in the certificate holder's operations specifications for that airport, no person may dispatch or release an aircraft from that airport unless the dispatch or flight release specifies an alternate airport located within the following distances from the airport of takeoff:

(1) *Aircraft having two engines.* Not more than one hour from the departure airport at normal cruising speed in still air with one engine inoperative.

(2) *Aircraft having three or more engines.* Not more than two hours from the departure airport at normal cruising speed in still air with one engine inoperative.

(b) For the purpose of paragraph (a) of this section, the alternate airport weather conditions must meet the requirements of the certificate holder's operations specifications.

(c) No person may dispatch or release an aircraft from an airport unless he lists each required alternate airport in the dispatch or flight release.

121.623 Alternate airport for destination: IFR or over-the-top: Supplemental operations.

(a) Shall comply with 121.619 or 121.621 as appropriate.

(a) Except as provided in paragraph (b) of this section, each person releasing an aircraft for operation under IFR or over-the-top shall list at least one alternate airport for each destination airport in the flight release.

(b) An alternate airport need not be designated for IFR or over-the-top operations where the aircraft carries enough fuel to meet the requirements of §§121.643 and 121.645 for flights outside the 48 contiguous States and the District of Columbia over routes without an available alternate

airport for a particular airport of destination.

(c) For the purposes of paragraph (a) of this section, the weather requirements at the alternate airport must meet the requirements of the certificate holder's operations specifications.

(d) No person may release a flight unless he lists each required alternate airport in the flight release.

§ 121.625 Alternate airport weather minimums.

No person may list an airport as an alternate airport in the dispatch or flight release unless the appropriate weather reports or forecasts, or any combination thereof, indicate that the weather conditions will be at or above the alternate weather minimums specified in the certificate holder's operations specifications for that airport when the flight arrives.

§ 121.627 Continuing flight in unsafe conditions.

(a) No pilot in command may allow a flight to continue toward any airport to which it has been dispatched or released if, in the opinion of the pilot in command or dispatcher (domestic and flag operations only), the flight cannot be completed safely; unless, in the opinion of the pilot in command, there is no safer procedure. In that event, continuation toward that airport is an emergency situation as set forth in §121.557.

§ 121.629 Operation in icing conditions.

(a) No person may dispatch or release an aircraft, continue to operate an aircraft en route, or land an aircraft when in the opinion of the pilot in command or aircraft dispatcher (domestic and flag operations only), icing conditions are expected or met that might adversely affect the safety of the flight.

(c) Except as provided in paragraph (d) of this section, no person may dispatch, release, or take off an aircraft any time conditions are such that frost, ice, or snow may reasonably be expected to adhere to the aircraft, unless the certificate holder has an approved ground deicing/anti-icing program in its operations specifications and unless the dispatch, release, and takeoff comply with that program. The approved ground deicing/anti-icing program must include at least the following items:

(1) A detailed description of—

§ 121.631 Original dispatch or flight release, redispatch or amendment of dispatch or flight release.

(a) A certificate holder may specify any regular, provisional, or refueling airport, authorized for the type of aircraft, as a destination for the purpose of original dispatch or release.

(b) No person may allow a flight to continue to an airport to which it has been dispatched or

released unless the weather conditions at an alternate airport that was specified in the dispatch or flight release are forecast to be at or above the alternate minimums specified in the operations specifications for that airport at the time the aircraft would arrive at the alternate airport. However, the dispatch or flight release may be amended en route to include any alternate airport that is within the fuel range of the aircraft as specified in §§121.639 through 121.647.

(c) No person may change an original destination or alternate airport that is specified in the original dispatch or flight release to another airport while the aircraft is en route unless the other airport is authorized for that type of aircraft and the appropriate requirements of §§121.593 through 121.661 and 121.173 are met at the time of redispatch or amendment of the flight release.

(d) Each person who amends a dispatch or flight release en route shall record that amendment.

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§ 121.643 Fuel supply: Nonturbine and turbo-propeller-powered airplanes: Supplemental operations.

(a) Shall comply with 121.639 or 121.641 as appropriate**.**

(a) Except as provided in paragraph (b) of this section, no person may release for flight or takeoff a nonturbine or turbo-propeller-powered airplane unless, considering the wind and other weather conditions expected, it has enough fuel—

(1) To fly to and land at the airport to which it is released;

(2) Thereafter, to fly to and land at the most distant alternate airport specified in the flight release; and

(3) Thereafter, to fly for 45 minutes at normal cruising fuel consumption or, for certificate holders who are authorized to conduct day VFR operations in their operations specifications and who are operating nontransport category airplanes type certificated after December 31, 1964, to fly for 30 minutes at normal cruising fuel consumption for day VFR operations.

(b) If the airplane is released for any flight other than from one point in the contiguous United States to another point in the contiguous United States, it must carry enough fuel to meet the requirements of paragraphs (a) (1) and (2) of this section and thereafter fly for 30 minutes plus 15 percent of the total time required to fly at normal cruising fuel consumption to the airports specified in paragraphs (a) (1) and (2) of this section, or to fly for 90 minutes at normal cruising fuel consumption, whichever is less.

(c) No person may release a nonturbine or turbo-propeller-powered airplane to an airport for which an alternate is not specified under §121.623(b), unless it has enough fuel, considering wind and other weather conditions expected, to fly to that airport and thereafter to fly for three hours at normal cruising fuel consumption.

§ 121.645 Fuel supply: Turbine-engine powered airplanes, other than turbo propeller: Flag and supplemental operations.

(a) Any flag operation within the 48 contiguous United States and the District of Columbia may use the fuel requirements of §121.639.

(e) For a supplemental operation within the 48 contiguous States and the District of Columbia with a turbine engine powered airplane the fuel requirements of §121.643 apply.

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§ 121.663 Responsibility for dispatch release: Domestic and flag operations.

Each certificate holder conducting domestic or flag operations shall prepare a dispatch release for each flight between specified points, based on information furnished by an authorized aircraft dispatcher. The pilot in command and an authorized aircraft dispatcher shall sign the release only if they both believe that the flight can be made with safety. The aircraft dispatcher may delegate authority to sign a release for a particular flight, but he may not delegate his authority to dispatch.

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§ 121.683 Crewmember and dispatcher record.

(a) Each certificate holder shall—

(1) Maintain current records of each crewmember and each aircraft dispatcher (domestic and flag operations only) that show whether the crewmember or aircraft dispatcher complies with the applicable sections of this chapter, including, but not limited to, proficiency and route checks, airplane and route qualifications, training, any required physical examinations, flight, duty, and rest time records; and

(2) Record each action taken concerning the release from employment or physical or professional disqualification of any flight crewmember or aircraft dispatcher (domestic and flag operations only) and keep the record for at least six months thereafter.

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§ 121.687 Dispatch release: Flag and domestic operations

121.689 Flight release form: Supplemental operations.

(a) Except as provided in paragraph (c) of this section, the flight release may be in any form but

must contain at least the following information concerning each flight:

(1) Company or organization name.

(2) Make, model, and registration number of the aircraft being used.

(3) Flight or trip number, and date of flight.

(4) Name of each flight crewmember, flight attendant, and pilot designated as pilot in command.

(5) Departure airport, destination airports, alternate airports, and route.

(6) Minimum fuel supply (in gallons or pounds).

(7) A statement of the type of operation (e.g., IFR, VFR).

(b) The aircraft flight release must contain, or have attached to it, weather reports, available weather forecasts, or a combination thereof, for the destination airport, and alternate airports, that are the latest available at the time the release is signed. It may include any additional available weather reports or forecasts that the pilot in command considers necessary or desirable.

(c) Each certificate holder conducting domestic or flag operations under the rules of this part applicable to supplemental operations shall comply with the dispatch or flight release forms required for scheduled operations under this subpart.

§ 121.697 Disposition of load manifest, flight dispatch ***release, and flight plans: Supplemental operations.***

(a) The pilot in command of an airplane shall carry in the airplane to its destination the original or a signed copy of the—

(1) Load manifest;

(2) Flight *Dispatch* release;

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§ 121.711 Communication records: Domestic and flag operations.

Each certificate holder conducting domestic or flag operations shall record each en route radio contact between the certificate holder and its pilots and shall keep that record for at least 30 days.

Recommendation: That the Steering Committee recommend to the FAA that they consider action to remove the Part 121 Supplemental Release and Operational Control regulations thereby creating a simplified and appropriate single standard under Part 121 Flag and Domestic Dispatch and Operational Control regulations.

Steering Committee Review:
Final Action:
Notes:

RECOMMENDATION DOCUMENT
Number: DIR 12 Initial Cadre
Issue: Dispatcher regulations needs to address initial cadre.
Discussion & Analysis: Dispatchers have created a new § 121.461c Check Dispatcher: Initial cadre.
Recommendation: § 121.461c Check Dispatcher: Initial cadre. (a) Purpose of this section. This section is used to qualify an initial cadre of check dispatchers in lieu of the requirements of § 121.461a. (b) Applicability of this section. This section applies only as follows:

(1) A new part 119 certificate holder or applicant for a part 119 certificate must comply with the requirements of this section in lieu of § 121.461a.

(2) A certificate holder that plans operations with a type airplane that it has not operated before may comply with the requirements of this section in lieu of the requirements of § 121.461a if approved by the Principal Operations Inspector.

(3) A certificate holder that plans to operate in an area (flag or domestic) that it has not operated before may comply with the requirements of this section in lieu of the requirements of § 121.461a if approved by the Principal Operations Inspector.

(c) Duration of initial cadre status.

(1) Initial cadre status applies only to the first complement of check dispatchers qualified under this section.

(2) The Principal Operations Inspector will determine the period of initial cadre status, and may terminate initial cadre status for the certificate holder or for an individual check dispatcher if necessary.

(d) Eligibility for initial cadre status for check dispatcher. To be eligible to become an initial cadre check dispatcher for a part 119 certificate holder, and to continue to serve in that capacity for the authorized period, a person must meet all of the following requirements:

(1) Be an employee of the part 119 certificate holder (or applicant).

(2) Have served at least 3 years in the past 6 years as a dispatcher on an airplane of the same group in which the person is to perform duties as an initial cadre check dispatcher.

(3) Have an aircraft dispatch certificate without restrictions.

(4) Have satisfactorily accomplished the appropriate initial, transition, and if appropriate, recurrent ground training, as approved by the Principal Operations Inspector for the part 119 certificate holder (or applicant) that are required to serve as an aircraft dispatcher.

(5) A check dispatcher for a new certificate holder, must be observed by an FAA inspector conducting activities for which the person is to perform duties as a check dispatcher.

(6) Be approved by the Principal Operations Inspector for the specific duties to be performed.

(e) Operating experience for initial cadre check dispatchers.

(1) An initial cadre check dispatcher may supervise other initial cadre check dispatchers while receiving credit for his or her own operating experience.

(2) Initial cadre check dispatchers may not gain operating experience unless at least one of the initial cadre check

dispatchers has experience with the type airplane on which the person is to perform duties as a check dispatcher or has received ground training in for aircraft type in accordance with the QPS.

(3) Initial cadre check dispatchers may not gain operating experience unless at least one of the initial cadre check dispatchers has experience with in the area of operation in which the person is to perform duties as a check dispatcher or has the received ground training in for the type of operation (domestic or flag) accordance with the QPS.

(f) Administration of training and evaluation Employees of a part 142 certificate holder, part 119 certificate holder, or the airplane manufacturer may administer the training for initial cadre check dispatchers, as approved by the Principal Operations Inspector. In addition, any previously qualified check dispatcher may administer any of the activities, as approved by the Principal Operations Inspector.

[Source: New]

Committee Review: Summary of discussion with Committee

Final Action: Final recommended action by Committee

Notes:

Flight Attendant Recommendation Documents:

RECOMMENDATION DOCUMENT
Number: FAQ 2.2 Flight Attendant Training Candace- What would you like to see? Simple outline to put in Indoc?
Issue: Ensure that within the subjects and tasks located in the QPS, there is a requirement to ensure that all flight attendants receive training in the regulatory responsibilities they have regarding drug and alcohol testing and receive familiarity training regarding the air carrier's program and policies. Currently addressed on page 33 of the flight attendant QPS [G. 2. b]. Is this enough?
Discussion & Analysis: ADDED: a) Protocols regarding drug and alcohol testing programs, to include regulatory and company policy regarding drug and alcohol testing programs To QPS. Resolved
Recommendation: Proposed rule adjustment if required and draft advisory/policy language. Add training requirement to address regulatory requirements and company policy regarding drug and alcohol testing programs. (See current § 121.459) Ensure that this requirement is placed in the regulations so that it applies to all specialties.
Committee Review: Summary of discussion with Committee

Final Action: Final recommended action by Committee

Go forward with changes recommended by subcommittee.

Notes:

RECOMMENDATION DOCUMENT

Number: FAQ 3.2
Flight Attendant Training

Linda-Preamble Discussion
Holly/Tim developing specific "knowledge/observation/looking at the real thing during Airplane Fam" training requirements
Linda-Preamble Discussion
Holly/Tim developing specific "knowledge/observation/looking at the real thing during Airplane Fam" training requirements

Issue:

Consider changing B 4 "Flight Deck Exit Device Operation" to an observation drill.

Discussion & Analysis:

Linda:
Current regulations do not require pilots to have hands on testing on the operation of flight deck exits.
There has been only one evacuation in the last quarter of a century where flight decks exits were used to evacuate passengers and those flight attendants only received observation training of the flight deck exits.
Flight attendant training departments do not have simulators that have operable flight deck exits.
Continental Airlines, as an example estimates that it will cost 10 million dollars to have the simulators designed, delivered and installed in it's 3 training locations.
Flight attendants can be trained on exit operation through an observation drill, and be tested on their knowledge levels.

Holly/Tim:
Each flight attendant must operate each exit on each type aircraft on which the flight attendant is to serve in both the normal and emergency modes, including the actions and forces required in the deployment of emergency evacuation slides. Discussion: Flight deck exits-

**Knowledge training requirements specific to aircraft type, **Observation Drill requirements (watching operation of the exit) specific to aircraft type in Basic Qualification and Recurrent training **Airplane familiarization/Operating experience by type (some type of "looking at the real exit") **Accessibility issues…Post 9/11…Flight Attendant access/non-access to flight deck Evac demo/Mini Evac …basis for demonstration…does not use flight deck exit For the purposes of evacuation demonstration the FAA does not recognize flight deck exits as appropriate It is, however, a way off the airplane. Flight attendants should know how to use it. Need a solution that ensures flight attendants know how to use the exit….do you have to have "hands on" training to accomplish this? All that's left is to add a observation opportunity to AOE. Be very clear that this is an "Observation" opportunity….no pulling the inertial reel, escape tapes.
It is not necessary to provide this "hands on training" if you have: -Observation Drill (Video/Visual Observation of the process and use of egress equipment) -Knowledge Training -Opportunity to view/see the "real" exit (location, environment) during operating experience by type Make sure not to exclude the hands on training requirements for exits (in the flight deck…747 classic is an example) ("floor level").. HOLLY/TIM will look for the Rec Doc (22) and work on this.
Middle ground equals "observation"…a three minute video is a three minute video Importance to have training on all exits…not necessarily "Hands on training"
B. Subject: Exit Device Operation
4. Task: Non-Floor Level Exits in the Flight Deck Through Which Crewmembers May Egress the Aircraft

Observation drill and knowledge test.

Each flight attendant must observe the operation of any additional exits in the flight deck through which crewmembers may egress the aircraft. If the observation requirement is fulfilled on the actual aircraft or approved training device, credit may be applied toward the AOE observation requirement. Each flight attendant must know the following:

NOTE: Nancy Need to add the AOE requirement, put an X in the knowledge box.

a) Recognize the conditions under which the exit is to be opened
b) Assess conditions outside the exit to determine exit usability (e.g., Clear of obstruction, fire, aircraft attitude)
c) Operation of the exit
d) Assume and maintain appropriate protective body and hand positions
e) Access escape tapes, escape ropes or inertial reels.

Standard: Flight attendant must be tested and debriefed according to the following:
a) Assesses conditions outside the exit to determine exit usability
b) Correct use of the exit operating mechanism including hand and body position
c) Use of proper terms and procedures
d) Correct positioning of the escape device
e) Method to secure exit in fully opened position or ensuring correct stowage position
f) Knows appropriate protective hand and body positions
g) Access to escape tapes,escape ropes or inertial reels.

Resolved.

Notes:

Final Action: Final recommended action by Committee

Go forward with changes recommended by subcommittee.

RECOMMENDATION DOCUMENT

Number: FAQ 4.2

Issue:

Consider changing the proposed requirement for a flight attendant performance drill on the flight deck fixed oxygen system to an observation drill.

Discussion & Analysis:

Flight attendant training departments do not have simulators of the flight deck oxygen system. Analysis indicates that the cost of one EROS oxygen unit is $5,000.00, uninstalled.

It is the consensus of the flight attendant committee that flight attendants can be effectively trained on the emergency operation of flight deck oxygen systems through:

**Knowledge training in Basic Qualification and Recurrent training

**An observation drill in Basic Qualification and Recurrent training (need to determine frequency of recurrent training requirement on the chart)

**Have the information reinforced during their AOE flight

**Include as a training item that flight attendants, when asked to stay on the flight deck when a flight crewmember has to leave, will request a short briefing on location, donning and use of the fixed flight deck oxygen systems (Similar to the briefing given to flight deck jumpseat riders)

Recommendation:

1) Amend QPS to read:

A. Performance Drills

3. Task: Operation of Each Type of Fixed Oxygen Systems

For the purpose of this drill, the fixed oxygen systems must be identical to those installed in the aircraft with respect to dimensions, appearance, features, controls, charge duration and operation. The drill does not need to be repeated using each type of fixed oxygen system installed in the aircraft provided the procedures and the means to activate the oxygen flow, and the method to manually open the compartment, are the same from one system to another. Where types differ, the drills must be repeated with the appropriate equipment.

Each flight attendant must satisfactorily accomplish the following during the drill for fixed oxygen systems in the passenger cabin:

a) Each flight attendant must manually drop oxygen mask and follow the crewmember

coordination procedures

b) If it is necessary to "turn on" the oxygen system, the flight attendant must demonstrate this

Delete from performance drill:

Each flight attendant must satisfactorily accomplish the following during the drill for fixed oxygen systems in the flight deck.

a) Access oxygen mask and remove from stowage
b) Use proper procedures to don oxygen mask and activate oxygen in proper sequence

2) Amend QPS to ADD:

B. Subject: Observation Drills
C. **Task: Flight Deck Fixed Oxygen System**

Each flight attendant must observe the following for fixed oxygen systems in the flight deck:

a) Access oxygen mask and remove from stowage
b) Use of proper procedures to don oxygen mask and activate oxygen in proper sequence for an emergency
c) Resecuring of equipment
d) Observe the locations of the flight deck fixed oxygen system during AOE flight

3) Amend Chart to include the Flight Deck Fixed Oxygen System Observation Drill

Subject: Observation Drills
Operation of the Flight Deck Fixed Oxygen System

4) Amend QPS (Page 27 on July 2004 edited version) to reflect a training requirement that addresses flight attendant asking for a briefing of the flight deck fixed oxygen system when asked to enter and secure the flight deck inflight.

Subject: Inflight

2. Task: Inflight Procedures

(b) Procedures for flight attendants to enter and secure flight deck door, **to include requesting a briefing on the location, donning and use of the fixed oxygen system available for the flight attendant's emergency use,** when one flight crewmember has to leave the flight deck (if part of air carrier's procedures)

Committee Review: Summary of discussion with Committee
Final Action: Final recommended action by Committee Go forward with changes recommended by subcommittee.
Notes:

RECOMMENDATION DOCUMENT
Number: FAQ 5.2
Issue: Timeframes for completion of Cabin Preparation Drills (Land / Water Evacuations)
Discussion & Analysis We need QPS language that addresses the ability for an air carrier to introduce different timeframes for completion of the Proficiency tasks relative to cabin preparation drills. In addition, this language will afford flexibility to air carriers to develop effective scenarios that are applicable to their operations. 10/25/2004 It is our intent that the full, complete, uninterrupted drills be completed in Basic Qualification. The subtasks for the drills must be accomplished during recurrent…but we will take out the word "uninterrupted"… It is our intent to provide the air carrier the flexibility to split the drill up into

modules/segments/change out crews/etc. Different scenarios every year keep training fresh and effective.

Include as a standard (TIM) and in the INFO block- At the end of the drill, there should be a discussion/review of the good, bad and ugly.

This is good for all PRACTICE drills in the QPS.

Recommendation:

Add the following language to the preamble and to an INFO block in the QPS before the proficiency drill for Cabin Preparation Drills (Land / Water Evacuations):

> Each flight attendant must participate as either a flight attendant or a passenger in a full, complete and uninterrupted cabin preparation as outlined in the following Cabin Preparation Drill-Land. In addition, if the flight attendant is to be qualified in extended overwater operations, that flight attendant must participate as either a flight attendant or a passenger in a full, complete and uninterrupted cabin preparation as outlined in the following Cabin Preparation Drill –Water.
>
> If the flight attendant has not participated as a flight attendant in one of the Cabin Preparation Drills, then the flight attendant must satisfactorily participate as a flight attendant in at least a portion of another evacuation drill. This flexibility allows the air carrier to develop effective training and give each flight attendant the opportunity to participate in a drill without adding a burdensome training requirement for multiple drills. In addition, the knowledge requirements continue to be reinforced as flight attendants play multiple roles in an cabin preparation or evacuation scenario.
>
> In order to create a realistic training environment, an air carrier may choose to integrate variables into the scenarios that happen during actual emergencies (e.g. running out of time prior to completing a cabin preparation, change in the type of evacuation or landing). An additional effective practice would also be to give flight attendants the opportunity to observe "textbook" cabin preparation or evacuation drills conducted in accordance with the air carrier's procedures.

Committee Review: Summary of discussion with Committee
Final Action: Final recommended action by Committee Go forward with changes recommended by subcommittee.
Notes:

RECOMMENDATION DOCUMENT
Number: FAQ 6.2
Issue: Need to define exits that require proficiency drills.
Discussion & Analysis When we require proficiency tasks on exits…we mean all exits designed for passenger/crewmember emergency evacuation. We need definitive language in the requirement and in the preamble that makes it clear that we are not talking about, for example, the lower lobe galley catering door on the L-1011 or accessible baggage/cargo doors on smaller aircraft. We need to define that proficiency drills are required for exits required by 25. 807 (a). These are included or the Type Certification Data Sheet. The TCDS for all aircraft is available online at: http://www.airweb.faa.gov/Regulatory_and_Guidance_Library/rgMakeModel.nsf/MainFrame?OpenFrameS For the purposes of an aircraft evacuation demonstration, the FAA does not recognize flight deck exits, catering doors or accessible cargo doors as an appropriate method of egress. They are, however, a way off the airplane. Flight attendants should know how to use them. We need a solution that ensures flight attendants know how to use all exit….but, do you have to have "hands on" training to accomplish this?
We also need to make sure not to exclude the hands on training requirements for exits (required by 25.807 (a in the flight deck…747 classic is an example.

Resolution/Consensus:

It is not necessary to provide this "hands on training" of flight deck exits if you have:
-Observation Drill (Video/Visual Observation of the process and use of egress equipment)
-Knowledge Training requirements specific to aircraft type in Basic Qualification and Recurrent
-Opportunity to view/see the "real" exit (location, environment) during AOE

Make sure we nail down language that would prohibit the same 737-400-737-800 fight with the overwing exits. Look at the FAA legal brief that was written on the subject for some good sentences. We tried to cove this in the reg….but more preamble language can't hurt.

Recommendation:

We propose to:

1) **Amend the QPS :**

EMERGENCY TRAINING DRILLS

Subjects of Instruction with Tasks

Each flight attendant must operate each exit **required by 25.807 (a) ,**, on each type aircraft on which the flight attendant is to serve in both the normal and emergency modes, including the actions and forces required in the deployment of emergency evacuation slides.

2) Amend the QPS:

II. Aircraft Specific Performance Drills

A. Exit Device Operation

1. Floor Level Door Exit Operation (Normal Mode)
2. Floor Level Door Exit Operation (Emergency Mode)
3. Cabin Window Exit and Plug/Hatch Exit Operation
4. All Additional Aircraft Exit Devices **On the Aircraft** Required by 25.807 (a).

3)Amend the QPS:

To delete:

B. Subject: Exit Device Operation

5. Task: All Exit Devices in the Flight Deck Through Which Crewmembers May Egress the Aircraft

Each flight attendant must operate any additional exits in the flight deck through which crewmembers may egress the aircraft. Each flight attendant must satisfactorily accomplish the following drill:

f) Recognize the conditions under which the exit is to be opened
g) Assess conditions outside the exit to determine exit usability (e.g., Clear of obstruction, fire, aircraft attitude)
h) Open the exit
i) Assume and maintain appropriate protective body and hand positions
j) Access escape tapes or escape ropes

Standard: Flight attendant performance must be observed, tested and debriefed according to the following:

h) Assesses conditions outside the exit to determine exit usability
i) Correctly uses exit operating mechanism including hand and body position
j) Uses proper commands and procedures
k) Correctly positions escape device
l) Secures exit in fully opened position or ensures correct stowage position
m) Assumes and maintains appropriate protective hand and body positions
Correctly accesses escape tapes or escape ropes

4) Amend the QPS:

B.Subject: Exit Device Operation

4. Task: All Additional Aircraft Exit Devices

5. Each flight attendant must operate any additional exits on the aircraft required by 25.807 (a).

Each flight attendant must satisfactorily accomplish the following drill:

a) Recognize the signal for or the conditions under which the exit is to be
b) Opened
c) Assess conditions outside the exit to determine exit usability (e.g., Clear of obstruction, fire, aircraft attitude)
d) Open and correctly stow the exit (if applicable)
e) Give commands to passengers for exiting exit
f) Verbally describe correct exit placement following removal (if applicable) if the training procedures diffe from the operational procedures
g) Pull the manual inflation handle (if applicable) and verify deployment (e.g., slide ramp), if applicable
h) Assume and maintain appropriate protective body and hand positions
i) Access escape tapes or escape ropes and access release handle(s) (e.g., Slide disconnect)

Standard: Commands must be aggressive and easily understood. Flight attendant performance must be observed, tested and debriefed according to the following:

a) Acknowledges and responds quickly to signals
b) Assesses conditions outside the exit to determine exit usability
c) Correctly uses exit operating mechanism including hand and body position
d) Uses proper commands (change it everywhere you see "terms") and procedures
e) Correctly positions escape device
f) Secures exit in fully opened position or ensures correct stowage position
g) Pulls manual inflation handles and verifies deployment, inflation (e.g., ramp, slide)
h) Assumes and maintains appropriate protective hand and body positions
i) Correctly accesses escape tapes or escape ropes
j) Correctly accesses release handles (e.g., slide disconnect, tailcone jettison, ventral stairs)
Correctly applies procedures (e.g., positioning of seatbacks, armrests)

5) Insert language in the preamble (#8) Upgrade flight attendant initial, transition, recurrent and emergency training) and an INFO block in the QPS in the section for exit proficiency drills as follows:

The FAA recognizes that there are many exits that may be utilized in an emergency for crewmember and passenger egress from an aircraft. These would include emergency exits in the flight deck and in the cabin, a well as other exits such as lower lobe catering doors on widebody aircraft and accessible baggage and cargo doors. It is the intent of the FAA to require that all flight attendants receive knowledge training on all aircraft exits. In addition, all flight attendants must participate in observation drills regarding the flight deck exits required by 25.807 (j) Flightcrew emergency exits. Further, all flight attendants must satisfactorily complete proficiency drills on all aircraft emergency exits as outlined in 25.807 (a). These are included on th Type Certification Data Sheet. The TCDS for all aircraft is available online at: http://www.airweb.faa.gov/Regulatory_and_Guidance_Library/rgMakeModel.nsf/MainFrame?OpenFrameS

In the case of some aircraft, such as some 747's, an exit required by 25.807 (a) , may be located on the flight deck. In this case, the flight attendant must perform proficiency drills on that exit.

In addition, the proposed rule has very clear language regarding the training equipment that may be used during proficiency drills and requires that the operation of the equipment must be identical to that installed in the aircraft on which the flight attendant is to be qualified with respect to weight, dimensions, appearance features and operation. Equipment may be substituted when it is much the same with respect to weight, dimensions and appearance and the flight attendant has been provided with training on differences between training equipment and the actual aircraft exit. However, equipment may not be substituted if the operating mechanism is different.

6) Amend requirements regarding proficiency drills on exits to include language that ensures "hands on" training on each exit with a different operating mechanism:

> **Environment**: The operation of the equipment must be identical to that installed in the aircraft on which the flight attendant is to be qualified with respect to weight, dimensions, appearance features and operation. Equipment may be substituted when it is much the same with respect to weight, dimensions and appearance and the flight attendant has been provided with training on differences between training equipment and the actual aircraft exit. Equipment may not be

substituted if the operating mechanism is different.

Committee Review: Summary of discussion with Committee

Resolved/Consensus

Final Action: Final recommended action by Committee

Go forward with changes recommended by subcommittee.

Notes:

RECOMMENDATION DOCUMENT

Number: FAQ 7.2

Issue:
Coordination of all QPS requirements for knowledge/proficiency training with the Fires AC.

Lisa

B. Subject: Emergency Situations

3. Task: Fire Inflight or On the Surface (Coordinate with AC- Lisa)

a) Classes of fires
b) Types of extinguishers appropriate to each class of fire
c) Properties of halon extinguishers, to include that the potential harmful effects on passengers and crew are negligible compared to the safety benefits achieved by fighting inflight fires aggressively
d) Correct methods for fire fighting, including proper use of PBE
e) Methods of communication while wearing PBE and using aircraft communication systems
f) Proper techniques for PBE hood removal once away from the fire scene
g) Need for crewmembers to take immediate and aggressive action in response to signs of an inflight fire
h) Requirement to notify the flight deck as soon as possible and maintain constant communication and coordination
i) Procedures to recognize the problem
j) Procedures to identify smoke in cabin, galleys/lower-lobe galleys, or lavatory
k) Procedures for handling fire/smoke of undetermined origin
l) Procedures for handling fire hidden behind interior panels
m) Procedures to remove or otherwise gain access to the area behind interior panels in order to effectively apply extinguishing agents to the source of the fire
n) Use of the crash ax to access the area behind interior panels or an enclosed space such as the lavatory(Tools that also can be used include shoe horn, knitting or crocheting needles, walking canes, etc)
o) Procedures to respond to smoke detector activation in lavatory
p) Odor of fire
q) Procedures to locate the source of the fire
r) Procedures to identify location /source in ovens; volatile fuel vapors; light ballast; cabin furnishings; stowage bins/hat racks; trash containers; clothing; APU; jetway; ramp fires
s) Procedures to identify class of fire (if possible)
t) Procedures to assess the intensity of the fire (if possible)
u) Procedures to communicate with other crew members and respond to include:
1) Fight the fire/Call flight crew to inform of fire
2) Obtain assistance of other flight attendants or passengers in accordance with carrier procedures
3) Passenger handling
4) Use of interphone
5) Use of PA system
6) Locate and retrieve the nearest PBE
7) Remove PBE from stowage including container/pouch
8) Don PBE and activate oxygen in proper sequence using proper procedures
9) Locate and retrieve the nearest appropriate fire extinguisher
10) Approach source of fire using protective techniques

11) Maintain safe distance from fire
12) Remove extinguisher from securing device

Prepare extinguisher for use (break tamper seal, pull pins, release safety latches and/or pressurize bottle)

13) Operate extinguisher discharge mechanism properly
14) Discharge extinguisher at base of fire using proper discharge pattern, bottle position and flight attendant body position
15) Use aircraft communication system while wearing PBE (as necessary)
16) Maintain and ensure ongoing communication with flight crew
17) Direct passengers to relocate away from fire location if necessary and possible
18) Instruct passengers to breathe through clothing
19) Distribute wet towels if possible
20) Relocate nearby portable oxygen bottles/canisters
21) Utilize additional fire extinguishers and other firefighting equipment
22) Coordinate ongoing fire control activity with other flight attendants and flight crewmembers
23) Accept replacement by another flight attendant with PBE and extinguisher (as necessary) to perform continuous firefighting duties
24) Use follow-up procedures once fire appears extinguished
25) Monitor indications that PBE is reaching time limits of operation
26) Remove PBE as usefulness expires or need is eliminated
27) Position used PBE and extinguishers according to carrier procedure
28) Check conditions of passengers in immediate area
29) Report condition of fire and cabin to the flight crew
30) Complete required reports

The following information must be covered:

i. **Fire Prevention:** To include, F/A readiness; cabin checks, including stowage of articles which could contribute to fire; articles that may block air vents in the galley; lavatory checks, including importance of material and condition of trash container, spring-loaded door, smoke detection systems, and fire extinguishers; galley checks, including improper stowage of articles in the oven, safe oven operations, cooking/heating limitations, proper stowage of flammable materials around ovens/heating elements/lights and the importance of keeping areas around vents clear; enforcement of smoking regulations; and proper use of electrical equipment including use of circuit breakers. Crewmembers should also be alert to fires that can occur on board the aircraft while the aircraft is on the ground (e.g. during boarding).

ii. **Principles of Combustion and Classes of Fires:** To include, characteristics of an aircraft fire, including flash-over and criticality of time management; toxic fumes and chemical irritants; review of function, use and limitations of fire fighting equipment; fire fighting techniques; special factors, including cabin material flammability and toxicity; location of highly combustible and flammable items and equipment; confined space; evacuation of personnel from lower lobe galleys and cabin ventilation.

iii. **Basic Fire Fighting Procedures:** To include, immediately and aggressively fighting the fire; flight crewmember notification procedures; source identification; fire fighting

and crew coordination procedures; proper use of passengers who may be needed to assist; proper use of PBE, extinguishers and other firefighting equipment; effective use of aircraft communication systems; methods of gaining access to a fire source; methods of fighting "hidden fires"; smoke control and removal procedures; passenger reseating; passenger protection from smoke, fumes; follow up procedures and ongoing crew coordination.

iv. Extinguishing Cabin Fires: To include, crew coordination, including team response; procedures for extinguishing cabin fires to include lavatories; galleys/lower-lobe galleys, ovens; volatile fuel vapors; light ballast; cabin furnishings; stowage bins/hat racks; trash containers; clothing; fires of undetermined origin, source or location and fires hidden behind interior panels.

v. Electrical Equipment and Circuit Breakers: Procedures for circuit breaker use associated with galleys, service centers, lifts, lavatories, movie screens and other electrical equipment must be emphasized.

vi. External Fires on Ground: Crew coordination; role of F/A's for exterior aircraft fires; APU, jetway, ramp fires; notification of appropriate airport personnel if necessary.

Final Action: Final recommended action by Committee

Why we made changes:

v) The AC provides for additional tools that a crewmember can use to access a hidden fire. Examples of items that may be found in passenger carry on baggage…. To only limit the crash ax as a means of obtaining access may not be realistic in today's security sensitive arena.

Insert the changes as outlined above.

Resolved.

Notes:

Final Action:

Go forward with changes recommended by subcommittee.

RECOMMENDATION DOCUMENT

Number: FAQ 9.2

Issue:
Make the knowledge training regarding carry on baggage consistent with the information in 8400.10 /AC.

Nancy- IOU Integrate into QPS

Reccomendation:

Pg 37, I. Subject: Contents of Certificate Holder's Operations Specifications, 3. Task: Carry On Baggage Program/Procedures

a) The air carrier's carry-on baggage program as described in the COM to include carry on baggage limitations, procedures for baggage scanning and procedures for handling carry on baggage that does not meet these limitations or can't be accommodated in the passenger cabin
b) Person(s) responsible and procedures for scanning for amount and size

c) Weight and balance procedures and coordination with flight crew, if applicable
d) Safety implications of improperly stowed carry on baggage
e) Types of articles exempt from carry on baggage count
f) Procedures for handling/stowing carry on items exempt from the carry on baggage count
g) Definition of "properly stowed", to include that carry on baggage may not hinder access to emergency equipment
h) Methods of removing carry on baggage from airplane when necessary
i) Procedures regarding proper stowage of carry on baggage in the passenger cabin, to include underseat stowage.
j) Procedures for handling cargo or unusual items in the cabin
k) Procedures for the handling of cargo/in-seat baggage in the passenger compartment, to include the types of cargo that may be carried in the passenger cabin and the location of seats in which it may be stowed.
l) Procedures to ensure crewmember verification that each piece of carry on baggage is stowed properly prior to the last passenger entry door being closed, to include specific crewmember assignments and responsibilities.
m) Company procedures regarding the handling of carry on baggage during an aircraft evacuation

Pg 56, A Subject: Description of aircraft cabin…, 7 Task: Carry On Baggage Stowage

a) Description, location and function of stowage areas to include the following:
   1) Overhead compartments
   2) Open overhead Racks
   3) Closets
   4) Stowage compartments
   5) Underseat stowage restraint requirements
   6) Weight restrictions
   7) Restraint or latching requirements
   8) Required placards
   9) Location requirements for cargo/in-seat baggage and unusual items in the passenger cabin
   10) Designated areas for the carriage of pet containers in the passenger cabin
   11) Designated areas for the stowage of passenger assistance aids, such as wheelchairs, canes and crutches
   12) Any other carry on baggage stowage equipment or systems relevant to flight attendant duties and responsibilities

Resolved.

Committee Review: Summary of discussion with Committee

Final Action: Final recommended action by Committee

Go forward with changes recommended by subcommittee.

Notes:

RECOMMENDATION DOCUMENT

Number: FAQ 10.2

Issue:
"Bracket Drill" (Equipment mounting drill) to capture the requirement to be able to remove and replace all portable emergency equipment if not accomplished during the proficiency tasks specific to each piece of portable emergency equipment.

Discussion & Analysis

In an effort to integrate as much realism as possible into the proficiency drills, the FAA has developed proficiency tasks that initiate with the flight attendant removing the equipment used in the drill from it's bracket/securing system, prior to operation. The FAA also recognizes that some training equipment, facilities and scenarios make this training requirement difficult to support. It is important to give air carriers maximum flexibility to comply with the proficiency requirement that each flight attendant completely remove and replace each piece of portable emergency equipment from the bracket/securing system that is identical to those systems that a flight attendant would find on each aircraft on which they are qualified. Therefore, the FAA requires that each flight attendant comply with the requirement to remove and properly resecure each piece of portable emergency equipment in the individual drills, unless they have performed the same function for each piece of equipment during the Bracket Drill as outlined in the QPS.

Recommendation:

1) **Amend the QPS (Page 80 in July 2004 edited version):**

A. Performance Drill
13. Task: Bracket Drill

Equipment Mounting Drill (Bracket Drill)

Each piece of emergency equipment/training device must be in its fully secured/pinned position and using the identical bracketing/securing system that is used on the aircraft prior to being operated by each flight attendant during each drill or prior to being operated for each flight attendant during a bracket drill.

1. Completely remove each piece of portable emergency equipment from its bracket/securing system.

2. Resecure each piece of portable emergency equipment in its bracket/securing system or properly stow according to air carrier procedures.

2) Amend QPS in each individual drill to indicate that use of the brackets must be incorporated into the drill "unless accomplished during the Bracket Drill".

3) **Add language to preamble and INFO block to QPS to discuss this proposed requirement:**

In an effort to integrate as much realism as possible into the proficiency drills, the FAA has developed proficiency tasks that initiate with the flight attendant removing the equipment used in the drill from its bracket/securing system, prior to operation. The FAA also recognizes that some training equipment, facilities and scenarios make this training requirement difficult to support. It is important to give air carriers maximum flexibility to comply with the proficiency requirement that each flight attendant completely remove and replace each piece of portable emergency equipment from the bracket/securing system that is identical to those systems that a flight attendant would find on each aircraft on which they are qualified. Therefore, the FAA is proposing to require that each flight attendant comply with the requirement to remove and properly resecure each piece of portable emergency equipment in the individual drills, unless they have performed the same function for each piece of equipment during the Bracket Drill as outlined in the QPS.

4) **Add the Bracket Drill to the chart.**

Committee Review: Summary of discussion with Committee

Final Action: Final recommended action by Committee

Go forward with changes recommended by subcommittee.

Notes:

RECOMMENDATION DOCUMENT

Number: FAQ 11.2

Issue:

Preamble and guidance language to describe some examples of how a "hidden fire" may be simulated.

Lisa

Discussion & Analysis:

a) Discharge extinguisher in an appropriate manner if it is an actual or simulated "hidden fire" behind a panel, in a lavatory or with an undisclosed source of origin, using proper discharge procedures and bottle position.
(LISA- _Preamble and guidance language to describe some examples of how the "hidden fire" requirement can be simulated…smoking vent, hidden in an oven,)

Recommendation: Proposed rule adjustment if required and draft advisory/policy language.

1) Add to preamble and INFO block in QPS.

Effective training scenarios for firefighting should include realistic drills with emphasis on combating hidden fires. In order to provide realistic training, drills should simulate locations of hidden fires such as behind sidewall walls, in overhead areas, air conditioning vents or overhead panels. The intent of the training is to provide crewmembers with the obstacles that would be encountered onboard the aircraft, but it is not intended to have each student remove sidewall panels. A training program should incorporate a method to assess the hidden fire and to combat the hidden fire such as locating the source of the fire, if possible, before applying an extinguishing agent. Depending on the sophistication of the training device, the flight attendant could utilize a manual release tool that is designed to open the oxygen compartments in order to gain access to a fire that is suspected in that region; remove a cabin ceiling speaker cover by simply snapping it out of its fixture or moving carry - on baggage from an overhead compartment.

Committee Review: Summary of discussion with Committee
This rec addresses the hidden fire concern raised by NTSB.
FA Group needs to clarify that even if the exact source of the fire is not found the extinguisher should be used as close to the source as possible (FA QPS drills address this concern, see FAQ 7.2).

Final Action: Final recommended action by Committee

Go forward with changes recommended by subcommittee.

Notes:

RECOMMENDATION DOCUMENT

Number:
FAQ 12.2

Issue:
Examine the "practical ability" for air carriers to have "live fires" during recurrent. Should this remain as a one-time drill?

Wayne/Candace

2) Nancy- IOU Delete the requirement for a live fire every 36 months… look through the QPS to see where this requirement is. (Page 65, possibly the Chart, page 101)

Discussion & Analysis:

a) The flight attendant must satisfactorily accomplish at least one approved Protective Breathing Equipment/Firefighting drill in which the flight attendant combats an actual fire, during basic qualification training and at least once every 36 months thereafter, using at least one type of installed hand fire extinguisher that is appropriate for the type of actual fire being fought while using the type of installed PBE required by § 121.337 or an approved PBE simulation device.

(IOU- Wayne, carrier recurrent facilities where you can not have a live fire, Candace will check with NTSB)

Candace- NTSB did not consider the prohibitions against "live fires" in certain cities that also house many air carrier training facilities where recurrent training is conducted.

Currently, air carriers comply with the requirement for a one-time "live fire" drill during initial flight attendant training in a small number of facilities (Main Training Facilities). When an informal poll was conducted recently with large air carriers…at least 8 air carriers indicated that there was some type of restriction in place regarding "live fires" in some of their training locations where recurrent training is conducted.

Would be challenging and expensive, but not impossible.

Proposed rule greatly improves the fire fighting curriculum…maybe we can really concentrate on a improved drill/simulation:

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

QPS:

The flight attendant must satisfactorily accomplish the following during the drill:

b) Remove fire extinguisher from the brackets (if not accomplished during bracket removal drill)

c) Prepare extinguisher for use (e.g., rotate handle to pressurize, break tamper seals, pull pin, release safety latch, etc.)
d) Operate extinguisher discharge mechanism properly
e) Aim and discharge extinguisher at the base of the fire, (actual or simulated "open flame") using proper discharge pattern, bottle position and flight attendant body position.
f) Discharge extinguisher in an appropriate manner if it is an actual or simulated "hidden fire" behind a panel, in a lavatory or with an undisclosed source of origin, using proper discharge procedures and bottle position.

2) Nancy- IOU Delete the requirement for a live fire every 36 months… look through the QPS to see where this requirement is. (Page 65, possibly the Chart, page 101)

Recommendation: Proposed rule adjustment if required and draft advisory/policy language.

1) Delete all references to the requirement for a live fire every 36 months in the QPS.

Committee Review: Summary of discussion with Committee

Under the current and proposed rule live fire drills will be required for initial only. NTSB recommendation is for a live or simulated annual fire drill. However, local airport laws (and building codes) and costs make implementing annual live fire drills prohibitive at certain locations.
The FA group's recommendation would increase the fire drills in other ways to address the concerns raised by the NTSB. (See also, FAQ 31.2, FAQ 11.2) If an NTSB recommendation is not satisfied the FAA will need to respond to the NTSB and explain what other measures have been taken. The FAA will review the FA group's recommendations to determine if they satisfy the NTSB recommendations.

Final Action: Final recommended action by Committee
The committee believes that live fire drills are very important training tools. Some members of the committee believe that efforts should be made to overcome the legal and cost obstacles to performing annual live fire drills. The committee requests the FAA members to elevate this issue within the agency.

Go forward with changes recommended by subcommittee.

Notes:

RECOMMENDATION DOCUMENT

Number: FAQ 13.2

Issue:

Adjust training requirements chart to remove the slide transfer observation drill and knowledge training requirements.

Wayne provides info and we discuss in October.

Discussion & Analysis:

Current regulatory requirement is that this observation drill must occur every 24 months.

The proposed rule relieves air carriers from the requirement to accomplish this observation drill every 24 months and requires them to include this as a one-time drill in Basic Qualification.

Discussion: It is highly improbable that a flight attendant will ever actually transfer a slide/raft pack. Many air carriers do not incorporate this as a procedure. Training time could be better spent elsewhere. Attempting to accomplish the slide/raft pack transfer could create a hazardous situation.

It is felt that the observation drill gives trainees an opportunity to consolidate/visualize this knowledge training. Much of flight attendant emergency training is to prepare flight attendants for situations that are highly improbable.

Wayne- Will research/provide information that speaks to any aircraft manufacturers/CAMI/NTSB that indicate that this maneuver is not recommended.

(9/20/2004)

AWXA-ATA-RAA-not prepared to spend training time on knowledge training for a procedure that is contrary to safety (as per manufacturer)- Propose to remove

knowledge requirement
No knowledge requirement-No observation drill-
Putting a flight attendant in harm's way by giving them an unrealistic expectation that would be reinforced in training on this as a viable option.

Holly-In the proposed rule, the observation drill was removed by the FAA team.

Need proof that it is effective, that it can be accomplished.

Lisa- We need documentation to use in the preamble to remove the training requirement (Knowledge and observation)…."Contrary to Safety" aspects-rationalization of removal

Decision for team to review documents and wait until Candace is here on Thursday…Then will discuss it.

After review of all documents provided by Wayne, team discussion and discussion with CAMI researchers:

October 1, 2004:

During the development of this proposed rule, a careful review of available information on the subject of the transfer of slide/raft installations by flight attendants was conducted. The information that was considered included a report published by the FAA's Civil Aerospace Medical Institute (CAMI) (DOT/FAA/AM-98/19), information provided by a large manufacturer of slide/rafts, as well as additional documents.

The original crewmember training requirements required knowledge and observation drills addressing the portability of rafts from one exit to another. Since the time that the original training requirements were written, modern slide/rafts have primarily become door mounted, highly integrated, complex installations. The size and weight of door mounted slide/rafts also complicates their portability within the aircraft cabin. In the discussion section of the CAMI report referenced in the previous paragraph, the authors raise the question of how effectively flight attendants could move stowed rafts to exits or slide/rafts from unusable exits to accessible door-ways, even with the help of able-bodied passengers. In addition, the possibility of inadvertent inflation of the slide/raft assembly during the transfer process must also be considered.

For the reasons above, many air carriers do not incorporate the transfer of slide/rafts from one door to another in their ditching procedures. The FAA finds that it is not appropriate to require observation and knowledge training on a maneuver that may be difficult at best and, at worst, contrary to safety. Therefore, the FAA is removing the requirement for the Slide/Raft Transfer knowledge training and observation drill from the proposed rule.

Recommendation:

Remove the requirement for an observation Drill. Keep requirement for knowledge training.
PREAMBLE LANGUAGE:

During the development of this proposed rule, a careful review of available information on the subject of the transfer of slide/raft installations by flight attendants was conducted. The information that was considered included a report published by the FAA's Civil Aerospace Medical Institute (CAMI) (DOT/FAA/AM-98/19), information provided by a large manufacturer of slide/rafts, as well as additional documents.

The original crewmember training requirements required knowledge and observation drills addressing the portability of rafts from one exit to another. Since the time that the original training requirements were written, modern slide/rafts have primarily become door mounted, highly integrated, complex installations. The size and weight of door mounted slide/rafts also complicates their portability within the aircraft cabin. In the discussion section of the CAMI report referenced in the previous paragraph, the authors raise the question of how effectively flight attendants could move stowed rafts to exits or slide/rafts from unusable exits to accessible door-ways, even with the help of able-bodied passengers. In addition, the possibility of inadvertent inflation of the slide/raft assembly during the transfer process must also be considered.

For the reasons above, many air carriers do not incorporate the transfer of slide/rafts from one door to another in their ditching procedures. The FAA finds that it is not appropriate to require observation and knowledge training on a maneuver that may be difficult at best and, at worst, contrary to safety. Therefore, the FAA is removing the requirement for the Slide/Raft Transfer knowledge training and observation drill from the proposed rule.

Committee Review: Summary of discussion with Committee
Final Action: Final recommended action by Committee Go forward with changes recommended by subcommittee.
Notes:

RECOMMENDATION DOCUMENT
Number: FAQ 15.2
Issue: Reorganize content, and change the titles of "Unforwarned Water Landing" and "Forward Water Landing" to "Unplanned Water Landing" and Planned Water Landing". Section 10. Task: Evacuation Drill As of September Meeting-New Assignment: This is all that should go here: 10. Planned Evacuation (Land) Planned Ditching Then: These would go under a new task called evacuation drill. Unplanned Water Evacuation Unwarranted Evacuation

Unplanned Evacuation (Land)

Then:

We are going to have a Wet Ditch Drill (One time) and a dry ditch drill (recurrent).

These drills are only required for air carriers that are authorized to conduct overwater operations. Consider how we will set up the requirements for recurrent training. Words/Chart/Info block (preamble language)

Discussion & Analysis:

Many of the tasks required in the above titled drills are not possible to accomplish e.g. "stay attached to the aircraft as long as practical", "decontaminate fuel from raft". While these procedures are valid required knowledge, the proposed QPS outlines them in a drill. These tasks, and similar tasks, should be designated as "review procedures for…."

Recommendation:

Conduct A Cabin Preparation and Evacuation for a Planned Water Landing (Ditching)

Notification from the flight deck to include:

a) Use of emergency notification signal
b) Confirmation from the flight deck that an emergency landing and evacuation are anticipated.

Communicate with PIC to obtain the following essential information:

a) Find out how much time there will be until landing
b) Find out what type of landing is anticipated (i.e. on runway, gear down, gear up, windy, which doors can be used)
c) Establish/confirm signal to assume brace for impact position
d) Confirm signal to evacuate
e) Coordinate with other flight attendants (if applicable)

Prepare the cabin to include the following:

a) Secure galley ensuring all galley components and supplies are properly restrained
b) Adjust cabin lights to full bright

c) Deliver emergency announcement/demonstration
d) Direct passengers to don life vests and instruct them on use
e) Don crew life vest
f) Instruct passengers to secure seatbelts low and tight and review how to release seat belts
g) Instruct passengers on brace for impact position(s) beginning with the position to be assumed by the majority of passengers
h) Conduct passenger review of passenger safety information card
i) Instruct passengers on location of exits (primary and alternate)
j) Direct passenger attention to the location of emergency floor level lighting
k) Instruct passengers on how to exit down slides/out windows
l) Direct passengers to leave everything behind
m) Direct passengers to stay low in a smoke filled cabin
n) Reseat passengers as necessary

Brief helper passengers on tasks

a) Brief helpers on positioning raft according to carrier procedures
b) Transfer slide/raft from one door to another if needed
c) Brief helpers on use of slide/raft as raft
d) Brief helpers on launching raft or slide/raft
e) Include information on launching and other actions necessary to prepare it for use as a raft
f) Prepare for landing, to include preparation of exits as per air carrier procedures
g) Complete compliance check for passenger seat belts fastened and everything stowed
h) Provide last minute instructions to passengers
i) Check exits to ensure they are ready for evacuation
j) Adjust cabin lighting to dim setting
k) Use proper techniques to fasten flight attendant restraint system
l) Assume flight attendant protective brace position
m) Command passengers to assume protective brace position and continue to shout brace commands until the aircraft has come to a complete stop

Perform assigned duties following impact to include the following:

a) Coordinate with other crewmembers
b) Open seat belts
c) Assess conditions {watch for water line}
d) Activate emergency lights
e) Aggressively initiate evacuation using communication protocols
f) Activate evacuation signal
g) Shout commands to passengers (e.g., “Open seat belts,” “Come this way”)
h) Conduct evacuation at floor level exits as follows:

1) Apply forces necessary to open door in emergency mode and under possible adverse conditions
2) Take appropriate precautions for door hazard conditions
3) Hold onto assist handle
4) Open the exit

5) Use manual operation if pneumatic operations fail
6) Secure the exit in the fully open position
7) Pull the manual inflation handle(s) and verify deployment, inflation (if applicable)
8) Review deployment procedures forinflated slide and launch rafts if aircraft equipped with life rafts
9) Simulate evacuatating passengers into raft, slide/raft, or water
10) Maintain appropriate protective body and hand positions
11) Shout door commands to passengers (e.g., "Step into raft," "Stay low", and "Inflate vest")
12) Use passenger flow management control
13) Direct passengers to most useable doors
14) Give commands to helpers
15) Ensure evacuation of passengers needing assistance
16) Inflate crew life vest

j) Conduct evacuation at over wing exit

1) Go to exit (if part of assigned duties)
2) Remove hatch
3) Dispose of hatch as per air carrier procedures
4) Review raft launching proceduresin over wing area
5) Use escape ropes/tapes at overwing area (if applicable)
6) Give commands to passengers on how to egress through exit
7) Control passenger flow at over wing area
8) Review procedures for evacuation of passengers needing assistance

k)

Conduct A Cabin Preparation and Evacuation for an Unplanned Water Landing (Ditching)

Perform the following:

a) Issue Brace for Impact commands at the first sign a problem exists which could lead to impact or evacuation
b) Remain seated until the aircraft comes to a complete stop
c) Coordinate with other crewmembers
d) Open seat belts
e) Assess conditions {watch for water line}
f) Activate emergency lights
g) Aggressively initiate evacuation using communication protocols
h) Activate evacuation signal
i) Shout commands to passengers (e.g., "Open seat belts," "Come this way")
j) Conduct evacuation at floor level exits as follows:
1) Apply forces necessary to open door in emergency mode and under possible adverse conditions
2) Take appropriate precautions for door hazard conditions
3) Hold onto assist handle
4) Open the exit
5) Use manual operation if pneumatic operations fail

6) Secure the exit in the fully open position
7) Pull the manual inflation handle(s) and verify deployment, inflation (if applicable)
8) Review procedures to inflated slide and launch rafts if aircraft equipped with life rafts
9) Evacuate passengers into raft, slide/raft, or water
10) Maintain appropriate protective body and hand positions
11) Shout door commands to passengers (e.g., "Step into raft," "Stay low," and "Inflate vest")
12) Use passenger flow management control
13) Direct passengers to most useable doors
14) Give commands to helpers
15) Ensure evacuation of passengers needing assistance
16) Inflate crew life vest

k) Conduct evacuation at over wing exit

1) Go to exit (if part of assigned duties)
2) Remove hatch
3) Dispose of hatch as per air carrier procedures
4) Review procedures to launch rafts in over wing area
5) Use escape ropes/tapes at overwing area (if applicable)
6) Give commands to passengers on how to egress through exit
7) Control passenger flow at over wing area
8) Ensure evacuation of passengers needing assistance

Committee Review: Summary of discussion with Committee

Final Action: Final recommended action by Committee

Go forward with changes recommended by subcommittee.

Notes:

RECOMMENDATION DOCUMENT

Number: **FAQ 20.2**

Issue:

Separate all proficiency drills into four sections (Task, Standard, Environment, Awareness Items)

Discussion & Analysis:

Original

B. Subject: Exit Device Operation

2. Task: Floor Level Door Exit Operation (Emergency Mode)

Each flight attendant must satisfactorily accomplish the following drill:

a) Operate each different floor level exit in the emergency mode
b) Proper use of flight attendant restraint system
c) Recognize the signal for or the conditions under which the exit is to be opened in the emergency mode
d) Verify the exit is in the correct mode
e) Follow crew coordination procedures
f) Use proper commands to passengers
g) Assess conditions outside the exit to determine the exit usability (e.g., clear of obstruction, fire, aircraft attitude)
h) Position escape device (if applicable)
i) Hold onto assist handle
j) Open the exit in the armed mode and secure the exit in the fully open position
k) Pull the manual inflation handle(s) and verify deployment, inflation(e.g., ramp, slide)
l) Maintain appropriate protective body and hand positions
m) Access release handle(s) (e.g., Slide disconnect, jettison tailcone, ventral stairs, etc.)

Standard: Commands must be aggressive and easily understood. Flight attendant performance must be observed, tested and debriefed according to the following:

a) Acknowledges and responds quickly to signals
b) Assesses conditions outside the exit to determine exit usability
c) Holds onto assist handle
d) Correctly uses exit operating mechanism including hand and body position
e) Uses proper commands and procedures
f) Correctly positions escape device
g) Secures exit in fully opened position or ensures correct stowage position
h) Pulls manual inflation handles and verifies deployment, inflation (e.g., ramp, slide)
i) Assumes and maintains appropriate protective hand and body positions
j) Correctly accesses release handles (e.g., slide disconnect, tailcone jettison, ventral stairs)
k) Correctly applies procedures (e.g., positioning of seatbacks, armrests)

Recommendation:

1) Amend the QPS performance drills to accommodate this requirement:

See current version of Flight Attendant QPS. This convention has been incorporated into all proficiency drills.

Committee Review: Summary of discussion with Committee

Final Action: Final recommended action by Committee

Go forward with changes recommended by subcommittee.

Notes:

RECOMMENDATION DOCUMENT

Number: FAQ 21.2

Issue:
Operation and use of the life vest and seat cushion as a means of flotation should be performed in the wet ditch drill

Discussion & Analysis:
The life vest is a crewmembers only means of flotation during a water evacuation. Additionally, the seat cushion can potentially be the only means of flotation for passengers. It is necessary for flight attendants to have the confidence in and experience in the use of both pieces of equipment.

11. Task: Wet Ditching Drill

The flight attendant must satisfactorily accomplish the following approved wet ditching drill to include crew coordination procedures, cabin preparation and passenger preparation as applicable to the air carrier's procedures and approved extended overwater operations. This is a one time emergency drill requirement that the flight attendant must accomplish for the certificate holder for which the flight attendant is employed. This one time drill must be given in basic qualification or transition training, whichever training initially qualifies the flight attendant to serve on an airplane that is used for extended overwater operations.

Activities prior to raft boarding may be done in classroom, airplane, or airplane mockup. Raft boarding and subsequent activities must be done in water. Lifesaving equipment must be identical to that installed in the air carrier's aircraft on which the flight attendant is to be qualified with respect to weight, dimension, appearance features and operation. Rafts may be substituted where they are much the same with respect to weight, dimension, appearance features and operation and differences training has been provided, with the approval of the Administrator. The drill must include proper crew coordination procedures. The flight attendant must participate in the following drill

Each flight attendant must demonstrate the following while participating in the drill:

a) Don and use life vest as a means of flotation
b) Recognize life vest locator light
c) Use flotation seat cushion for adult and child/infant
c) Boarding a raft
d) Effective raft management (e.g., distribution of passengers, deploying sea anchor, etc.)
e) Use of heaving lines/life lines
f) Erecting the raft canopy
g)
h) Passenger management, including distribution of duties to passengers

i)

Committee Notes:

FA Group will consider terminology – Ditching Survival Drill.

Final Action: Final recommended action by Committee

Go forward with changes recommended by subcommittee.

RECOMMENDATION DOCUMENT

Number: FAQ 22.2

Issue:

Inclusion of suggested commands at the overwing exits during evacuation drills.

dd. Give commands to passengers on how to egress through exit (e.g., "Step out," "Leg first")

Discussion & Analysis:

Information regarding the effective use of commands at overwing exits is contained in an FAA CAMI published report, "Access-to-Egress II: Subject Management and Injuries in a Study of Emergency Evacuation Through the Type-III Exit" (DOT/FAA/AM-03/15). While this subject is not the main issue being researched, it was a point raised in the discussion section of the report by the researchers that is pertinent to the use of commands at the overwing in an evacuation.

Specifically, that during the evacuation scenarios, the incidence of injuries of test subjects as they evacuated through the overwing exit was much greater when they were given commands that contained specific instructions for evacuating (Step through- Foot first), then in evacuation scenarios that only contained general commands at the overwing exits (Get out).

A discussion with one of the primary researchers (Cynthia Corbett) indicated that it was her conclusion that the difference in the two scenarios, and the two different sets of commands was that the general command (Get out) allowed passengers to "use exit strategies that were more comfortable for them instead of being told what to do (Step through-Foot first)"…and this resulted in a lesser number and less severe injuries to the people who were evacuating the

airplane.

10/25/2004

As a group we have decided that all examples of commands should be taken out of the QPS. All references should be "To give commands"….with no examples of what the commands should be. Could be construed as the FAA giving "the right" commands.

Recommendation:

Remove the command "Step through-Foot First" at the overwing for the evacuation drills.

Committee Review: Summary of discussion with Committee

Final Action: Final recommended action by Committee

Go forward with changes recommended by subcommittee.

Notes:

RECOMMENDATION DOCUMENT

Number: 24.2

Issue: Review of turbulence training to determine if the is a need to add curriculum items based on the Turbulence Advisory Circular (Part of the Administrator's Flight Plan 2004-2008, Strategic Initiative to reduce the number of cabin injuries caused by turbulence)…scheduled to be published before the end of 2004.

Discussion & Analysis:

In order for the QPS to be consistent with published FAA guidance, as we were with Carry On Baggage procedures and Fire procedures, I propose we coordinate the turbulence training curriculum with the soon to be published Turbulence AC.

Recommendation:

B. Subject: Emergency Situations

6. Task: Turbulence

a) Awareness of turbulence hazards, aircraft behavior in turbulence and the need to maintain personal safety
b) Predeparture briefing regarding forecast turbulence related weather conditions
c) Announcement requirements
d) Two way communication and coordination procedures between flight crewmembers and flight attendants during all phases of flight, to include the use of the Fasten Seat Belt sign
e) Standardized phraseology and communications regarding anticipated time, intensity and duration of turbulence encounters
f) Procedures promoting voluntary passenger seat belt use and compliance with the Fasten Seat Belt sign
g) Review of company history regarding turbulence encounters and injuries, as appropriate
h) Location and use of emergency handholds available in the cabin, galley and lavatories(such as handles, grab bars or interior wall cutouts) by flight attendants and passengers who are not seated and restrained during turbulence
i) Procedures regarding anticipated and unanticipated turbulence encounters to include:

1) Flight attendant notification by the flight deck
2) Assessing the severity of the turbulence and initiating standard operating procedures based on that assessment
3) Prioritization of flight attendant duties
4) Securing galley and passenger cabin
5) Flight attendant's personal safety
6) Handling flight attendants who may become incapacitated during a turbulence

encounter
7) Handling passengers who may become injured during a turbulence encounter

Committee Review: Summary of discussion with Committee

Final Action: Final recommended action by Committee

Go forward with changes recommended by subcommittee.

Notes:

RECOMMENDATION DOCUMENT

Number: FAQ 27.2

Issue:
Dry Ditch Drill (Ditching Survival Dry Training Environment)

Discussion & Analysis:
Some of the required training tasks cannot be accomplished during a wet ditch drill. Additionally the wet ditch drill is a one time drill that contains important emergency procedures which should be reviewed during recurrent training. The development of the dry ditch drill enables carriers to review associated ditching emergency procedures in a classroom environment.

11. Task: Dry Ditch Drill

The flight attendant must participate in the following approved dry ditching drill as applicable to the air carrier's procedures and approved extended overwater operations. This drill may be used in conjunction with the one time wet ditching drill to initially qualify the flight attendant to serve on an airplane that is used for extended overwater operations. In addition, this drill must be performed during recurrent or requalification training as per the QPS.

Lifesaving equipment must be identical to that installed in the air carrier's aircraft on which the flight attendant is to be qualified with respect to weight, dimension, appearance features and operation. Rafts may be substituted where they are much the same with respect to weight, dimension, appearance features and operation and differences training has been provided, with the approval of the Administrator.

The flight attendant must participate in the following drill:

a) Identify boarding station and board raft.

b) Review the need to crawl and stay low.

c) Distribute the load

d) Review the need to stay attached to the aircraft as long as possible, and operation of the quick disconnect.

e) Review the need to get clear of fuel-covered water and debris.

f) Locate and deploy the sea anchor.

g) Discuss the importance of upwind and downwind.

h) Retrieve the survival kit and review contents.

i) Identify inflation valve and review operation of inflation pump and raft repair kit

j) Identify bailing bucket, sponge, etc for bailing raft dry.

k) Install the canopy and discuss methods for collecting rain water and water purification techniques.

l) Demonstrate how canopy can be used in both hot and cold climates.

m) Review signaling devices located in survival kits.

n) Discuss the cautions associated with flares and sea dye marker and proper use.

o) Point out raft lights.

p) Review alternate signaling devices (e.g. mirrors).

q) Locate and demonstrate use of heaving line. Review techniques to retrieve survivors.

Committee Review: **Summary of discussion with Committee**

Final Action: Final recommended action by Committee

Go forward with changes recommended by subcommittee.

RECOMMENDATION DOCUMENT

Number: FAQ 28.2

Issue:

Jumpseat Drill

Discussion & Analysis

8/25/2004

Wayne will conduct a poll of ATA air carriers to determine the availability of flight attendant jumpseats attached to door trainers.

Approximately 26% of the door trainers used by ATA carriers that responded to the poll did not have jumpseats attached to the door trainer.

Look at first two bullet points. Is it appropriate to require each flight attendant to start from the jumpseat for each door drill? Is it practical/possible?

(9/21/2004)

If not, how do we meet the intent of the proposed requirement?

Possibility of options. Not all flight attendants will have to open the exit in the emergency mode ALWAYS from a seated position. A flight attendant could be walking to their jumpseat, could be in the cabin during taxi, etc. when they have to open the exit.

Is there a way to ensure that each flight attendant:

Gets one chance to do a drill that starts from a seated position in a jumpseat in Basic Qualification. (Agree) Basic Qualification –you haven't spent any time in the jumpseat.

Jumpseat drill would be along the lines of a one time drill (slide evac drill) same concept

Gets to have the opportunity to "have a hands on training opportunity for use of the jumpseat on each airplane they are qualified on (Could be accomplished in AOE)

Recurrent- Possibility of knowledge and observation requirement. Flexibility to start from several positions in the cabin. By the time they go to recurrent, the flight attendant has been in and out of jumpseats many times. This is the difference.

Concern regarding recurrent…. Proficiency drill requirement may be needed to refresh Flight attendant knowledge regarding the proper use of restraint systems.

This would one type of jumpseat from any airplane the flight attendant is qualified on to get "general" jumpseat knowledge. (Low and tight, use of shoulder harnesses, proper use of jumpseat and restraint systems)

Nancy- Rewrite the proposal for the new and improved jumpseat rule. Kind of like the evacuation drill- You are reinforcing technique… which is not really equipment specific. Has to occur for only one type of aircraft during Basic Qualification and recurrent (i.e. Low and tight, use of shoulder harnesses, proper use of jumpseat and restraint systems)

Recommendation:

1) Add to the QPS:

A. Subject: Performance Drills

12. Task: Jumpseat Drill

This is an emergency drill requirement that the flight attendant must accomplish for the certificate holder for which the flight attendant is employed. This drill is not required if the flight attendant has accomplished this drill using at least one type of installed jumpseat from an aircraft on which the flight attendant will be qualified to serve during an exit operation drill or evacuation drill.

Each flight attendant must satisfactorily accomplish a jumpseat drill by using at least one type of installed jumpseat from an airplane on which the flight attendant will be qualified to serve.

The flight attendant must satisfactorily accomplish the following during the drill, if not already accomplished during any exit operation or evacuation drill:

a) Preflight check of the jumpseat
b) Properly secure restraint system
a) Demonstrate brace position appropriate for jumpseat location on aircraft, as per air carrier procedures
b) Proper methods of releasing restraint device, as per air carrier procedures
c) Proper method of stowing jumpseat and restraint system, as per air carrier procedures

2) ADD to preamble and to an INFO block above the JUMPSEAT DRILL

The FAA recognizes that proper use of the flight attendant jumpseat and restraint system is integral to a flight attendant being able to initiate an effective aircraft evacuation. The proposed rule has a requirement for flight attendants who receive Initial or Transition training on any aircraft type to receive knowledge training on the use of that type aircraft's jumpseats. In addition, the proposed rule requires "hands on" practice in each aircraft type's jumpseat during Basic Qualification training or Aircraft Operating Experience (AOE).

The FAA also recognizes that flight attendants will not always be seated in their jumpseats when they may have to open an exit in the emergency mode during an evacuation. For example, a flight attendant could be in the cabin performing safety related duties during aircraft taxi, or in the cabin of an aircraft that is parked at the gate during boarding when an evacuation may need to be initiated. Therefore, in the proposed rule, the FAA requires that during the accomplishment of proficiency drills during basic qualification,, the flight attendant must operate at least one exit from a seated position in at least one type of installed jumpseat from an aircraft on which the flight attendant will be qualified to serve during an exit operation drill, evacuation drill or jumpseat drill. The intent of these requirements is to give flight attendants an opportunity to reinforce effective jumpseat techniques during exit operation, but allows air carriers the flexibility

to incorporate other "starting points" into exit operation scenarios.

3) Amend QPS Chart to require Jumpseat Drill (proficiency)during Basic Qual (Initial), Jumpseat Drill (observation) during Recurrent and Requal.

Committee Review: Summary of discussion with Committee

FA group will review use of word Jumpseat in the regulations [see 785(h)]. Define jumpseat in QPS.

Final Action: Final recommended action by Committee

Go forward with changes recommended by subcommittee and with further FA subcommittee review.

Notes:

RECOMMENDATION DOCUMENT

Number: FAQ 30.2

Issue:

Need additional curriculum requirements regarding compliance with DOT 382 Nondiscrimination on the Basis of Disability in Air Travel.

Discussion & Analysis:

Current curriculum requirements under Flight Attendant Duties and Responsibilities do not adequately address flight attendant training requirements in the area of Passenger Handling/Persons with disabilities.

I. Area: Flight Attendant Duties and Responsibilities - Normal

A. Subject: Pre-movement on the surface

1. General
2. Passenger Boarding
3. Galley Security
4. Compliance Check

Recommendation:

1) Amend the QPS to add a task #3 under:

I. Area: Flight Attendant Duties and Responsibilities - Normal

A. Subject: Pre-movement on the surface

1. General
2. Passenger Boarding
3. Passengers With Disabilities
4. Galley Security
5. Compliance Check

A. Subject: Pre-movement on the surface

3. Passengers With Disabilities

a) DOT Part 382 Nondiscrimination on the Basis of Disability in Air Travel
b) Air carrier and crewmember responsibilities regarding compliance with DOT 382
c) Cabin accommodations such as onboard wheelchairs, accessible lavatories, movable armrests, collapsible armrests
d) Types of service animals, to include unique service animals, lap-held service animals and emotional support service animals
e) Location and placement of service animals
f) Types of assistive devices that are designed for and used by people with disabilities
g) Location and placement of assistive devices, to include specific air carrier procedures regarding stowage of a passenger's folding wheelchair in the cabin
h) Assistive devices are not included in the number of carry on items that each passenger is allowed to bring onboard
i) Use of postural support devices by people with disabilities
j) Passenger briefings for people with disabilities

k) Procedures for handling passenger disputes regarding compliance with DOT Part 382
l) Role of the air carrier's compliance resolution official (CRO)
m) Additional passenger handling considerations and/or air carrier procedures

Committee Review: Summary of discussion with Committee

Resolved/Consensus

Final Action: Final recommended action by Committee

Go forward with changes recommended by subcommittee.

Notes:

RECOMMENDATION DOCUMENT

Number: FAQ 31.2

Issue:

The training value of the "live fire drill" is to give a flight attendant the confidence that they can fight a fire and win. Does it have to be with an installed fire extinguisher?

Discussion & Analysis:

Current Rule states:

ii) At least one approved firefighting drill in which the crewmember combats an actual fire using at least one type of installed hand fire extinguisher or approved fire extinguisher that is appropriate for the type of fire to be fought.

and proposed QPS limits the type of extinguisher to be used as "installed":

b) The flight attendant must satisfactorily accomplish at least one approved Protective Breathing Equipment/Firefighting drill in which the flight attendant combats an actual fire, during basic qualification training, using at least one type of installed hand fire extinguisher that is appropriate for the type of actual fire being fought while using the type of installed PBE required by § 121.337 or an approved PBE simulation device.

Current guidance:
Allows air carriers to use any type of hand held fire extinguisher to accomplish the live fire drill…as long as the flight attendant operated every fire extinguisher on the airplane during performance drills. This rationale is that this is training exercise to prove to flight attendants they can fight a fire and win…not a training exercise on how to operate an installed fire extinguisher.

The guidance is inconsistent with the current rule…we have a chance to "clean up" the current rule.

Large airlines may have no problem complying with this (installed)…but smaller air carriers that use local fire departments to give this training experience…usually have to deal with the local fire department wanting to use a dry chemical. fire extinguisher (Halon hurts the environment and water is not to be used on the typical "training fire" which is usually a tub of flammable liquid)

230. AIR CARRIER OPERATIONS BULLETIN NO. 1-94-29

TRAINING ON PROTECTIVE BREATHING EQUIPMENT, OTHER FIRE CONTROL EQUIPMENT, AND RELATED TRAINING DRILLS.

In part….

(5) Any fire extinguisher may be used when the crewmember fights an actual fire as long as the crewmember performs an additional fire extinguisher drill using a hand fire extinguisher of the type installed by the operator. The purpose of fighting an actual fire is to provide crewmembers with the opportunity to experience the effects of facing an actual fire. Of course, air carriers may elect to use an installed fire extinguisher for the actual firefighting drill.

(6) There is no requirement that a HALON fire extinguisher must be discharged during the firefighting drill required by FAR Sections 121.417 and 135.331. The discharge of HALON for training purposes is not appropriate unless a training facility is used that

is specifically designed to prevent harm to the environment from the discharged HALON. When such facilities are not used, other fire extinguishing agents, which are not damaging to the environment, should be used during the drills.

December Meeting Discussion:

All team members: Want to use a fire extinguisher that is installed in an aircraft that the flight attendant is qualifying in.

The FAA finds that, although the firefighting experience is valuable, using an extinguisher that is not found on the aircraft (different duration, size weight, operation, appearance, features such as a hose) could result in negative learning for the flight attendant. In the proposed rule, the FAA should require that the air carrier use an extinguisher that replicates the features and operating mechanisms as the installed fire extinguishers, with the exception of the extinguishing agent.

Resolved/Consensus

Recommendation:

1) Leave the Flight attendant QPS as:

The flight attendant must satisfactorily accomplish at least one approved Protective Breathing Equipment/Firefighting drill in which the flight attendant combats an actual fire, during basic qualification training, using at least one type of installed hand fire extinguisher that is appropriate for the type of actual fire being fought while using the type of installed PBE required by § 121.337 or an approved PBE simulation device.

2) Add preamble language:

The current rule requires at least one approved firefighting drill in which the crewmember combats an actual fire using at least one type of installed hand fire extinguisher or approved fire extinguisher that is appropriate for the type of fire to be fought.

The FAA finds that, although the firefighting experience is valuable, using an extinguisher that is not found on the aircraft , with different duration, size weight, operation, appearance, features (such as a hose), could result in negative learning for the flight attendant. In the proposed rule, the FAA requires that the air carrier use an extinguisher that replicates the features and operating mechanisms as the installed fire extinguishers, with the exception of the extinguishing agent.

Committee Review: Summary of discussion with Committee
Final Action: Final recommended action by Committee Go forward with changes recommended by subcommittee.
Notes:

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RECOMMENDATION DOCUMENT
Number: FAR 1 121.864 Training for flight attendant ground school instructors
Issue: Consider establishing a training requirements/curriculum for flight attendant ground school instructors. "Train the trainer" Establish criteria/qualifications/training to be qualified as a flight attendant ground school instructor. Establish initial and recurrent training requirements and curriculum. See the language that is used for the Dispatcher Ground School Instructor qualification [121.468a]. This might work.

Discussion & Analysis:

Group discussion at September meeting: All F/A training or just training on the subjects you are going to teach?

Tim has submitted some verbiage. Will take another look at:

- How much of flight attendant training must the instructor successfully complete?
- Must they complete all flight attendant training even if they only teach certain modules subjects?
- Initial cadre issues
- Do we want to change the title to Flight Attendant Ground Instructor Training
- #8 reworded to meet the requirements of Basic Qualification training

Recurrent

- Train the trainer
- Curriculum review that they will be teaching
- Company policies and procedures
- New training techniques
- New procedures regarding the use of training equipment

Joe question- If someone is in a wheel chair, how do we say "must complete all flight attendant training to the extent that is physically possible and then is prohibited from teaching anything that are not able to physically accomplish themselves"? See below:

(b) A person must meet the requirements of (a) and may conduct flight attendant ground training in all tasks, as identified in the Flight Attendant QPS, except for those performance drills that the person cannot physically perform.
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

121.XXX was added to establish criteria and training for flight attendant ground school instructors. It is the intent of this proposed requirement is to codify the current effective practice of establishing Initial and recurrent training for flight attendant ground school instructors. It is

believed that this training is necessary to ensure that flight attendant training is delivered by knowledgeable and competent instructors.

This criteria establishes a requirement that each flight attendant ground school instructor be a qualified flight attendant for the air carrier. However, it is also recognized that it may be appropriate to have an alternate set of criteria for people who may not be able to meet this requirement. For example, one set of alternate criteria is established in 121.XXX (a) (1) for a full-time flight attendant instructor who may not "work the line" or maintain recency requirements in order to be fully qualified as a flight attendant. Another set of alternate criteria is established in 121.XXX (b) for a flight attendant instructor who may not be physically able to perform all of the proficiency tasks required to become fully qualified as a flight attendant. Therefore, alternate criteria is established to address this issue, but still ensures that all flight attendant ground school instructors have completed the approved flight attendant training program. .

RESOLVED- December Meeting

Recommendation:

1 Create new regulation:

FAR 121.XXX Curriculum and qualification requirements: flight attendant instructors

(a) Except as provided in paragraph (b) of this section and section 121.864, no certificate holder may use a person to conduct flight attendant ground school training unless that person;

(1) Is qualified to serve as a flight attendant for the certificate holder; or has satisfactorily completed all required flight attendant ground training, and within the past 12 months, completed initial or recurrent flight attendant training for the certificate holder; and

(2) Has within the past 12 months satisfactorily completed initial or recurrent flight attendant instructor training as follows;

(A) Training policies and procedures
(B) Instructor duties, functions and responsibilities
(C) The applicable regulations of this chapter and the certificate holder's policies and procedures.
(D) Appropriate methods, procedures and techniques for conducting ground training, to include performance drills
(E) Evaluation of student performance.
(F) Appropriate action in the case of unsatisfactory performance.
(G) The approved methods, procedures and limitations for instructing and evaluating in the required normal, abnormal and emergency procedures applicable to the airplane.
(H) Curriculum review

(b) A person must meet the requirements of (a) and may conduct flight attendant ground training in all tasks, as identified in the Flight Attendant QPS, except for those performance drills that the person cannot physically perform.

2) Add preamble language.

121.XXX was added to establish criteria and training for flight attendant ground school instructors. It is the intent of this proposed requirement is to codify the current effective practice of establishing Initial and recurrent training for flight attendant ground school instructors. It is believed that this training is necessary to ensure that flight attendant training is delivered by knowledgeable and competent instructors.

This criteria establishes a requirement that each flight attendant ground school instructor be a qualified flight attendant for the air carrier. However, it is also recognized that it may be appropriate to have an alternate set of criteria for people who may not be able to meet this requirement. For example, one set of alternate criteria is established in 121.XXX (a) (1) for a full-time flight attendant instructor who may not "work the line" or maintain recency requirements in order to be fully qualified as a flight attendant. Another set of alternate criteria is established in 121.XXX (b) for a flight attendant instructor who may not be physically able to perform all of the proficiency tasks required to become fully qualified as a flight attendant. Therefore, alternate criteria is established to address this issue, but still ensures that all flight attendant ground school instructors have completed the approved flight attendant training program.

Committee Review: Summary of discussion with Committee

Resolved/Consensus

Final Action: Final recommended action by Committee

Go forward with changes recommended by subcommittee.

Notes:

RECOMMENDATION DOCUMENT

Number: FAR 5 121.883

Issue:

Define eligibility for transition training. Define clearly that the only difference between Initial and Transition Aircraft Training is that Aircraft Operating Experience (AOE) is required for Initial training.

Need to clarify that AOE is part of training- AOE is not complete until you complete AOE on every aircraft you receive initial training on.

Discussion & Analysis

Consider if "Initial" and "Transition" aircraft training need to be defined more clearly in the rule. They are only defined in the preamble. Transition training has

- the same aircraft specific subjects as Initial [see QPS
- the same baseline hours as Initial
- the minimum program hours are the same.

Make the sequence of training events more clear. Flight attendant has to complete all basic qualification and aircraft operating experience and be a "qualified" flight attendant for that air carrier for at least six months before they can be eligible for transition training for another aircraft type.

Transition training eligibility is 6 months. Note: intention is "worked on the line for 6 months in active duty status" (including days off, days on reserve, etc) not worked a total of 180 days as a flight attendant.

-
- If the flight attendant has not worked for the air carrier for at least six months, then they must have initial training (and associated Aircraft Operating experience by type)
- No Aircraft Operating Experience (AOE) for transition training.
- 121.848 must be reworded to exclude the need for AOE for transition training. (See RecDoc FAR 9 121.847.848 Aircraft Operating Experience)
- Verify type vs group. Eligibility for transition training is not based on previous qualification on group. Only that you worked as a flight attendant for the airline on any type aircraft, for at least six months (180 days).
    - Experience, Confidence, knowledge of company procedures, after six months on the line, the flight attendant has a better "knowledge foundation" for Transition training on an airplane type than they had for Initial training

- Need to define Transition Training (eligibility for flight attendants in the rule)
    - 121.803 definitions
    - 121.883 add new (d)

- Preamble language should be written to explain why we have no AOE for transition training.

December Meeting Discussion:

NEED:

Six months- traditional probationary period- 180 days

Joe comment: Justify-NTSB rec-- why we need AOE on each aircraft during basic qual- safe now…this is "more safe"

This is already addressed in the preamble:

> (**FAA Response**: This requirement will help to correct problems identified in the NTSB report NTSB/SIR-92/02 of flight attendants who serve on multiple airplane types and cannot readily recall the location and operation of emergency equipment on the airplane. In addition, it is also consistent with the FAA's response to an airline operating environment that, as a result of mergers and acquisitions, could result in one air carrier operating 10-11 different types of airplanes, with flight attendants potentially qualified on all airplanes. Operating experience by type, as well as required recurrent training programs hours that are based on the number of airplane types on which a flight attendant is qualified, will ensure that flight attendants qualified on a large number of airplanes have adequate training on each airplane type

Look at crew pairing- 100 hours-..for similar justification… why 100hours??

Basic Qualification- Initial Training (On an aircraft type)- requires AOE

Transition Training (On an aircraft type)- does not require AOE

Should ddd additional preamble language and an INFO block in the QPS near the program hours chart in Attachment 3 to:

**** Define eligibility for Transition training**

****Make it clear that Aircraft Operating Experience is only required for Initial Training**
****Discuss when reductions to Initial/Transition training may be appropriate.**

Recommendation:

1) Add definition of Transition Training Curriculum (flight attendant) to 121.803 and to the back of the Flight Attendant QPS …and change current definition to be specific to flight crewmembers. (Done in GEN 8)

1) Transition training curriculum (flight crewmembers). A curriculum of training and testing modules to be accomplished satisfactorily by flight crewmembers who have previously qualified and served within the last 180 days in the same capacity on another airplane type or types of the same group in operations under this part for the certificate holder, to allow that crewmember to serve in the same duty position in a different type airplane.

Transition training curriculum (flight attendants). A curriculum of training and testing modules to be accomplished satisfactorily by flight attendants who have previously served as a flight attendant for at least 180 days on another airplane type or types, in operations under this part for the certificate holder, to allow that crewmember to serve in the same duty position in a different type airplane.

2) ADD Program Hours Charts to the Flight Attendant QPS:

****(Understand that the pilots and the dispatchers will be doing the same thing as per Jan)****

Amend Attachment 3 to read:

ATTACHMENT 3

FLIGHT ATTENDANT TRAINING

PROGRAM HOURS
AND

EVALUATION
REQUIREMENTS

Add Program Hours charts to Attachment 3:

Flight Attendants
Program Baseline Hours by Curriculum

Indoctrination*	**Initial***		**Flight Attendant Emergency Training**	**Transition* (each additional airplane type)**	**Recurrent****			
40	General topics	Each airplane type	24***	12	1 airplane type	2 to 5 airplane types	6 to 9 airplane types	10 to 13 airplane types
	12	12			12****	13****	14****	15****

Table 2B
Flight Attendants
Program Minimum Hours by Curriculum

Indoctrination*	**Initial***		**Flight Attendant Emergency Training**	**Transition* (each additional airplane type)**	**Recurrent****
32	General	Each airplane type	Not reducible	8	Not reducible
	Not reducible	8			

***** Program hours for indoctrination, initial, and transition training do not include differences training curriculums for crewmembers, as required in § 121.895.
** A recurrent cycle for flight attendants is every 12 months.

3) Add additional preamble language and an INFO block in the QPS near the program hours chart in Attachment 3 :

PREAMBLE AND INFO BLOCK:

The proposed rule would require a baseline of 12 hours of initial training on general topics plus 12 hours

of training for each airplane type. **The 12 hours of training for each airplane type is part of initial training when the student has not yet served as a flight attendant for the certificate holder.** The baseline program hours could not be reduced for general topics; however the 12-hour baseline required for each airplane type could be reduced to an 8-hour minimum. A reduction to the 8 hour minimum of Initial training on aircraft types may be appropriate for several reasons. For example, an air carrier may operate several types of aircraft from the same manufacturer with similar cabin configurations and equipment, or an air carrier may carefully design a training approach that incorporates the use of extensive training on a "base" aircraft type upon which training on other aircraft types is based. These hours are consistent with the current rule and with current practices. The proposed rule would clarify that the 12 and 8 hours apply to each airplane type. Flight attendants need to receive adequate training in each type airplane to prevent confusion when switching from one type to another. Aircraft Operating Experience is required on each aircraft type for which a flight attendant receives Initial Training.

If the flight attendant has already served in an active duty status as a flight attendant for the certificate holder for at least 180 days, training for a new airplane type would be under transition training. Transition training has the same required number of hours and subjects for aircraft specific training as Initial training, a 12-hour baseline required for each airplane type which can be reduced to an 8-hour minimum. A reduction to the 8 hour minimum of Transition training on aircraft types may be appropriate. For example, the new aircraft type may be very similar to a different aircraft type on which the flight attendant is already qualified. It is recognized that a flight attendant who has served on the line for at least 180 days has had ample opportunity to consolidate the knowledge and skills provided in flight attendant training, they are more confident regarding company procedures and they have a more solid foundation upon which to add new knowledge and skills acquired in Transition Training. For this reason, Aircraft Operating Experience is not required for each aircraft type for which a flight attendant receives Transition Training.

If the flight attendant has not worked for the air carrier in an active duty status as a flight attendant for at least six months, which includes days off, days on reserve, etc, and the air carrier wants to qualify them on a new aircraft type, then the flight attendant must have initial training on that aircraft type and the associated Aircraft Operating Experience by type.

4) Add new rule, 121.884:

121.884 Eligibility for Transition Training

No person is eligible for flight attendant transition training unless that person has been qualified for at least

180 days and served in the previous 180 days on an aircraft as a flight attendant for that certificate holder.

[Source: New]

Resolved.

Committee Review: Summary of discussion with Committee

Final Action: Final recommended action by Committee

Go forward with changes recommended by subcommittee.

Notes:

RECOMMENDATION DOCUMENT

Number: FAR 6 121.683
Flight Attendant Training

Issue:

Flight Attendants are not included in the language of 121.683 [c]. Where do we address the regulatory requirements for record keeping for flight attendants? If an air carrier must retain all training records that ensure the flight attendant is properly trained and qualified as per other rule requirements….do we need any additional language? Should we establish specific regulatory record keeping requirements for flight attendants?

Is 121.683 just written because of PRIA [Pilot Records Improvement Act]….which does not include flight attendants.

Discussion & Analysis: Proposed rule is adequate.
Recommendation: Proposed rule adjustment if required and draft advisory/policy language. Do nothing.
Committee Review: Summary of discussion with Committee
Final Action: Final recommended action by Committee Committee agrees with recommendation of subcommittee.
Notes:

Number: FAR 7 121.850
Flight Attendant Re-qualification Training

Issue:
Flight attendants that do not meet the recurrent training requirements must complete re-qualification training. The option for operators is to have a flight attendant complete all curriculum requirements of Basic Qualification or provide training as stated in Re-

qualification training. The challenges were first to find a method to provide the missed training tasks to the flight attendant that had lost their currency, without causing undue burden on the operator to develop additional training materials that would cover any missed training that is not included in the current training cycle. Secondly to determine appropriate time periods that are assigned to the different phases.

During the team discussion, we all agreed that it was important that flight attendants receive all missed training and as recurrent training is normally adjusted on a yearly basis the method to provide training should ensure all missed training was received by each crewmember.

It was decided by the team that Phase One actually needed to be broken into two sections. Section A would be applicable if the Flight attendant missed their recurrent training but was able to attend the missed training within the Company Recurrent training cycle. If however the flight attendant missed an entire training cycle, they would be required to attend the current training cycle plus complete the previous year cycle test, review the training material that was provided and complete the study packet/homestudy if applicable.

Phase II training would be the same concept but would require the flight attendant to attend the current training cycle and complete any missed previous training cycle(s), review the training material that was provided, complete the study packet/home study if applicable, perform the ditching drill if applicable, and complete an expanded test to include questions on each task in the QPS. In addition, there will be a ground briefing provided by the company to ensure the flight attendant is aware of all changes in procedures and is up to date in regards to all issued materials. In this phase the flight attendant may only miss one training cycle due to when they fall in the 12 month period, however, they are still required to complete all items of the requirement.

Phase III training encompasses training on all tasks in the QPS as required in the basic qualification with a reduction in hours not to be less than allowed for reduction in initial Basic Qualification.

Discussion & Analysis:

Discussion 8-23-2004

NEED TO WRITE NEW RULE LANGUAGE!

There are several things that can cause you to become unqualified to fly.

The list includes:

- Not meeting recent experience requirements (121.849)
- Not being current with respect to training (121.850)
- Not having a Certificate of Demonstrated Proficiency issued to you (Congress)
- Making a fraudulent or false statement regarding training records (121.806)
- Not being able to read, speak, write and understand English (121.807)
- If the certificate holder uses unauthorized facilities, equipment or instructors to administer training (121.864 (i) and (j))

<table>
<tr><th colspan="2">121.850 Flight Attendant: Requalification</th></tr>
<tr><td colspan="2">…no person may serve as a flight attendant if:
• that person becomes unqualified by failing to meet recurrent requirements</td></tr>
<tr><td colspan="2">To be re-qualified:
The F/A can repeat all of Basic Qualification Training or</td></tr>
<tr><td>Less than 12 months:

A flight attendant that misses recurrent training but does not miss a complete training cycle must complete for Phase 1 A Re-qualification Training

A flight attendant that misses an entire training cycle must complete Phase 1 B Re-qualification Training</td><td>Phase I A Re-qualification:
Recurrent Training (Base month not changed)

Phase I B Re-qualification:
• New Recurrent Training
• Complete the study packet from the previous cycle and the test.
• Ditching Drill must be accomplished if the ditching drill is not part of the current cycle.
• Base Month may change</td></tr>
<tr><td>More than 12 months to 24 Months or less:

A flight attendant that misses two entire training cycles must complete Phase II Re-qualification Training</td><td>Phase II Re-qualification:
• Base month may change in relation to carrier training cycles.
• New Recurrent Training
• Re-qualification Test on every task in the QPS
• Ditching Drill
• Ground based briefing review memos, procedural changes.

FA must participate in a ground based briefing with a rep from the air carrier. The purpose of this briefing is to cover any new policies procedures or security requirements pertinent to Flight Attendant</td></tr>
</table>

	duties that have been implemented since the last time the Flight Attendant served as a Flight Attendant for that air carrier. (performed duties as a flight attendant)
Unqualified More than 24 months: A flight attendant that misses three training cycles must complete Phase III Re-qualification Training	Phase III Re-qualification • Base month may changed, determined by the operator • Reduced Basic Qualification Training • Reduced AOE on one aircraft type

December Discussion:

How do you calculate un-qualified? The flight attendant base month is march. If the rule is written 12 months or less than the determination of the start of the unqualified period begins when?

The decision was made by the team that the counting should start the first day of the month after the qualification was lost. Therefore, if the flight attendant base month was March and they had not attended training by the end of April, the grace month, the start of the unqualified period is April 1.

Suggested language:

121.850 Flight attendant: Re-qualification.

No certificate holder may use any person and no person may serve as a flight attendant if that person has become unqualified by failing to meet the recurrent training requirements of § 121.845 for the type aircraft. To be re-qualified the person must accomplish again the requirements of § 121.843(a)(1)-(a)(4) and (b), in accordance with the certificate holder's approved program hours, or accomplish one of the following requirements as applicable:

(a) Phase I - If the Flight attendant has been unqualified for less than 12 months the flight attendant may be re-qualified to serve as a flight attendant by satisfactorily accomplishing the training as specified below in either (1) or (2) as appropriate:

(1) Phase 1-A: When the Part 119 certificate holder is still actively conducting the recurrent training cycle that the flight attendant missed, then the following must be complied with to re-qualify the flight attendant: (Need preamble words to explain)

(i) Satisfactory completion of current cycle of Recurrent training

(ii) Base month is not changed.

(2) Phase I-B: When the recurrent training cycle that the flight attendant missed in not being provided by the Part 119 air carrier, the following must be complied with to re-qualify the flight attendant

(i) Satisfactory completion of the current cycle of Recurrent training

(ii) Complete all missed training and testing from the previous recurrent training cycle that is still pertinent and not included in the current cycle of recurrent training. If the previous training cycle included study guides and supplemental training materials, any changes necessary to reflect current policies and procedures will be noted and provided to the flight attendant.

(iii) The base month may be changed.

(iv) For flight attendants qualified in extended overwater operations; participate in a Ditching Drill, if not part of the current cycle of recurrent training.

(b) Phase II - If a flight attendant has been unqualified for more than 12 months, but no more than 24 months, the flight attendant may be re-qualified for service on that airplane by satisfactorily accomplishing the training as stated below:

(i) Satisfactory completion of the current cycle of Recurrent training

(ii) Complete all missed training and testing from the previous recurrent training cycle(s) that is still pertinent and not included in the current cycle of recurrent training. If the previous training cycle included study guides and supplemental training materials, any changes necessary to reflect current policies and procedures will be noted and provided to the flight attendant.

(iii) The base month may be changed.

(iv) For flight attendants qualified in extended overwater operations; participate in a Ditching Drill, if not part of the current cycle of recurrent training.

(v) Attend a ground based briefing to review procedural changes, memos etc.

The Administrator determines the number of program hours required for each curriculum.

(c) Phase III - If a flight attendant has been unqualified for more than 24 months, the flight attendant may be re-qualified for service in the type airplane by satisfactorily accomplishing the indoctrination training curriculum, the initial training curriculum, the flight attendant

emergency training curriculum, and if appropriate, the transition training curriculum. The flight attendant's recurrent base month may be changed as appropriate to correspond to the month in which the Phase III requirements were satisfactorily accomplished. The Flight attendant must receive AOE in accordance with the Flight Attendant QPS. The Administrator determines the number of program hours required for each curriculum, but in no case may the program hours be less than the minimum hours required in Table 2B of § 121.859.

The following is possible Preamble information to clarify how to determine phase of re-qualification training and capture following information.

When a crewmember does not conduct training in their base month it has already been 12 months since they attended training. A person who has been unqualified for more than 24 months is actually a person who has not attended training for at least 36 months or more. When a crewmember does not attend training in their base month or the grace month, their qualification ends on the last day of their base month.

If the flight did not attend recurrent training in their assigned base month (includes eligibility period or grace month), then the FA will be considered non-qualified beginning with the first day of the month immediately after the missed base or due month.

The following charts assume a Jan-December training cycle. The recurrent training is changed every year according to this schedule. We have set this up on the premise that

the flight attendant last attended recurrent training in March of 2002. The flight attendant has until April 30, 2003 to maintain their currency. If they attend training during the month of April 2003, they are considered to have completed the training in March of 2003. Each chart depicts a different Phase of Re-qualification.

Phase I - A & B

Due Month	Current and Qualified	Recurrent Training Missed	Eligible for Phase I 12 Months or Less	
AttendedMarch 2002	* 04/01/2002 – 04/30/2003	March 2003	Phase 1 A 4/1/2003 – 12/31/2003	Phase 1 B 01/01/2004-03/31/2004

Phase II

Due Month	Current and Qualified	**Recurrent Training Missed**	Eligible for Phase II 13 months through 24 months.
Attended March 2002	* 04/01/2002 - 04/30/2003	March 2003 And March 2004	4/1/2004 – 3/31/2005

Phase III

Due Month	Current and Qualified	Recurrent Training Missed	Eligible for Phase III 25 Months and above
Attended March 2002	* 04/01/2002 – 04/30/2003	March 2003 March 2004 March 2005	04/01/2005 and beyond

*When recurrent training is attended in either base or grace month

Airlines change their recurrent training programs on a yearly basis, for the purpose of this rule this is referred to as a training cycle. As this varies from airline to airline, the rule has been written to ensure the flight attendant has received all training that has been provided to other flight attendants since they were last in training. This provides the greatest flexibility to the operator and flight attendant to ensure complete training in order to assure public safety.

Additional Discussion:

1) Need to define training packet to include all materials and tests that were provided to the flight attendants during the training cycle. The materials must be updated to reflect current information. **(Response:added "to include all study materials" in the rule)**

2) Discussion on base month changing or not when completing training. Should this be base month "may" change? Changing the base month does not mean that the airline has to keep them in the month that they were trained, the base can be anytime that is less than 12 months from when they were trained. Info block with examples of changing base month. Information in the preamble that explains that providing an opportunity to change the base month in Phase 1B, 2 and 3 is in accordance with operational needs. Possibly change the regulation, add a (c) on how to change a base month.

(Response: Base month "may" change gives the greatest flexibility to the air carrier and the flight attendant. FAA safety concern is addressed because in no case may an air carrier/ flight attendant disregard the maximum timeframe between recurrent training attendance)

3) Add to preamble/ definition: "served as a flight attendant" What does this mean?

(Response: addressed in "eligibility for transition training)

Recommendation:

1)_ Revise 121.850 to read:

121.850 Flight attendant: Re-qualification.

No certificate holder may use any person and no person may serve as a flight attendant if that person has become unqualified by failing to meet the recurrent training requirements of § 121.845 for the type aircraft. To be re-qualified the person must accomplish again the requirements of § 121.843(a)(1)-(a)(4) and (b), in accordance with the certificate holder's approved program hours, or accomplish one of the following requirements as applicable:

(a) Phase I - If the Flight attendant has been unqualified for less than 12 months the flight attendant may be re-qualified to serve as a flight attendant by satisfactorily accomplishing the training as specified below in either (1) or (2) as appropriate:

(1) Phase 1-A: When the Part 119 certificate holder is still actively conducting the recurrent training cycle that the flight attendant missed, the flight attendant may be requalified in accordance with the following:

(i) Satisfactory completion of current cycle of Recurrent training

(ii) Base month is not changed.

(2) Phase I-B: When the recurrent training cycle that the flight attendant missed in not being provided by the Part 119 air carrier, the flight attendant may be requalified in accordance with the following:

(i)Satisfactory completion of the current cycle of Recurrent training

(ii)Complete all missed training, to include all study materials, and testing from the previous recurrent training cycle that is still pertinent and not included in the current cycle of recurrent training. If the previous training cycle included study guides and supplemental training materials, any changes necessary to reflect current policies and procedures will be noted and provided to the flight attendant.

(iii)The base month may be changed.

(iv)For flight attendants qualified in extended overwater operations; participate in a Ditching Drill, if not part of the current cycle of recurrent training.

(b) Phase II - If a flight attendant has been unqualified for more than 12 months, but no more than 24 months, the flight attendant may be re-qualified for service on that airplane by satisfactorily accomplishing the training in accordance with the following:

(1) Satisfactory completion of the current cycle of Recurrent training

(2) Complete all missed training, to include all

study materials, and testing from the previous recurrent training cycle(s) that is still pertinent and not included in the current cycle of recurrent training. If the previous training cycle included study guides and supplemental training materials, any changes necessary to reflect current policies and procedures will be noted and provided to the flight attendant.

(3) The base month may be changed.

(4) For flight attendants qualified in extended overwater operations; participate in a Ditching Drill, if not part of the current cycle of recurrent training.

(5) Attend a ground based briefing to review procedural changes, memos etc.

(6) The Administrator determines the number of program hours required for each curriculum.

(c) Phase III - If a flight attendant has been unqualified for more than 24 months, the flight attendant may be re-qualified for service on that airplane by satisfactorily accomplishing the training in accordance with the following:

(1) The flight attendant must satisfactorily accomplish the indoctrination training curriculum, the initial training curriculum, the flight attendant emergency training

curriculum, and if appropriate, the transition training curriculum.

(2) The flight attendant's recurrent base month may be changed as appropriate to correspond to the month in which the Phase III requirements were satisfactorily accomplished.

(3) The Flight attendant must receive AOE on at least one type aircraft in accordance with the Phase III Requalification requirements in the Flight Attendant QPS.

(4) The Administrator determines the number of program hours required for each curriculum, but in no case may the program hours be less than the minimum hours required in Table 2B of § 121.859.

2)Add a chart in the preamble and QPS as follows:

<table>
<tr><td colspan="2">121.850 Flight Attendant: Requalification</td></tr>
<tr><td colspan="2">…no person may serve as a flight attendant if:
• that person becomes unqualified by failing to meet recurrent requirements</td></tr>
<tr><td colspan="2">To be re-qualified:
The F/A can repeat all of Basic Qualification Training or</td></tr>
<tr><td>Less than 12 months:

A flight attendant that misses recurrent training but does not miss a complete training cycle must complete for Phase 1 A Re-qualification Training</td><td>Phase I A Re-qualification:
• Recurrent Training (Base month not changed)</td></tr>
</table>

A flight attendant that misses an entire training cycle must complete Phase 1 B Re-qualification Training	Phase I B Re-qualification: • New Recurrent Training • Complete the study packet from the previous cycle and the test. • Dry Ditching Drill must be accomplished if the ditching drill is not part of the current cycle. • Base Month may change
More than 12 months to 24 Months or less:	Phase II Re-qualification: • Base month may change • Current Cycle of Recurrent Training • Re-qualification Test on every task in the QPS • Dry Ditching Drill • Ground based briefing with a representative from the air carrier. The purpose of this briefing is to cover any new policies procedures or security requirements pertinent to Flight Attendant duties that have been implemented since the last time the Flight Attendant served as a Flight Attendant for that air carrier.
Unqualified More than 24 months:	Phase III Re-qualification • Base month may changed • Reduced Basic Qualification Training • Reduced AOE on one aircraft type

3) Add to preamble:

When a crewmember does not conduct training in their base month it has already been 12 months since they attended training. A person who has been unqualified for more than 24 months is actually a person who has not attended training for at least 36 months or more. When a crewmember does not attend training in their base month or their grace month, their qualification ends on the last day of their base month. If the flight did not attend recurrent training in their assigned base month (includes eligibility period or grace month), then the FA will be considered non-qualified beginning with the first day of the month immediately after the missed base or due month.

The following charts assume a January-December training cycle. The recurrent training is changed every year according to this schedule. The assumption for this chart is that the flight attendant last attended recurrent training in March of 2002. The flight attendant has until April 30, 2003 to maintain their currency. If they attend training during the

month of April 2003, they are considered to have completed the training in March of 2003. Each chart depicts a different Phase of Re-qualification.

Phase I - A & B

Due Month	Current and Qualified	Recurrent Training Missed	Eligible for Phase I 12 Months or Less	
AttendedMarch 2002	* 04/01/2002 – 04/30/2003	March 2003	Phase 1 A 4/1/2003 – 12/31/2003	Phase 1 B 01/01/2004-03/31/2004

Phase II

Due Month	Current and Qualified	**Recurrent Training Missed**	Eligible for Phase II 13 months through 24 months.
Attended March 2002	* 04/01/2002 - 04/30/2003	March 2003 And March 2004	4/1/2004 – 3/31/2005

Phase III

Due Month	Current and Qualified	Recurrent Training Missed	Eligible for Phase III 25 Months and above
Attended March 2002	* 04/01/2002 – 04/30/2003	March 2003 March 2004 March 2005	04/01/2005 and beyond

*When recurrent training is attended in either base or grace month

Airlines typically change their recurrent training programs on a yearly basis. For the purpose of this proposed rule, this is referred to as a training cycle. As this varies from

airline to airline, the proposed rule has been written to ensure that the flight attendant who is becoming requalified, has received all training that has been provided to other flight attendants since the flight attendant who is accomplishing requalification training was last in training. This provides the greatest flexibility to the air carrier and flight attendant to ensure complete training and thus ensure public safety.

4) Add INFO block to QPS:

When a crewmember does not conduct training in their base month it has already been 12 months since they attended training. A person who has been unqualified for more than 24 months is actually a person who has not attended training for at least 36 months or more. When a crewmember does not attend training in their base month or their grace month, their qualification ends on the last day of their base month. If the flight did not attend recurrent training in their assigned base month (includes eligibility period or grace month), then the FA will be considered non-qualified beginning with the first day of the month immediately after the missed base or due month.

The following charts assume a January-December training cycle. The recurrent training is changed every year according to this schedule. The assumption for this chart is that the flight attendant last attended recurrent training in March of 2002. The flight attendant has until April 30, 2003 to maintain their currency. If they attend training during the month of April 2003, they are considered to have completed the training in March of 2003. Each chart depicts a different Phase of Re-qualification.

Phase I - A & B

Due Month	Current and Qualified	Recurrent Training Missed	Eligible for Phase I 12 Months or Less	
AttendedMarch 2002	* 04/01/2002 – 04/30/2003	March 2003	Phase 1 A 4/1/2003 – 12/31/2003	Phase 1 B 01/01/2004-03/31/2004

Phase II

Due Month	Current and Qualified	**Recurrent Training Missed**	Eligible for Phase II 13 months through 24 months.

Attended March 2002	* 04/01/2002 - 04/30/2003	March 2003 And March 2004	4/1/2004 – 3/31/2005

Phase III

Due Month	Current and Qualified	Recurrent Training Missed	Eligible for Phase III 25 Months and above
Attended March 2002	* 04/01/2002 – 04/30/2003	March 2003 March 2004 March 2005	04/01/2005 and beyond

*When recurrent training is attended in either base or grace month

Airlines typically change their recurrent training programs on a yearly basis. For the purpose of this rule, this is referred to as a training cycle. As this varies from airline to airline, the rule has been written to ensure that the flight attendant who is becoming requalified, has received all training that has been provided to other flight attendants since the flight attendant who is accomplishing requalification training was last in training.

Notes:
FA group will review use of "grace month" vs. "eligibility period."

Final Action:

Go forward with changes recommended by subcommittee.

RECOMMENDATION DOCUMENT

Number: GEN O 2
Flight Deck Observation Rides

Issue:

Re-institute and support the ability of flight attendants to participate in flight deck observation rides during their new-hire (or relevant module) training.

Discussion & Analysis: Include information to understand issue and recommended resolution. Also to provide basis for adjusting proposed rule language if required, and for developing preamble and guidance information:

Carriers in the past have required flight deck observation rides for new-hire flight attendants as part of their new-hire training requirements. These flight deck observation opportunities for flight attendants are of great value relevant to continued safety of flight and effective crewmember communications skills. Basically, this is a good CRM tool to help crewmembers understand the work environment of the other crewmember. This is similar to the concept of observation flights for dispatchers.

Flight deck admission is permitted when certain parameters are met, as example, permission of the pilot in command, permission of the company or when admission is advantageous for safe operations.

Re-instituting this practice would be advantageous relevant to training as a tool for continued safe operations onboard the aircraft.

§ 121.463 Aircraft dispatcher qualifications.

(a) No certificate holder conducting domestic or flag operations may use any person, nor may any person serve, as an aircraft dispatcher for a particular airplane group unless that person has, with respect to an airplane of that group, satisfactorily completed the following:
(1) Initial dispatcher training, except that a person who has satisfactorily completed such training for another type airplane of the same group need only complete the appropriate transition training.
(2) Operating familiarization consisting of at least 5 hours observing operations under this part from the flight deck or, for airplanes without an observer seat on the flight deck, from a forward passenger seat with headset or speaker. This requirement may be reduced to a minimum of 2 1/2 hours by the substitution of one additional takeoff and landing for an hour of flight. A person may serve as an aircraft dispatcher without meeting the requirement of this paragraph (a) for 90 days after initial introduction of the airplane into operations under this part.

(b) No certificate holder conducting domestic or flag operations may use any person, nor may any person serve, as an aircraft dispatcher for a particular type airplane unless that person has, with respect to that airplane, satisfactorily completed differences training, if applicable.

(c) No certificate holder conducting domestic or flag operations may use any person, nor may any person serve, as an aircraft dispatcher unless within the preceding 12 calendar months the aircraft dispatcher has satisfactorily completed operating familiarization consisting of at least 5 hours observing operations under this part, in one of the types of airplanes in each group to be dispatched. This observation shall be made from the flight deck or, for airplanes without an observer seat on the flight deck, from a forward passenger seat with headset or speaker. The requirement of paragraph (a) of this section may be reduced to a minimum of 2 1/2 hours by the substitution of one additional takeoff and landing for an hour of flight. The requirement of this paragraph may be satisfied by observation of 5 hours of simulator training for each airplane group

in one of the simulators approved under §121.407 for the group. However, if the requirement of paragraph (a) is met by the use of a simulator, no reduction in hours is permitted.

(d) No certificate holder conducting domestic or flag operations may use any person, nor may any person serve as an aircraft dispatcher to dispatch airplanes in operations under this part unless the certificate holder has determined that he is familiar with all essential operating procedures for that segment of the operation over which he exercises dispatch jurisdiction. However, a dispatcher who is qualified to dispatch airplanes through one segment of an operation may dispatch airplanes through other segments of the operation after coordinating with dispatchers who are qualified to dispach airplanes through those other segments.

(e) For the purposes of this section, the airplane groups, terms, and definitions in §121.400 apply.

§ 121.547 Admission to flight deck.

(a) No person may admit any person to the flight deck of an aircraft unless the person being admitted is—
(1) A crewmember;
(2) An FAA air carrier inspector, a DOD commercial air carrier evaluator, or an authorized representative of the National Transportation Safety Board, who is performing official duties;
(3) Any person who—
(i) **Has permission of the pilot in command, an appropriate management official of the part 119 certificate holder, and the Administrator; and**
(ii) Is an employee of—
(A) The United States, or
(B) A part 119 certificate holder and whose duties are such that admission to the flightdeck is necessary or advantageous for safe operation; or
(C) An aeronautical enterprise certificated by the Administrator and whose duties are such that admission to the flightdeck is necessary or advantageous for safe operation.
(4) Any person who has the permission of the pilot in command, an appropriate management official of the part 119 certificate holder and the Administrator. Paragraph (a)(2) of this section does not limit the emergency authority of the pilot in command to exclude any person from the flightdeck in the interests of safety.

(b) For the purposes of paragraph (a)(3) of this section, employees of the United States who deal responsibly with matters relating to safety and **employees of the certificate holder whose efficiency would be increased by familiarity with flight conditions,** may be admitted by the certificate holder. However, the certificate holder may not admit employees of traffic, sales, or other departments that are not directly related to flight operations, unless they are eligible under paragraph (a)(4) of this section.

(c) No person may admit any person to the flight deck unless there is a seat available for his use in the passenger compartment, except—
(1) An FAA air carrier inspector, a DOD commercial air carrier evaluator, or authorized representative of the Administrator or National Transportation Safety Board who is checking or observing flight operations;

(2) An air traffic controller who is authorized by the Administrator to observe ATC procedures;
(3) A certificated airman employed by the certificate holder whose duties require an airman certificate;
(4) A certificated airman employed by another part 119 certificate holder whose duties with that part 119 certificate holder require an airman certificate and who is authorized by the part 119 certificate holder operating the aircraft to make specific trips over a route;
(5) An employee of the part 119 certificate holder operating the aircraft whose duty is directly related to the conduct or planning of flight operations or the in-flight monitoring of aircraft equipment or operating procedures, if his presence on the flightdeck is necessary to perform his duties and he has been authorized in writing by a responsible supervisor, listed in the Operations Manual as having that authority; and
(6) A technical representative of the manufacturer of the aircraft or its components whose duties are directly related to the in-flight monitoring of aircraft equipment or operating procedures, if his presence on the flightdeck is necessary to perform his duties and he has been authorized in writing by the Administrator and by a responsible supervisor of the operations department of the part 119 certificate holder, listed in the Operations Manual as having that authority.

Recommendation: Proposed rule adjustment if required and draft advisory/policy language.

Draft regulatory language similar to dispatchers operating familiarization qualifications requirements or put into the QPS as a recommended training drill.

Committee Review: Summary of discussion with Committee

This proposed requirement would be for a minimum of one time only thing during initial training. Some members suggested that LOFT not be an option for satisfying this requirement.

Final Action: Final recommended action by Committee
Committee supports pursuing this proposal.

Notes:

RECOMMENDATION DOCUMENT

Number: GEN FC 121-8xx **Knowledge and Comprehension Assessment**

Issue: Evaluating the adequacy of knowledge required to support job tasks is becoming increasingly difficult as the industry moves traditional classroom instruction into a wide variety of instructional methods and mediation. Some of these methods are advanced and in various stages of development.

Discussion & Analysis: The FAA will leave the method/s of instruction and mediation to the certificate holder.

A valid assessment of knowledge learning and comprehension will be required, however. This assessment will include development of knowledge objectives and the administration of individual student examinations that contain questions of specific construction. The validity of the examinations must be demonstrated and maintained. Knowledge objectives and related exam questions will be developed for the AREAS of INSTRUCTION and the SUBJECTS in each area provided in the individual QPS.

Recommendation: Remove the "test" and "home study" requirements in the QPS. Replace with a generic "Knowledge and Comprehension Assessment" section in the Rule and rework each QPS Ground Training Section to relate to the knowledge assessment requirements in the rule.

Suggested new rule language:

121.8XX Knowledge and Comprehension Assessment.

(a) A knowledge and comprehension assessment program will be developed by the certificate holder and approved by the administrator as part of the overall training program. The knowledge and comprehension assessment program will include development and maintenance of the examination, establishing validity of the examination, required student remediation, and adjustment of instruction when indicated.

(b) The QPS provides Job Tasks and related Areas of required instruction. Each Area of Instruction is provided with subjects, which must be trained and tested. A student knowledge and comprehension assessment examination will include the minimum number of questions indicated in the QPS for each subject. Student performance of 80% or better in an Area of Instruction will be corrected to 100%. Students with test performance below 80% in any Area of Instruction will be retrained and retested in each Area subject which the student missed one or more questions.

(c) An examination question repository will be developed to include a minimum number of questions, as required by the QPS. This repository will:

(1) Allow random selection of questions from which alternative examinations will be created.

(2) Provide for random selection of questions for each examination,

(3) Ensure that each student will receive a different test if retesting is required.

QPS INFO Verbiage:

(a) As an element of the Continuous Improvement Process for training, the certificate holder will analyze student test results. The validity of the test and test questions should be evaluated using a recognized test measurement methodology. The methodology may include the following criteria:

(1) Comprehensiveness (degree objective is measured)
(2) Reliability (degree consistent results are produced)
(3) Objectivity (ability to repeat same score regardless of who or how administered)
(4) Usability (ease of administration)]

(b) Examples of questions that might be asked of a person constructing questions (and examinations) to determine if those questions (and examinations) meet the validity requirement:

1. Would a knowledgeable person, qualified and competent in the subject area, be able to conclude that a given question together with the correct answer (or a series of questions and the corresponding correct answers) adequately demonstrates knowledge of the subject?
2. Would a knowledgeable person, with the background and experience of the target audience, be able to understand sufficiently the grammar, sentence structure, and language rules under which the question is structured, to provide a satisfactory answer to the question?
3. Would knowledgeable persons consistently answer the question satisfactorily?
4. Would a knowledgeable person be able to provide a satisfactory answer regardless of the person administering the question?
5. Would a knowledgeable person be able to provide a satisfactory answer regardless of the geographic location of the questioning site?
6. Would a knowledgeable person be able to provide a satisfactory answer regardless of the manner in which the question is asked (e.g., verbally, written on paper, written on projected screen, projected on computer screen)?
7. Would the actual administration of the question be consistently straightforward and uncomplicated?
8. If any of the above questions are not answered affirmatively, can the certificate holder satisfactorily explain what steps have been taken for any specific student or group of students that has eliminated the cause for the affirmative response in each such circumstance?

Committee Review: Summary of discussion with Committee

Final Action: Final recommended action by Committee
Go forward with changes noted.

Notes:

RECOMMENDATION DOCUMENT

Number: GEN 121.874 and 121.462e Continuous Improvement

Issue: Need to include "Continuous Improvement Process" in the rule and QPS.

Discussion & Analysis:

Recommendation:

Also add the following text as new "121.462e Training Program: Continuous Improvement Process."

§ 121.874 Training Program: Continuous Improvement Process.

(a) Each certificate holder must establish and maintain a process for the continuous analysis, surveillance, and improvement of the performance and effectiveness of its training program. This system must be documented and must provide for the correction of any deficiency in the training program, regardless of whether the program is carried out by the certificate holder or by another person.

(b) Whenever the Administrator finds that the process described in paragraph (a) of this section does not contain adequate procedures and standards to meet the requirements of this subpart, the certificate holder must, after notification by the Administrator, make any changes in the process and the program that are necessary to meet those requirements.

(c) A certificate holder may petition the Administrator to reconsider the notice to make a change in the process or program. The petition must be filed with the FAA certificate-holding district office charged with the overall inspection of the certificate holder's operations within 30 days after the certificate holder receives the notice. Except in the case of an emergency requiring immediate action in the interest of safety, the filing of the petition stays the notice pending a decision by the Administrator.

Committee Review: Summary of discussion with Committee

NOTES: Preamble and QPS information sections should note that ATOS carriers would satisfy this rule. The bulk of the process requirements should be satisfied by the documentation of the things that are currently going on; meetings, reviews, etc. If you document your process you are more likely to follow through with it. There will need to be some explanation and guidance in the 8400.10 handbook, an AC, or the QPS documents. Language needs to be clearly stated in the rule or guidance that if it can be shown that the air carriers existing ATOS, IEP (Internal Evaluation Program) or SSP (System Safety Program) adequately satisfies the training program element focus and intent of the rule the carrier should be able to succinctly state so in its training program and not be specifically required to meet each item in the rule.
In the part 60 project the continuous improvement process is voluntary, but for those who use a process benefit from a more flexible inspection schedule by the FAA.
(One long term goal of the FAA is to develop a troubleshooting database of problems and solutions encountered by operators.)

Final Action: Final recommended action by Committee

Go forward with revision.

Notes:

Training Terminology……..

• **Training Program:** A system of instruction which includes curriculums, facilities, instructors, check airmen, courseware, instructional delivery methods, and testing and checking procedures. This system satisfies the training program requirements of FAR Part 121, Subparts N, O, V, X and TSR Part 1500 Subpart C ensures that each flight crewmember remains adequately trained for

each aircraft, duty position and kind of operation in which the person serves.

• **Categories of Training:** Courses of training which provide the necessary training and checking or testing for various types of crewmembers and dispatchers who have not previously qualified (or have or will become unqualified) to serve in specific duty positions. Each category of training consists of one or more curriculums.

Example of Training Categories:
Initial Training Category
Transition Training Category
Upgrade Training Category
Differences Training Category
Special Training Category
Recurrent Training Category
Requalification Training Category

• **Curriculum:** A complete training agenda specific to an aircraft type and a flight crewmember duty position which includes all required testing and or check requirements. Each curriculum consists of several segments.

Example of Curriculums under the Initial New-Hire Training Category:
B7X7 SIC Curriculum

• **Curriculum Segment:** A necessary phase of a curriculum which can be separately evaluated and individually approved, but by itself does not qualify a person for a crewmember duty position. Each curriculum segment consists of one or more training subjects.

• **Training Subject:** A broad area of instruction. Each training subject consists of one or more training modules. FAR references that describe training subjects include; “general subjects” and “for each airplane type”.

• **Training Module:** A central part of a training subject which contains descriptive information, elements or events which relate to a specific subject. A training module is usually completed in a single training session.

• **Element:** An important part of a training, checking, or qualification module that is not task-oriented but subject-oriented. For example, an “electrical power” ground training module may include such elements as DC power system, AC power system and circuit protection.

• **Event:** An integral part of a training, checking or qualification module which is task-oriented and requires the use of a specific procedure or procedures. A training event provides the trainee an opportunity for instruction, demonstration and/or practice using specific procedures. A checking or qualfication event provides an evaluator the opportunity to estimate the trainees ability to correctly accomplish a specific task without instruction or supervision.

Old Versus New……

[New Rule terminology adopted by committee 012805. This cross-reference table will be included in the preamble.]

8400.10	***OLD RULE***	***NEW RULE***
TRAINING PROGRAM	TRAINING PROGRAM (Curriculum + Resources)	TRAINING PROGRAM
CURRICULUM	CURRICULUM	CURRICULUM (TRAINING)
	(Type airplane + duty position + Category of Training) With Resources	
CATEGORIES OF TRAINING		CATEGORIES OF TRAINING CURRICULUMS
	(Initial, Transition, Upgrade, Recurrent, Requalification)	
CURRICULUM SEGMENTS		CURRICULUM SEGMENTS
	(Ground Training, Flight Training)	
MODULE		AREA OF INSTRUCTION
	(General, Aircraft Systems, Emergency Procedures)	
ELEMENT	SUBJECT	SUBJECT
(Subject Oriented)	(Weather, Hydraulics, Aircraft Doors)	
ELEMENT		ELEMENT
(Subject Oriented)	(Weather Maps, Hydraulic Pumps, Slide Rafts)	
EVENT	MANEUVERS/PROCEDURES	TASK/S /DRILLS
(Task Oriented)	(Weather Forecasting, Lower Gear, Open door, deploy slide raft, Landing)	

PERFORMANCE+CONDITION+STANDARD

RECOMMENDATION DOCUMENT
Number: GEN DI 1
Issue: Certain sections are general in applicability, yet appear multiple times, sometimes inconsistently, throughout the part. Also the various subparts should be consistent in their use of tables and charts, either keep in the rule or move to the QPS.
Discussion & Analysis: **§ 121.460c Fraud, falsification, or incorrect statements.** - should be moved up front in the part rather than in the subparts. - DI group switched verbiage "result in" instead of "serve as a basis for." The term "serve" in this subpart and its use in this section is not consistent with the definition. **§ 121.460d English language requirement.** Full ARC should review AC 60-28. English Language Skill Standards. **§ 121.462c Training program: Approval and amendment process.** All subgroups need to review paragraph (a) to consider the scope of what each certificate holder should be required to submit to the FAA to obtain initial or final approval of a training program, or to request a revision to an approved training program. Tables seem more appropriate as a QPS requirement than as rule. Check terminology of AFM, or comparable manuals with information on performance, systems, limitations, etc. (e.g., 121.462c) Area Specific Training: Training should be specific to the area the dispatcher dispatches into.
Recommendation: Full group needs to decide issues of consistency. All training hour tables should be moved to the QPS appendices. Full team should discuss area specific training.

Committee Review: Summary of discussion with Committee

Use language from revised 121.807 (per rec doc FC R 121.807) in 121.460d. Also, group recommends making similar requirements in other parts dealing with certification (61, 63, 65, etc.) The certification changes may be beyond the scope, but that should not affect changes to 121. Similar English language requirement should also apply to part 135. This should be forwarded to the Part 135 ARC.

Also, need to update English AC to provide guidance in how to evaluate English language.

Note--this will require very careful drafting because of concerns about how to determine when testing is required.
Group agreed to move fraud, falsification section to beginning of 121 to apply to all or put in 119.

See Gen 9 121.861 for training program initial and final approval discussion.

Final Action: Final recommended action by Committee

Go forward with changes noted. 1/25/05.

Notes:

RECOMMENDATION DOCUMENT

Number: GEN 5

Issue: Verbiage to use as a placeholder for TSA required Security Training in the QPSs (Pilot, Flight Attendant, Dispatcher).

Discussion & Analysis

This subject was raised with AGC, who felt that it was important to keep the security training requirement in the proposed rule even though the curriculum/program hours were dictated by TSA.

Recommendation:

Proposed language by AGC for Flight Attendant QPS (in the section reserved for Security Training) is:

"The certificate holder must develop a security program that meets the standards of the TSA's security training program for flight attendants. The certificate holder must document that the TSA has approved the security training program for flight attendants and the certificate holder must provide security training to each flight attendant in accordance with a security program approved by the Transportation Security Administration."

We propose that this language is used in the flight crewmember and dispatcher QPSs, as appropriate.

Committee Review:

Flight Attendant Subcommittee accepts language as is, for the flight attendant QPS.

Final Action: Final recommended action by Committee

The QPS documents should include an info block explaining the balance of training hours between TSA requirements and FAA requirements.

FA believe that hours for compliance with TSA training requirements should be outside the training hours required in the QPS documents. The Flight crew and Dispatcher teams will discuss this further at their next meetings.

Notes:

RECOMMENDATION DOCUMENT

Number: GEN 6 121.864 (Old FAR 17 121.864)

Issue: Reporting requirement for failures of tests, checks and reviews.

Discussion & Analysis

Proposed 121.864 (h) states that: The certificate holder must maintain a list of each person who has failed a proficiency test, proficiency check, or proficiency review and must update that list within 24 hours of each such failure. In addition the certificate holder must notify the FAA each time the list is amended and must maintain the list for 2 years.

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

It is the consensus within the flight attendant subcommittee that this is a huge recordkeeping burden for the air carrier for flight attendant training that, in and of itself, does not necessarily accomplish the stated goal in the preamble (Section by Section 121.864 (h), which is: This requirement would help to ensure that if repeated failures occur within a training program, corrective action will be taken.

F/A Committee Comments: Too restrictive of a recordkeeping requirement.

- No names
- this information should only be used for analysis
- Must "maintain data"
- that "is made available to the FAA".

24 hour requirement is too restrictivRewrite recordkeeping part of regulation to specify flight crewmembers. Add requirement for air carrier analysis of trends/training improvement that is made available to the FAA.

Resolved/Consensus.

Recommendation:

We propose:

1) **That the Section by Section 121.864 (h) be amended as follows:**

   Proposed paragraph (h) states that the certificate holder must maintain a list of each **flight crewmember** who has failed a proficiency test, proficiency check, or proficiency review and must update that list within 24 hours of each such failure. In addition the certificate holder would have to notify the FAA each time the list is amended and must maintain the list for 2 years. This requirement would help to ensure that if repeated failures occur within a training program corrective action will be taken. What constitutes failure of a proficiency test, proficiency check, or a proficiency review would be stated in the appropriate QPS.

2) **That the Section by Section 121.864 (i) be added as follows:**

Proposed paragraph (i) states that for all crewmember training, the air carrier must develop a process to evaluate the effectiveness of training to include, analysis of trends, isolation and management of risks identified in the analysis of the trends, and methods to implement and evaluate corrective actions. This requirement would help ensure that air carriers establish control processes for validating and maintaining the effectiveness of curriculum content. In addition, a requirement for analysis of crewmember evaluations, with results that are made available to the FAA to determine trends, will help the FAA identify areas that need to be addressed and curriculum improvements that need to be made.

3) **That 121.864 be amended to specify that this only applies to flight crewmembers.**

(h) For flight crewmembers, the certificate holder must maintain a record of failures of proficiency tests, proficiency checks, and proficiency reviews. The certificate must maintain the recordfor 2 years.

4) **That an additional paragraph be inserted as 121.864(i):**

(i) For all crewmember training programs, the certificate holder must, on at least an annual basis, evaluate the effectiveness of crewmember training including, analysis of trends, isolation and management of risks identified in the analysis of the trends, and methods to implement and evaluate corrective actions, with results that are made available to the FAA.

Committee Review: Summary of discussion with Committee

Resolved/Consensus

Final Action: Final recommended action by Committee

Take language out of dispatcher continuous improvement program (DIQ 1 and language in dispatcher QPS) and incorporate into subpart Y, modified to include revised 864(h) and (i). May be able to use part 60 QMS. Appendix E and 60.5. (Ed will take a stab at this.)

Have general consensus, but need to okay revised language developed by Ed.

Notes:

Include suggested changes in the continuous improvement program, but remove it from 121.864. There is a need to track failures, but a concern about excessive reporting requirements. Failures are part of the training record. Make sure these changes don't cause a problem with certificate actions. GC wants to make sure names of failees are available in a form acceptable to the Administrator.

RECOMMENDATION DOCUMENT

Number: GEN 7 121.855 (Old FAR 18 121.855)

Issue:

Recordkeeping requirement for UNSAT tests, checks and reviews for flight attendants.

Discussion & Analysis

Proposed 121.855 states, in part:

(f) No certificate holder may use a person as a pilot, flight engineer, or flight attendant, unless each instructor, check airman, or check flight attendant who is responsible for a particular ground training curriculum subject, segment of flight training curriculum, course of training, or proficiency check, test, or review under this part has certified in writing or electronically the proficiency and knowledge of the individual being trained, tested, checked, or reviewed.

[Source: § 121.401(c) in part]

(1) The certification required by this paragraph must be made a part of the crewmember's

record required by subpart V of this part. The record must show if the individual satisfactorily or unsatisfactorily accomplished each of the training curriculums, **proficiency tests, proficiency checks, or proficiency reviews listed in this paragraph. A record of an unsatisfactory test, check, or review must include identification of specific items on which performance was unsatisfactory**.

[Source: 121.401(c) and new]

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

It is the consensus within the flight attendant subcommittee that the requirements bolded above are a huge recordkeeping burden for the air carrier for flight attendant training, which does not accomplish the goal of the regulation as stated in the Preamble Section by Section for 121.855 (f) (1) which is that "This requirement is needed to monitor the adequacy of training programs, particularly in identifying problems in teaching specific skills".

This is not appropriate for flight attendant training, although it may be appropriate for pilot training.

We propose:

A requirement for analysis of crewmember evaluations, with results that are made available to the FAA to determine trends, identify areas that need to be addressed and curriculum improvements that need to be made. See proposed regulatory language in RecDoc GEN 6 to be added to 121.864 new (i).

Recommendation:

1) The Section by Section for 121.855 (f) (1) of the preamble be amended to read:

Proposed § 121.855(f) is based on current § 121.401(c) with the new requirement added to paragraph (f)(1) that the crewmember's record must include both satisfactory and unsatisfactory results. Additionally, **for flight crewmembers** records of unsatisfactory results must include identification of specific items on which performance was unsatisfactory. This requirement is needed to monitor the adequacy of training programs, particularly in identifying problems in teaching specific skills. The paragraph would also be revised to

conform to the terms proposed throughout this rulemaking.

2) Proposed 121.855 (f) (1) be amended to read:

(1) The certification required by this paragraph must be made a part of the crewmember's record required by subpart V of this part. The record must show if the individual satisfactorily or unsatisfactorily accomplished each of the training curriculums, for flight attendants **121.843 (a) and for flight crewmembers 121.XXX. For flight crewmembers, the record must show if the individual satisfactorily or unsatisfactorily accomplished each of the** proficiency tests, proficiency checks, or proficiency reviews listed in this paragraph. **For flight crewmembers,** a record of an unsatisfactory test, check, or review must include identification of specific items on which performance was unsatisfactory.

[Source: 121.401(c) and new]

Committee Review: Summary of discussion with Committee

Resolved/Consensus

Final Action: Final recommended action by Committee
Resolved/Consensus

Notes:

RECOMMENDATION DOCUMENT

Number: GEN 8

Issue:

Need to add a "flight attendant" specific definition of transition training to 121.803 and to the flight attendant QPS.

Discussion & Analysis:

- Need to define Transition Training (eligibility for flight attendants in the rule)
    - 121.803 definitions

The proposed rule would require a baseline of 12 hours of initial training on general topics plus 12 hours of training for each airplane type. **The 12 hours of training for each airplane type is part of initial training when the student has not yet served as a flight attendant for the certificate holder.** The baseline program hours could not be reduced for general topics; however the 12-hour baseline required for each airplane type could be reduced to an 8-hour minimum. A reduction to the 8 hour minimum of Initial training on aircraft types may be appropriate for several reasons. For example, an air carrier may operate several types of aircraft from the same manufacturer with similar cabin configurations and equipment, or an air carrier may carefully design a training approach that incorporates the use of extensive training on a "base" aircraft type upon which training on other aircraft types is based. These hours are consistent with the current rule and with current practices. The proposed rule would clarify that the 12 and 8 hours apply to each airplane type. Flight attendants need to receive adequate training in each type airplane to prevent confusion when switching from one type to another. Aircraft Operating Experience is required on each aircraft type for which a flight attendant receives Initial Training.

If the flight attendant has already served in an active duty status as a flight attendant for the certificate holder for at least 180 days, training for a new airplane type would be under transition training. Transition training has the same required number of hours and subjects for aircraft specific training as Initial training, a 12-hour baseline required for each airplane type which can be reduced to an 8-hour minimum. A reduction to the 8 hour minimum of Transition training on aircraft types may be appropriate. For example, the new aircraft type may be very similar to a different aircraft type on which the flight attendant is already qualified. It is recognized that a flight attendant who has served on the line for at least 180 days has had ample opportunity to consolidate the knowledge and skills provided in flight attendant training, they are more confident regarding company procedures and they have a more solid foundation upon which to add new knowledge and skills acquired in Transition Training. For this reason, Aircraft Operating Experience is not required for each aircraft type for which a flight attendant receives Transition Training.

If the flight attendant has not worked for the air carrier in an active duty status as a flight attendant for at least six months, which includes days off, days on reserve, etc, and the air carrier wants to qualify them on a new aircraft type, then the flight attendant must have initial training on that aircraft type and the associated Aircraft Operating Experience by type.

Recommendation:

1) Add definition of Transition Training Curriculum (flight attendant) to 121.803 and to the back of the Flight Attendant QPS …and change current definition to be specific to flight crewmembers.

5) Transition training curriculum (flight crewmembers). A curriculum of training and testing modules to be accomplished satisfactorily by flight crewmembers who have previously qualified and served within the last 180 days in the same capacity on another airplane type or types of the same group in operations under this part for the certificate holder, to allow that crewmember to serve in the same duty position in a different type airplane.

Transition training curriculum (flight attendants). A curriculum of training and testing modules to be accomplished satisfactorily by flight attendants who have previously served as an active duty flight attendant for at least 180 days on another airplane type or types, in operations under this part for the certificate holder, to allow that crewmember to serve in the same duty position in a different type airplane.

2)Revise preamble to say:

The proposed rule would require a baseline of 12 hours of initial training on general topics plus 12 hours of training for each airplane type. **The 12 hours of training for each airplane type is part of initial training when the student has not yet served as a flight attendant for the certificate holder.** The baseline program hours could not be reduced for general topics; however the 12-hour baseline required for each airplane type could be reduced to an 8-hour minimum. A reduction to the 8 hour minimum of Initial training on aircraft types may be appropriate for several reasons. For example, an air carrier may operate several types of aircraft from the same manufacturer with similar cabin configurations and equipment, or an air carrier may carefully design a training approach that incorporates the use of extensive training on a "base" aircraft type upon which training on other aircraft types is based. These hours are consistent with the current rule and with current practices. The proposed rule would clarify that the 12 and 8 hours apply to each airplane type. Flight attendants need to receive adequate training in each type airplane to prevent confusion when switching from one type to

another. Aircraft Operating Experience is required on each aircraft type for which a flight attendant receives Initial Training.

If the flight attendant has already served in an active duty status as a flight attendant for the certificate holder for at least 180 days, training for a new airplane type would be under transition training. Transition training has the same required number of hours and subjects for aircraft specific training as Initial training, a 12-hour baseline required for each airplane type which can be reduced to an 8-hour minimum. A reduction to the 8 hour minimum of Transition training on aircraft types may be appropriate. For example, the new aircraft type may be very similar to a different aircraft type on which the flight attendant is already qualified. It is recognized that a flight attendant who has served on the line for at least 180 days has had ample opportunity to consolidate the knowledge and skills provided in flight attendant training, they are more confident regarding company procedures and they have a more solid foundation upon which to add new knowledge and skills acquired in Transition Training. For this reason, Aircraft Operating Experience is not required for each aircraft type for which a flight attendant receives Transition Training.

If the flight attendant has not worked for the air carrier in an active duty status as a flight attendant for at least six months, which includes days off, days on reserve, etc, and the air carrier wants to qualify them on a new aircraft type, then the flight attendant must have initial training on that aircraft type and the associated Aircraft Operating Experience by type.

Resolved

Committee Review: Summary of discussion with Committee

Concern that the transition training curriculum would qualify a FA to work on an airplane type that the FA had no previous experience or training on. Should transition training include coordination training on any airplane type the FA would be working on? Current regulations do not require training beyond the proposed definition.

Transition training has a significantly different meaning in the FA world than in the pilot world. Perhaps create a new term of art that would address the needs unique to FAs.

The differences in the use of the terms (between FA, Dispatchers, Pilots, Flt Engineers) should be clearly explained in the preamble. The preamble should also clarify that distance learning would not be appropriate for FA Transition Training.

Transition Training generally refers to going from type to type. However, for Dispatchers and FA the transition training will qualify the person for additional types, but for pilots it generally means the person gives up their qualification in one type to become qualified in another type.

Final Action: Final recommended action by Committee

The committee agrees with the definition proposed by the FA subcommittee with the understanding that the FA subcommittee will develop language for the preamble explaining the experience and practice the FAs will have before transitioning to a new type.

Notes:

RECOMMENDATION DOCUMENT

Number: GEN 10 (Formerly FAQ 26.2)

Issue:

The criteria for knowledge tests includes a requirement for 5 questions on each task within a subject. Because of the numerous knowledge requirements in flight attendant training, this would result in tests with several hundred questions.

Discussion & Analysis

7. A knowledge test must be in the form of a written, oral or computer administered test in each area of instruction. The form, content and method of administration must be approved by the Administrator in each area of instruction**. Each test must contain at least one question on each task within a subject. (NOTE to committee: This is a more appropriate requirement for flight attendant knowledge tests)** An individual must satisfactorily accomplish the knowledge test. To satisfactorily accomplish the knowledge test, a score of 90% or better in each area of instruction is required and the test must be corrected to 100% by a person qualified to administer the examination. Correction of incorrect answers must include a discussion of which answer is correct and why, and why the person's original answer was incorrect. Retraining is required in each area of instruction for which a score of 90% or better is not achieved. Retraining is followed by re-test of the flight attendant in each retrained area of instruction. The form and content of the re-test must be approved by the Administrator.

Recommendation:

The QPS should be amended to read:

1. A knowledge test must be in the form of a written, oral or computer administered test in each area of instruction. The form, content and method of administration must be approved by the Administrator in each area of instruction. Each test must contain at least one question on

each task within a subject. An individual must satisfactorily accomplish the knowledge test. To satisfactorily accomplish the knowledge test, a score of 90% or better in each area of instruction is required and the test must be corrected to 100% by a person qualified to administer the examination. Correction of incorrect answers must include a discussion of which answer is correct and why, and why the person's original answer was incorrect. Retraining is required in each area of instruction for which a score of 90% or better is not achieved. Retraining is followed by re-test of the flight attendant in each retrained area of instruction. The form and content of the re-test must be approved by the Administrator.
Resolved.

Committee Review: Summary of discussion with Committee

See "GEN 121-8xx Knowledge and Comprehension Assessment."

Final Action: Final recommended action by Committee

Issues were addressed along with "GEN 121-8xx Knowledge and Comprehension Assessment.doc."

Notes:

RECOMMENDATION DOCUMENT

Number: GEN 11 (Formerly FAR 4 121.864)

Issue:

Consider the need to have a qualified "flight attendant ground training instructor" conduct all required training…but still **be able to accommodate presentations by Subject Matter Experts who are not qualified flight attendant ground school instructors.** [Fire department, emergency medical professionals, schedulers, flight and duty time experts, haz mat experts,etc]. This should be appropriate if there is a qualified instructor present. Make sure the rule and the preamble have adequate language to address this.

Also , in this context, is there a need to define what subjects/tasks are appropriate for subject matter experts to deliver? Should this be guidance or regulatory? Is this a moot point if there is a qualified instructor present at all times in the classroom?

Discussion & Analysis:

Check wording in the rule regarding proficiency test and proficiency check to ensure there is nothing that prohibits using the ground instructor from providing these evaluations. Put X in chart if okay.

Preamble language will be written by Linda to cover the information regarding SME use and that a ground instructor must be present.

Holly- Will follow up with everything that needs to be followed up with the reg and the chart. Linda will write beautiful preamble language

Wayne—This analysis may work!

This was not anticipated when the original proposed regulation was written. A good example would be a SME from the American Heart Association giving proficiency testing for CPR or AED use.

Still raises the bar for professional SMEs to provide training and requires air carrier oversite of this

training and testing by trained and qualified evaluator.

OBJECTIVES

- If the SME is instructing, you need to have an air carrier qualified instructor present.
- If the SME is conducting proficiency tests, you need to have an air carrier employee qualified under 121.893 present.
- This would ensure that the air carrier qualified evaluator (as per 121.893) is present to oversee that administration of the proficiency test.
- We also can't disqualify someone who can't physically perform the job of a flight attendant from being a ground school instructor or conducting proficiency tests (on tasks they can accomplish themselves) via the language in the proposed rule or requirements in the chart.

Preamble Language: Linda will write this…using the notes above.

Nancy NOTE (9/20/2004): Consider putting the SME info in the QPS.

December Meeting:

SME- define-_ "Technical Experts in their field"

Idea of having a SME is because that person has more expertise in the area than even the instructor

has…but…does not have the specific air carrier training "part" of the training of the subject

List subject that are appropriate for a SME to teach

OR

Any other tasks approved by the Administrator based on "the high level of specific technical knowledge possessed by the SME on a specific subject"

Benefit to air carrier- subjects identified in the rule as being appropriate for a SME to teach…don't have to ask FAA for permission to use a SME…the "asking permission" would only be for the last grey area of "any other subject as approved by the FAA when the SME is recognized as having.a high level of specific technical knowledge on a specific subject"

§ 121.864 Training program: Administering training, testing, checking, reviews, operating experience, and observations.

(a) No certificate holder may use services provided by other than direct employees of the part 119 certificate holder under a training program unless the providers of the services are approved by the Principal Operations Inspector as part of the certificate holder's training program. (SME would fit)

(b) No certificate holder may use a person to administer training, proficiency tests, proficiency checks, proficiency reviews, operating experience, or observations except in accordance with this section or, if applicable, as provided in the initial cadre requirements of § 121.836 and § 121.853 of this subpart. (SME would fit)

(c) Persons who administer instruction in ground training subjects or in flight training must be knowledgeable in the facilities, equipment, and procedures to be trained. (SME would fit)

(d) Persons who administer ground training, flight training, or evaluation must use only the equipment and the facilities that are specifically approved for the training or evaluation tasks as part of the certificate holder's approved training program. (SME would fit)

(e) Training, proficiency tests, proficiency checks, and proficiency reviews for crewmembers must be administered as follows:

(1) In accordance with the appropriate QPS.

(2) In accordance with the approved training program.

(3) By a person identified in Tables A, B, and C of this section, as appropriate, who has been trained and qualified and meets recent experience requirements, as appropriate, or in accordance with (h) of this section..

(f) Operating experience for crewmembers and observation of check pilots, check flight engineers, check flight attendants, and aircrew program designees must be administered as follows:

(1) In accordance with the approved training program.

(2) By the appropriate person as identified Tables A, B, and C of this section, who has been trained and qualified in accordance with this subpart.

(g) Training and evaluation activities must be administered by the persons shown in the following Tables A, B, and C, as appropriate.

(h) A subject matter expert, who has specific technical knowledge on a subject, may be used to conduct training on that subject, in accordance with the following: following tasks: Firefighting, emergency medical

If a subject matter expert meets the following standard Standard- a person with specific technical knowledge on the subject matter

Consensus- December Meeting

a- 2 people
b- 1 SME by themselves The criteria for the SME

Emergency Medical Training - Licensed by the state of federal government or authorized by the state or federal government to give instruction the the specific area or performs the duties of the subject area.

Firefighting

c- By or otherwise approved by the POI (Harvard Professor)

RULE: Training may be conducted in accordance with the approved training program by a subject matter expert as long as a flight attendant instructor qualified to conduct that portion of training by the air carrier is present. Except for b and c situations.

Nancy- Write preamble language regarding the FAA position on this !!!!!!

Subject matter experts (Always are technical experts….this is not a way to get around the qualifications that a ground instructor must have) have three categories to conduct training_

With an instructor present, with credentials/license by themselves on limited subjects, as approved by the POI by themselves

Can conduct evaluation/proficiency drills with a person qualified to conduct proficiency drill by the air carrier present.

SME is for the high level information on the subject….the air carrier instructor is there to ensure the air carrier specific training is accomplished and that the approved training curriculum is accomplished.

When a qualified FA instructor is present

Table C

PERSONNEL POSITIONS AUTHORIZED TO ADMINSTER FLIGHT ATTENDANT TRAINING, EVALUATION, AND OBSERVATION ACTIVITIES UNDER SUBPART Y

1 2 1						
EMPLOYEE OF	**EMPLOYER and POSITION**					
	Other Contractor	**Part 142 or Other Part 119 Certificate Holder**		**The Part 119 Certificate Holder**		**FAA**
Flight Attendant Training, Evaluation, And Observation Activities Under Subpart Y (by airplane type)	**Ground *Training Instructor*** (Subject Matter Experts)	**Ground Training Instructor ******	**Check Flight Attendant***	**Ground Training Instructor ******	**Check Flight Attendant***	**Inspect. Cabin Safety**
Ground Training (Indoctrination, Initial, Training, Differences, Recurrent, and Requalification)	X	X	X	X	X	
Proficiency Test (Initial, Transition, Upgrade, Recurrent, Requalification)	**X******			X**	X	X
Supervision Of Operating Experience by Type					X	
Proficiency Check (Recurrent, Regaining Recent Exp.)		X	X		X	X

See § 121.865 for special limited authorizations for Initial Cadre Personnel.
* Requires authorization by the Administrator for specific duties to be performed.
**Persons qualified to administer proficiency tests must meet the requirements of § 121.893.
*****Subject Matter Experts, who met the requirements of 121.864 (h), may be approved to conduct specific ground training and proficiency tests, when a person qualified to conduct ground training and proficiency tests, as appropriate, for the air carrier is present.**
****** Persons qualified to administer flight attendant ground training must meet the requirements of § 121.864.**

Recommendation: Proposed rule adjustment if required and draft advisory/policy language.

1) Revise 121.864 based on December 7-8 discussions on material above.

§ 121.864 Training program: Administering training, testing, checking, reviews, operating experience, and observations.

(a) No certificate holder may use services provided by other than direct employees of the part 119 certificate holder under a training program unless the providers of the services are approved by the Principal Operations Inspector as part of the certificate holder's training program.

(b) No certificate holder may use a person to administer training, proficiency tests, proficiency checks, proficiency reviews, operating experience, or observations except in accordance with this section or, if applicable, as provided in the initial cadre requirements of § 121.836 and § 121.853 of this subpart.

(c) Persons who administer instruction in ground training subjects or in flight training must be knowledgeable in the facilities, equipment, and procedures to be trained.

(d) Persons who administer ground training, flight training, or evaluation must use only the equipment and the facilities that are specifically approved for the training or evaluation tasks as part of the certificate holder's approved training program.

(e) Training, proficiency tests, proficiency checks, and proficiency reviews for crewmembers must be administered as follows:

(1) In accordance with the appropriate QPS.

(2) In accordance with the approved training program

(3) By a person identified in Tables A, B, and C of this section, as appropriate, who has been trained and qualified and meets recent experience requirements, as appropriate, or in accordance with (h) of this section.

(f) Operating experience for crewmembers and observation of check pilots, check flight engineers, check flight attendants, and aircrew program designees must be administered as follows:

(1) In accordance with the approved training program.

(2) By the appropriate person as identified Tables A, B, and C of this section, who has been trained and qualified in accordance with this subpart.

(g) Training and evaluation activities must be administered by the persons shown in the following Tables A, B, and C, as appropriate.

NEW: [Add new paragraph (h) and redesignate the subsequent paragraphs]

(h) An individual who is a subject matter expert with specific technical knowledge on a subject, may be used to conduct training in accordance with the appropriate QPS.

[MOVE THE FOLLOWING DETAILS TO THE APPROPRIATE QPS DOCUMENTS>>>

(1) Except as provided in (h) (2) and (h) (3) of this section, when the training is provided by a subject matter expert, persons qualified in accordance with the following, must be present.

(i) For flight attendants: 121.XXX (Qualification for flight attendant ground school instructors) or 121.893, as appropriate.

(ii) For flight crewmembers: (XXX)

(2) Subject matter experts not qualified in accordance with the requirements of paragraph (1) may:

(A) Firefighting and firefighting equipment

(B) Emergency medical events and emergency medical equipment

(C) Meteorology

(D) Hazardous materials recognition

(E) Air Traffic Control

(F)

<<<<]

2) Move to QPS and revise Table C in 121.864 to add authorization for Subject Matter Experts to conduct limited training:

Table C

PERSONNEL POSITIONS AUTHORIZED TO ADMINSTER FLIGHT ATTENDANT TRAINING, EVALUATION, AND OBSERVATION ACTIVITIES UNDER SUBPART Y

1 2 1						
EMPLOYEE OF	**EMPLOYER and POSITION**					
	Other Contract or	**Part 142 or Other Part 119 Certificate Holder**		**The Part 119 Certificate Holder**		**FAA**
Flight Attendant	**Ground**	**Ground**	**Check**	**Ground**	**Check**	**Inspec**

Training, Evaluation, And Observation Activities Under Subpart Y (by airplane type)	***Training Instructor*** (Subject Matter Experts)	**Training Instructor ******	**Flight Attendant***	**Training Instructor ******	**Flight Attendant***	**t. Cabin Safety**
Ground Training (Indoctrination, Initial, Training, Differences, Recurrent, and Requalification)	X	X	X	X	X	
Proficiency Test (Initial, Transition, Upgrade, Recurrent, Requalification)	**X*****			X**	X	X
Supervision Of Operating Experience by Type					X	
Proficiency Check (Recurrent, Regaining Recent Exp.)		X	X		X	X

See § 121.865 for special limited authorizations for Initial Cadre Personnel.
* Requires authorization by the Administrator for specific duties to be performed.
**Persons qualified to administer proficiency tests must meet the requirements of § 121.893.
***Subject Matter Experts, who meet the requirements of 121.864 (h), may be approved to conduct specific ground training and proficiency tests
**** Persons qualified to administer flight attendant ground training must meet the requirements of § 121.864.

3) Add to preamble: [FA will revise]

In 121.864 (h), the FAA has established specific criteria regarding the use of subject matter experts to conduct crewmember training. A subject matter expert is considered by the FAA to be someone who has specific technical knowledge on a subject and may be used to conduct training on that subject without meeting requirements for flight attendant instructors. Training may be conducted in

accordance with the approved training program by a subject matter expert as long as a flight attendant instructor qualified to conduct that portion of training by the air carrier is present. Also, Subject Matter Experts, who meet the requirements of 121.864 (h), may be approved to conduct proficiency tests, when a person qualified to conduct proficiency tests for the air carrier is present.

In addition, the FAA has outlined two exceptions to this requirement that would allow subject matter experts to conduct training without an air carrier qualified instructor present. The first exception is based on the subject matter expert having credentialed technical expertise in certain specific subject areas. The second exception is based on evaluation and approval by the FAA based on a high level of specific technical knowledge possessed by the Subject Matter Expert on a specific subject. This way, the air carrier has the flexibility to use subject matter experts to improve the quality of training, but ensures that the integrity of the program is maintained and that the approved training curriculum is accomplished effectively.

Committee Review: Summary of discussion with Committee

Resolved/Consensus

Final Action: Final recommended action by Committee
The committee agrees with the revised version of 864(h) above. The FA subcommittee will revise their preamble language, QPS requirements, and charts (move to QPS). Dispatchers have addressed SME in the Dispatcher QPS.

Notes:

RECOMMENDATION DOCUMENT

Number: GEN 12

Issue:
There are differences in the current proposed regulation on who can approve training and authorize other providers of training for Cabin Safety and Dispatch. Current practice is the Principal Operations Inspector, however with the addition of other specialties into the 1825 series, such as Aviation Safety Inspectors (Dispatch) and Aviation Safety Inspectors (Cabin Safety), other Inspectors may be the most appropriate (as per current FAA policy and guidance) to evaluate and approve training programs and equipment.

Discussion & Analysis

For example:

Proposed § 121.871 would require that the Administrator specifically approve all training equipment used by the certificate holder. One of the reasons the word "Administrator" was used instead of "Principal Operations Inspector" by the original rulemaking team, was that the Aviation Safety Inspector (Cabin Safety) assigned to the air carrier is often the most qualified person to approve cabin safety training equipment and nothing in the proposed rule would preclude cabin safety inspectors from having approval authority.

In the case of dispatcher training, the same holds true. The Aviation Safety Inspector (Dispatch) is the most qualified to approve dispatcher training programs and equipment.

This approach by the FAA should be consistent throughout the proposed rule regarding flight attendant and dispatcher training. In the proposed rule, all of the language regarding approval of Dispatch training programs and equipment contains the reference to "approval by the Administrator". Yet, in proposed rule language regarding flight attendant training programs there are references to "approval by the Principal Operations Inspector".

For Example:

Proposed 121.864(a) states in part:

No certificate holder may use services provided by other than direct employees of the part 119 certificate holder under a training program unless the providers of the services are approved by the Principal Operations Inspector as part of the certificate holder's training program.

We should change the wording in all training regulations to "the administrator", for purposes of approval so the person that is approving the programs, trainers etc can be changed per FAA policy and there will not be a change to the regulations required.

This is also consistent with proposed rule language for Dispatch training programs.

Recommendation:

We propose:

Change the wording in all training regulations to "the administrator", for purposes of approval so the person that is approving flight attendant and dispatcher training programs and training equipment can be changed per FAA policy… and there will not be a change to the regulations required.

Committee Review: Summary of discussion with Committee
Final Action: Final recommended action by Committee Committee agrees to use “administrator” or “FAA,” as determined by AGC. The committee requests the FAA to better define approval regarding training programs and equipment.
Notes:

RECOMMENDATION DOCUMENT

Number: GEN 12

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policy and there will not be a change to the regulations required.

This is also consistent with proposed rule language for Dispatch training programs.

Recommendation:

We propose:

Change the wording in all training regulations to “the administrator”, for purposes of approval so the person that is approving flight attendant and dispatcher training programs and training equipment can be changed per FAA policy… and there will not be a change to the regulations required.

Committee Review: Summary of discussion with Committee

Final Action: Final recommended action by Committee

Committee agrees to use “administrator” or “FAA,” as determined by AGC.

The committee requests the FAA to better define approval regarding training programs and equipment.

Notes:

Flight Crewmember Recommendation Documents:

RECOMMENDATION DOCUMENT

Number: FC Q 44 Slide Transfer

Issue: QPS Slide Transfer Observation from Door to Door

Discussion & Analysis:

It is highly improbable that a flight attendant will ever actually transfer a slide/raft pack. Many air carriers do not incorporate this as a procedure. Training time could be better spent elsewhere. Attempting to accomplish the slide/raft pack transfer could create a hazardous situation.

It is negative training to spend time on knowledge or observation training for a procedure that is contrary to safety (as per manufacturer)- Propose to remove knowledge and observation requirement.

Putting a pilot or flight attendant in harm's way by giving them an unrealistic expectation that would be reinforced in training on this as a viable option. This drill has been proven in the past to be very difficult to accomplish in demonstrations on motionless trainers on land, much less in a more realistic situation, such as a sinking airplane.

During the development of this proposed rule, a careful review of available information on the subject of the transfer of slide/raft installations by flight attendants was conducted. The information that was considered included a report published by the FAA's Civil Aerospace Medical Institute (CAMI) (DOT/FAA/AM-98/19), information provided by a large manufacturer of slide/rafts, as well as additional documents.

The original crewmember training requirements required knowledge and observation drills addressing the portability of rafts from one exit to another. Since the time that the original training requirements were written, modern slide/rafts have primarily become door mounted, highly integrated, complex installations. The size and weight of door-mounted slide/rafts also complicates their portability within the aircraft cabin. In the discussion section of the CAMI report referenced in the previous paragraph, the authors raise the question of how effectively pilots or flight attendants could move stowed rafts to exits or slide/rafts from unusable exits to accessible door-ways, even with the help of able-bodied passengers. In addition, the possibility of inadvertent inflation of the slide/raft assembly during the transfer process must also be considered.

For the reasons above, many air carriers do not incorporate the transfer of slide/rafts from one door to another in their ditching procedures. The FAA considers that it is important that flight attendants receive knowledge training that a particular slide/raft may be portable in an extreme circumstance where logical options are not available. However, the FAA finds that it is not

appropriate to require observation training on a maneuver that may be difficult at best and, at worst, contrary to safety. Therefore, the FAA is removing the requirement for the Slide/Raft Transfer observation drill from the proposed rule.

Recommendation:

a.

Committee Review: Summary of discussion with Committee

Group agreed with this rec doc. 12/9/04.

Final Action: Final recommended action by Committee

Notes:

RECOMMENDATION DOCUMENT

Number: FC R 23 121.810

Issue: 121.810

Term to describe time period encompassed by the "base month", the month before, and the month after.

Discussion & Analysis:

Historically, there has not been established a single term that describes the entire time during which a crewmember is both due to accomplish a recurrent event and remains qualified to serve in the crewmember capacity.

There has been confusion in the use and understanding of the term “grace period”.

There is no significant impact on safety or cost to implement this recommendation.

Discussion & Analysis:

The following text changes are proposed to add the new term “eligibility period” to the language.

§ 121.810 Acceptable time for accomplishing recurrent requirements.

(a) Whenever a crewmember who is required to accomplish Recurrent training, testing, checking, or proficiency Reviews accomplishes the required recurrent activity in themonth in which it is due, herein referred to as the "base month," or in the month before or the month after it is due, he or she is considered to have accomplished the activity in the month in which it was required. The base month, the month before, and the month after are herein collectively referred to as the ”eligibility period”.

Flight Crewmember Committee Review: Summary of discussion with Committee

The group okayed this rec doc with changes. 12/6/04.

Final Action: Final recommended action by Committee

Notes:

RECOMMENDATION DOCUMENT

Number: FC R 24 121.813

Issue:

There are several issues with 121.813 that need to have greater clarity with regards to the subsequent recurrent cycle timing.

Discussion & Analysis:

121.813 (b) states..

Nine months after a pilot or flight engineer has satisfactorily accomplished the proficiency test and qualification LOFT prescribed in § 121.879(b), a pilot or flight engineer must have satisfactorily accomplished all of the following:

(1) Recurrent LOFT.

(2) Recurrent ground training.

(3) Recurrent flight training.

(4) A proficiency test.

The problem here is the starting point for the 9-month cycle is the Proficiency Test and the LOFT. As the Proficiency Test and the LOFT can occur in two different months, a single starting

point is not always possible with two starting triggers.

121.813 (c) states..

The proficiency test required by paragraph (b)(4) of this section starts the 18-month cycle for recurrent training curriculums.

Now, the problem is that only the Proficiency Test starts the 18-month cycle.

121.813 (e) (2) states..

Each 36 months, airplane emergency ground training drills in accordance with the QPS.

It is clear that the Drills are required each 36 months. There is no clear reference to a starting point for the 36 months. 121.813 (c) could be construed to be the trigger for this recurrent task. However, that is not crystal clear.

Recommendation:

Modify 121.813 (b) to read:

Nine months after a pilot or flight engineer has satisfactorily accomplished the proficiency test prescribed in § 121.879(b), a pilot or flight engineer must have satisfactorily accomplished all of the following:

(1) Recurrent LOFT.

(2) Recurrent ground training.

(3) Recurrent flight training.

(4) A proficiency test.

Thirty six months after a pilot or flight engineer has satisfactorily accomplished the proficiency test prescribed by 121.879 (b), a pilot or flight engineer must have satisfactorily accomplished

the airplane emergency ground training drills.

This change clearly establishes the Proficiency Test as the starting point for the 9-month Recurrent Cycle and is in agreement with the Proficiency Test 18-month starting point of 121.813 (c). In addition, the starting point for the 36-month Emergency Ground Training Drills is clearly established with the addition of the last paragraph.

Committee Review: Summary of discussion with Committee

Group agrees with rec doc as is. 12/7/04.

Final Action: Final recommended action by Committee

Notes:

RECOMMENDATION DOCUMENT

Number: FC R 25 121.807

Issue:

The English language requirement of the 121.807 rule does not cover the critical factor of understanding by the receiver involved in communications.

Discussion & Analysis:

121.807 states..

No certificate holder may use any person nor may any person serve as a pilot, flight engineer, or flight attendant under this part, unless that person is able to read, speak, write, and understand the English language.

It is obvious that this requirement is important to ensure clear communications between persons. However, it primarily appears to center on the language skill of the individual person. Some additional language is needed to ensure that the person's speech and writings can be understood by other persons.

Recommendation:

Recommend the following addition to the 121.807 rule to ensure understandability of a person's language by other persons.

No certificate holder may use any person nor may any person serve as a pilot, flight engineer, or flight attendant under this part, unless that person has demonstrated to an individual qualified to evaluate that person under this part, the ability to:

(a) Read, write, speak, and understand the English language; and

(b) Have their English language speech and writings understood.

Committee Review: Summary of discussion with Committee

Group (except Bill Campbell, CAE, Jack Arnold, Boeing, and Tom Walby,Airbus) agreed with revised wording. People who disagreed do not think this English language requirement should be in 121—135 does not have it. It should be addressed in 61, 63, 65 only.

Group agreed 8400.10, Volume 5, chapter 2, section 1, paragraph 53(d) provides testing methods should be added to QPS information.

Also, need to add objective testing requirements to QPS requirement section—http://ICAO.org/cgi/goto_m.pl?/applications/search (see Brandi)—search for "English language and test"—personnel and licensing.

FAA needs to determine whether or not to specifically reference "in accordance with the applicable QPS." Group agrees that specifics should be in QPS—question is whether or not to have the words "in accordance with the QPS" in the rule.

Final Action: Final recommended action by Committee

Notes:

RECOMMENDATION DOCUMENT

Number: FC R 29 121.803

Issue:

There is no definition in 121.803 for the term "Proficiency".

Discussion & Analysis:

The term "Proficiency" is used throughout the rule to describe the terminal behavior of the person being trained and/or evaluated. However, there is no established definition in the rule that appropriately describes the condition of "Proficiency".

Recommendation:

Add a new definition to 121.803 that reads;

Proficiency: when a person demonstrates an appropriate awareness of existing circumstances, mastery of the necessary knowledge and/or skill, and can perform the relevant task (maneuver or procedure) within the range of appropriate conditions (environments) to the established standard of performance.

Flight Crewmember Specialty Committee Review: Summary of discussion with Committee. Flight Crewmember Specialty Committee approved definition of Proficiency (with changes noted) 12/6/04.

Final Action: Final recommended action by Committee

Notes:

RECOMMENDATION DOCUMENT

Number: FC R 30 121.815

Issue:

121.815 (b) (1) and (1) (i) retain the basic requirement from the current 121.434 (c) (1) (ii) rule that would require observation by an FAA inspector of a PIC during one flight leg of operating experience.

In addition, the proposed 121.815 (b) (1) (ii) language also provides for an APD (Aircrew Program Designee) to accomplish the operating experience observation requirement.

Discussion & Analysis:

BACKGROUND:
The following is an excerpt from the Preamble language found in;

[Federal Register: April 27, 1995, Page 20858]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 121

[Docket No. 27210; Amendment No. 121-248]
RIN 2120-AD88

Pilot Operating and Experience Requirements

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

Section 121.434(c)(1)(ii)--Observation by FAA Inspector (Operating Experience)

Currently Sec. 121.434(c)(1)(ii) requires that when a PIC is obtaining operating experience at least one flight leg that includes a takeoff and landing must be observed by an FAA inspector if the certificate holder's approved training program includes simulator training under Sec. 121.409(c) and if a qualifying pilot in command is completing initial or upgrade training specified in Sec. 121.424. The revised paragraph deletes the reference to simulator training in the certificate holder's approved training program. The FAA inspector observation requirement will, therefore, apply to all PICs obtaining operating experience if they are completing initial or upgrade training.

Five comments were received on this issue. Two commenters point out that the original purpose of requiring FAA inspector observation was to validate simulator training. Since the onset of the advanced simulation program (FAR Appendix H) tens of thousands of pilots have been successfully trained using advanced simulation. According to commenters, in view of the excellent experience with advanced simulation, the requirement for FAA observation should now be dropped, not expanded. Adding to this requirement would not enhance safety and would be administratively and financially burdensome. These commenters, as well as three others, say that there is a shortage of available, qualified FAA inspectors and this requirement will cause scheduling programs if personal observation of flight legs by an FAA inspector is required. The result will be costly delays in an airline's ability to use newly qualified PICs. One commenter points out that even under the current system, carriers face significant and expensive delays awaiting the availability of an FAA inspector and that the proposal would exacerbate this problem.

ATA, United, and the Regional Airline Association (RAA) recommend that this proposal be eliminated. ATA points out that if the proposal is implemented, the observation could take place

on a pilot's first line trip and could be administered by an inspector who is not qualified on the aircraft being flown.

Three commenters, including American Airlines and RAA, recommend that Designated Examiners and Aircrew Program Designees be allowed to observe the flight leg when FAA inspector schedules are not compatible and completion of the operating experience would be delayed.

FAA Response

The initial observation requirement was implemented to provide an opportunity for the FAA to observe a pilot in performance of his or her duties before the pilot completes initial operating experience if the certificate holder's training program included simulator training. Since almost all certificate holder training programs under part 121 now include simulator training, deleting the reference to simulator training does not significantly affect the current practices of certificate holders or the FAA. The FAA finds that the initial purpose of the observation requirement is still valid: to provide the FAA an opportunity to observe the PIC before he or she assumes unsupervised operations in an airplane; to validate the certificate holder's training program; and to provide the FAA with a quality control mechanism for evaluating the certificate holder's designated check pilot program.

The FAA finds that allowing Designated Examiners or Aircrew Program Designees to substitute for FAA inspectors would not satisfy the purpose of this observation as described above.

DISCUSSION:

Since the current 121.434 rule was implemented, the FAA has regularly issued exemptions to various carriers regarding the rule requiring an FAA inspector to observe the PIC during the operating experience. The exemptions allow the carriers to substitute a check airman in lieu of the FAA inspector to conduct the observation.

It is clear in the Preamble language that the original purpose of the FAA inspector observation of the PIC (during any leg of the operating experience) was to validate a transfer of learning from simulator flight training. The Preamble language modifies this original intent somewhat, by stating that it is “..to validate the certificate holder’s training program; and to provide the FAA with a quality control mechanism for evaluating the certificate holder's designated check pilot program.”.

As carriers and the FAA have accepted the results of these exemptions for over a decade, it is clear that check airmen can successfully perform the necessary validation of the carrier training program. However, it is arguable that neither an FAA inspector or a carrier’s check airman who observe only one leg of operating experience can effectively validate a training program. The individual who is in the best position to make a judgement call on training program effectiveness is the check airman who is conducting, supervising, and certifying the operating experience.

With regards to the quality control mechanism for evaluating the certificate holder’s designated check pilot program, this is already accomplished through both the FAA operational inspections from the jumpseat and the required initial and 24 month observations of each check airman.

Further, the proposed language in 121.811 provides additional insurance that enhance the effectiveness of the training program by mandating a given level of qualification and experience within 180 days prior to being eligible to become a PIC and mandating that the PIC training be completed within a 120 day period.

Recommendation:

The requirement for a PIC who is accomplishing operating experience under the supervision of a check airman to be observed by another party (i.e., FAA inspector, FAA APD, or another check airman) be deleted from the proposed rulemaking, as shown below.

(b) Pilots. Pilots must acquire operating experience and operating cycles as follows:

(1) A pilot in command must perform the duties of a pilot in command under the supervision of a check pilot. In addition, if a qualifying pilot in command has accomplished an initial or upgrade training curriculum specified in § 121.879, the pilot in command must be given a pilot-in-command initial line observation during which the pilot in command is observed performing prescribed duties during at least one operating cycle by one of the following:

(i) An FAA inspector.

(ii) When specifically authorized by the Administrator, an aircrew program designee or check pilot authorized to conduct these observations.

Committee Review: Summary of discussion with Committee

Original recommendation was to delete language in (b)(i). Instead, the group determined that it was more appropriate to keep the existing proposed language and slightly modify it as shown. The purpose of the change is to allow certain FAA-approved check pilot to do initial PIC observation. Some certificate holders don't have or need an APD program. Certificate holders that have an APD program can use FAA-approved check pilots also.

Group agreed with rec doc as changed.

Final Action: Final recommended action by Committee

Notes:

RECOMMENDATION DOCUMENT

Number: FC R 32 121.803

Issue:

The term "knowledge, skills, and abilities" (commonly referred to as, KSA's).

Discussion & Analysis:

The term "knowledge, skills, and abilities" is used to describe the crewmember attributes to be assessed by evaluators and instructors. However, educators have traditionally established that KSA's refer to knowledge, skills, and attitudes.

The assessment of an individual's skill during the performance of a given task is a demonstration of the person's ability to perform that task. Without the ability to perform a task, an individual cannot satisfactorily demonstrate their skill during the performance of a given task while being assessed by evaluators and instructors. Therefore, the assessment of skill includes the assessment of ability.

In the most basic terms, "knowledge" is about what we know, "skill" is about what we do, and "attitude" is about why and how we choose to do. Attitude is the attribute that most affects a person's CRM behavior.

Therefore, the rule language needs to be modified to incorporate this attribute, as well as establishing the basis for assessing CRM behaviors.

Recommendation:

Recommend amending the language in portions of 121.803 as follows.

§ 121.803 Terms and definitions.

Proficiency check. An assessment of crewmember proficiency in knowledge, skill, and attitudes in tasks (for pilots and flight engineers, flight tasks) and to the standards identified and required in the Qualification Performance Standards (QPS) during which limited training or practice is allowed.

Proficiency review. An assessment of pilot or flight engineer proficiency during which limited training or practice is allowed. The assessment is of knowledge, skill, and attitudes in flight tasks, specifically identified in the QPS as proficiency review tasks, to the standards identified and required in the QPS.

Proficiency test. An assessment of crewmember proficiency in knowledge, skill, and attitudes in tasks (for pilots and flight engineers, flight tasks) and to the standards identified

and required in the QPS during which additional training or practice is not allowed.

Flight Crewmember Committee Review: Summary of discussion with Committee

Group agreed to rec doc with note that a word search needs to be done to make change elsewhere if it appears. 12/6/04.

Final Action: Final recommended action by Committee

Notes:

RECOMMENDATION DOCUMENT

Number: FC R 33 121.815

Issue:
121.815
Check Airman Rest While Conducting Operating Experience on Augmented Crews.

Discussion & Analysis:

For decades, Check Airman safely took rest breaks while conducting operating experience on augmented crews without one documented case of safety being compromised. The Check Airman made this determination during the cruise portion of long-haul flights. During this rest period, an ATP, type-rated pilot occupied the Check Airman seat. An FAA legal interpretation changed this long-standing practice in 2003. There was no adverse affect to safety. In fact, this allowed a Check Airman to be better rested for critical descent, approach, and landing phases of flight. Regulation does not require a pilot to rest on flights between more than eight and at twelve hours in duration, it simply requires an additional crewmember. Therefore, a check pilot can remain in the seat for an extended duration. A recent exemption request was denied in favor of regulatory change.

Discussion & Analysis:

CURRENT LANGUAGE:

§ 121.815 Pilot and flight engineer: Operating experience.
(1) Except as provided in paragraph (1)(d)—
(a)…
(b)…..
(c)…

ADD PARAGRAPHs:

(d) During transition or upgrade operating experience, check pilots may, at their discretion, take a rest break during the en route cruise portion of flight, if that flight exceeds eight hours and is less than twelve hours in duration, provided the pilot receiving operating experience and the other required pilot at the controls hold airline transport pilot certificates with appropriate type ratings.
(e) Credit for operating experience may only be taken while under the direct supervision of the check pilot.

Committee Review: Summary of discussion with Committee

The purpose of this change is to allow check airmen to have a rest period during the Enroute portion of a flight that is more than 8 hours and less than 12 hours in duration. In order to do this, we placed an exception to the requirement for operating experience supervision to the Enroute cruise portion of flight under certain conditions. The conditions include: (1) the rest period is at the discretion of the supervising check pilot; (2) both crewmembers at the controls must hold an ATP with an appropriate type rating. This exception, with the conditions: (1) exceeds the minimum qualification requirements for either PIC or SIC during the Enroute cruise portion of flight as specified in 121.543(b)(i); and (2) increases safety because it allows the check airman to be rested and more alert during the critical phases of flight.

In addition, the group agreed rewording 121.543(b)(i) would enhance the understanding of crewmember qualification requirements at the controls.

Flight attendants might want to look at this exception also to see if they want to do something similar in 121.848.

Final Action: Final recommended action by Committee

Notes:

RECOMMENDATION DOCUMENT

Number: FC R 34 121.819 v.2

Issue: 121.819
Pilot Recent Experience

Discussion & Analysis:

Adding additional takeoff and landing requirements and supervised experience does not solve the problem we are trying to fix. The additional takeoff and landing requirements and supervised experience only add more "normal" cycles for this pilot. There are not documented problems associated with "normal" operations. We need to give this pilot more experience handling "Abnormal", "Emergency", and "Non-Normal" situations. 1.) Proficiency will be increased by going to a nine-month simulator training cycle. 2.) A more robust simulator session should be utilized for pilots that lose takeoff and landing currency. 3.) Advancements in simulation (and the intent of this rule making) allow for exceptional training in simulators. 4.) This increased requirement will require Captains to take more takeoffs and landings, to remain current, causing First Officers to get less actual line experience. 5.) This rule appears to allow a pilot to fly without completing currency or qualifications requirements prior to revenue operations.

This recommendation entails leaving the requirement at three takeoffs and landings, as the pilot flying, increasing simulator requirements for those whose recency expired and those close to expiration, and adds a requirement for supervised experience when a Level B simulator is used for takeoff and landing requalification.

There is significant cost impact to implement the original proposed language in the draft NPRM. American Airlines analysis shows a cost of $8-9 million/yr to implement this on the B777 fleet alone, due to an additional 190-205 crewmembers losing currency every month. A majority of affected pilots are international relief pilots that are actively involved in day-to-day operations. This recommendation would cost less than the proposed language in the NPRM but still more than the requirement in the current regulations.

Discussion & Analysis:

The following text changes are proposed:

§ 121.819 Pilot: Recent experience.

No certificate holder may use any person nor may any person serve as a required pilot unless the person has met the following recent experience requirements:

(a) A person must have made, within the preceding 90 days, at least three takeoffs and landings as the pilot flying in the type airplane in which that person is to serve. Except as provided in paragraph (b) of this section, the takeoffs and landings required by this paragraph that are performed in a simulator must be performed in a level C or D simulator qualified under part 60 of this chapter and approved for takeoff and landing maneuvers. Takeoffs and landings performed in a simulator must be observed by a flight instructor. A person who fails to make three takeoffs and landings in any consecutive 90-day period must reestablish recent experience as provided in the QPS before serving as a required pilot.

[Source: § 121.439(a) revised]

(b) A level B simulator qualified under part 60 of this chapter, as defined therein, may be used to satisfy the applicable requirements of paragraph (a) of this section if it was approved by the Principal Operations Inspector for use in the certificate holder's training program on or before [insert effective date of the final rule] and remains qualified in accordance with part 60.

[Source: New]

(c) If a pilot is maintaining recency of experience solely through the use of a simulator, the pilot must demonstrate proficiency in specific maneuvers as prescribed in the QPS.

Committee Review: Summary of discussion with Committee

The group agreed that the simulator is at least as sufficient in maintaining recency of takeoff/landing experience as using the aircraft, in that more direct control of the environmental and aircraft condition may be exercised. Additionally, we have added training tasks that must be accomplished in the simulator that will improve the overall proficiency of the airman.

Also, the group decided that, to be consistent with other training curriculums, the following specifics should be moved to the Pilot QPS, attachment 3:

(1) The three takeoffs and landings must be accomplished in a level C or D simulator qualified under part 60 of this chapter. If the landings are conducted in a Level B simulator, the pilot becomes qualified by making the takeoffs and landings in the simulator and conducting two takeoffs and landings in the type airplane. These supervised takeoffs and landings must be conducted in operations under this part with the supervising check pilot occupying a pilot station. The supervising check pilot must certify, if applicable, that the person being observed is proficient and qualified to perform flight duty in operations under this part. If a pilot enters the simulator for the sole purpose of maintaining takeoff and landing experience, certain maneuvers must be conducted. Each required pilot and flight engineer position must be occupied by an appropriately qualified person and the simulator must be operated as if in a normal in-flight environment position, except at cruise on a downwind leg. The three takeoffs and landings in a simulator must include all of the following, for maintaining or reestablishing recent experience:
(i) Minimum of three takeoffs
(ii) One landing from a precision approach to the lowest minimum for manual flying authorized for the certificate holder.
(iii) One takeoff with a simulated failure of the most critical power plant.
(iv) Engine Failure During a Critical Phase(v) Engine Out Approach (Hand Flown)
(vi) Non-Precision Approach
(vii) Minimum of three landings to a full stop
(viii) One additional takeoff, approach, and landing cycle as pilot monitoring
[see Requalification rec doc]

(d) The FAA may impose additional recent experience requirements specified by the FSB.
[Source: New]

Final Action: Final recommended action by Committee

Notes:

RECOMMENDATION DOCUMENT

Number: FC R 35 121.840

Issue:

In order for flight instructor personnel to maintain an adequate level of proficiency, a minimum level of activity should be expected during a given period of time.

Discussion & Analysis:

FAR 121.835 (c) defines a minimum level of activities for a check pilot to accomplish in order to maintain their qualification as a check pilot by stating;

In addition to the requirements of (a) and (b) of this section, as applicable, to maintain qualification as a check pilot or check flight engineer, every 12 months, the check pilot or check flight engineer must accomplish at least 1 of each activity that he or she is authorized to do and must have done at least a total of 8 activities. The activities that a check pilot or check flight engineer may be authorized to conduct include proficiency tests, proficiency checks, proficiency reviews, operating experience, line checks, and LOFTs. A check pilot or check flight engineer who does not meet the requirements of this paragraph may reestablish recent check pilot or check flight engineer experience by meeting the requirements of § 121.831(c)(1) or (c)(2) as applicable.

However, in the case of a flight instructor, FAR 121.840 (c) states;

) In addition to the requirements of (a) and (b) of this section, as applicable, to maintain qualification as a flight instructor at least once in every 90-day period a flight instructor must conduct instruction. If the flight instructor also conducts reviews, the flight instructor must also conduct at least one

review in every 90-day period. A flight instructor who does not meet the requirements of this paragraph may reestablish flight instructor experience by meeting the requirements of § 121.839(c) and (d), as applicable.

The minimal requirements contained therein, do not provide sufficient practice in recent experiences for a flight instructor to remain proficient. In addition, the 121.840 requirements are not consistent with those for check pilots found in 121.835.

Recommendation:

Revise 121.840 to read as follows, in order to create parity between the check pilot and flight instructor recent experience requirements:

(c) In addition to the requirements of (a) and (b) of this section, as applicable, to maintain qualification as a flight instructor, every 12 months, the flight instructor must accomplish at least 1 of each activity that he or she is authorized to do and must have done at least a total of 8 activities. The activities that a flight instructor may be authorized to conduct include flight training, proficiency reviews, and LOFT's. A flight instructor who does not meet the requirements of this paragraph may reestablish flight instructor experience by meeting the requirements of § 121.839(c) and (d), as applicable.

Committee Review: Summary of discussion with Committee

Group agreed with change. 12-9-04.

Final Action: Final recommended action by Committee

Notes:

RECOMMENDATION DOCUMENT

Number: FC R 39 121.859

Issue: The tables and associated hours do not appropriately indicate the differences between Upgrade and Transition training curricula.

Discussion & Analysis: The proposed tables do not make a distinction between a crewmember who may be upgrading in the same aircraft versus a crewmember who may be transitioning between two different aircraft.

Typically, a crewmember who becomes eligible to upgrade gains experience in a given position prior to changing positions in the same aircraft. The tables need to reflect that the experience gained on the aircraft should be reflected in a reduced training hours requirement.

Therefore, in order to reflect the differences between the two curricula, the upgrade and transition requirements need to be separated in Tables 1A and 2A.

Additionally, 121.895 (c) (1) provides for differences training to be included in the initial, upgrade, and recurrent curriculums.

For clarity, the notes for Tables of 1A and 2A should reflect the 121.895 provision.

Recommendation: The attached pages reflect the recommendation for separating upgrade and transition training and modifies the associated notes to include appropriate differences training references.

Committee Review: Summary of discussion with Committee Group questioned why hours for PIC/SIC and Flight Engineer transition ground aren't the same in both tables. Group made hours the same where applicable. Put hours in QPS. Group agreed with rec doc, as revised. 12/10/04.
Final Action: Final recommended action by Committee
Notes:

Table 1A
Pilots and Flight Engineers
Program Baseline Hours by Curriculum, Segment, and Position

Curriculum	Indoctri-nation*	Initial* (by airplane type)		Upgrade* (by airplane type)		Transition* (by airplane type)		Recurrent ** (by airplane type)	
Segment	**N/A**	**Ground**	**Flight**	**Ground**	**Flight**	**Ground**	**Flight**	**Ground**	**Flight**
Pilot in Command/ Second in Command	40	136	36	72	20	96	36	40	16
Flight Engineer	40	136	24	N/A	N/A	96	24	40	8

* Program hours for indoctrination, initial, transition, and upgrade training includes differences training curriculums for crewmembers, as required in § 121.895.
** Recurrent cycle for pilots and flight engineers is 18 months. Program hours are the total for 18 months.

Table 2A
Pilots and Flight Engineers
Program Minimum Hours by Curriculum, Segment, and Position

Curriculum	Indoctri-nation*	Initial* (by airplane type)		Upgrade* (by airplane type)		Transition* (by airplane type)		Recurrent ** (by airplane type)	
Segment	**N/A**	**Ground**	**Flight**	**Ground**	**Flight**	**Ground**	**Flight**	**Ground**	**Flight**
Pilot in Command/ Second in Command	32	88	Not reduci ble	56	Not reduci ble	68	Not reduci ble	32	Not reduci ble

Flight Engineer	32	88	Not reducible	N/A	N/A	68	Not reducible	32	Not reducible

* Program hours for indoctrination, initial, transition, and upgrade training includes differences training curriculums for crewmembers, as required in § 121.895.

** Recurrent cycle is 18 months for pilots and flight engineers. The program hours are the total for 18 months.

RECOMMENDATION DOCUMENT

Number: FC R 40 121.815

Issue: Some Flight Standards Board (FSB) Reports contain the requirement for Supervised Line Flying experience for certain variants. This requirement is contrary to the intent of 121.815 (a).

Discussion & Analysis:

121.815 (a) states in part…..

Separate operating experience, operating cycles, and line operating flight time for consolidation are not required for variations within the same type airplane.

Certain FSB Reports contain a requirement for crewmembers to gain additional operating experience in what is termed "Supervised Line Flying". This additional operating experience for a crewmember, who is already flying a variant of a particular aircraft type, is contrary to the requirements in 121.815 (a).

Therefore, the language of 121.815 (a) should be revised to indicate that Supervised Line Flying is not required for variations within the same type airplane.

Recommendation:

It is recommended that the language of 121.815 (a) be revised as follows;

Separate operating experience, operating cycles, and line operating flight time for consolidation or qualification are not required for variations within the same type airplane, except as specified by the FSB when additional operating experience may be necessary.

Committee Review: Summary of discussion with Committee

The group agreed that this rec doc is okay with the changes noted. However GC has expressed a concern about the legality of referencing the FSB reports in the rule language since they are not mandatory. **This issue needs to be raised in FAA.**

Final Action: Final recommended action by Committee

Notes:

RECOMMENDATION DOCUMENT

Number: FC R 41 121.827

Issue: The rule language does not provide relief for situations in which a certificate holder may employ second in command pilots who possess a type rating for the aircraft in which they conduct operations.

Discussion & Analysis:

The proposed rule language states……

121.827 Pilot: Crew pairing.

(a) No person may conduct operations under this part, unless either the pilot in command or the second in command has at least 75 hours of line operating flight time for that type airplane, either as pilot in command or second in command. The Administrator may, upon application by the certificate holder, authorize deviations from the requirements of this paragraph by an appropriate amendment to the operations specifications in any of the following circumstances:

(1) A new certificate holder does not employ any pilots who meet the minimum requirements of this paragraph.

(2) An existing certificate holder adds to its fleet a type airplane not previously proven for use in its operations.

(3) An existing certificate holder establishes a new domicile to which it assigns pilots who will be required to become qualified on the airplanes operated from that domicile.

In the case where a certificate holder employs a second in command who has previously demonstrated the required knowledge and skills to the FAA as a pilot in command through the type rating process and who possesses a type rating on the aircraft for which the second in command is assigned to operate, a provision to allow deviation from the crew pairing operating flight time requirement should be provided.

Recommendation:

Recommend that the language of 121.827 be revised as follows…

121.827 Pilot: Crew pairing.

(a) No person may conduct operations under this part, unless either the pilot in command or the second in command has at least 75 hours of line operating flight time for that type airplane, either as pilot in command or second in command. The Administrator may, upon application by the certificate holder, authorize deviations from the requirements of this paragraph by an appropriate amendment to the operations specifications in any of the following circumstances:

(1) A new certificate holder does not employ any pilots who meet the minimum requirements of this paragraph.

(2) A certificate holder employs second in command pilots who currently possess a type rating for the aircraft in which they are assigned to conduct operations.

(3) An existing certificate holder adds to its fleet a type airplane not previously proven for use in its operations.

(4) An existing certificate holder establishes a new domicile to which it assigns pilots who will be required to become qualified on the airplanes operated from that domicile.

Committee Review: Summary of discussion with Committee

Group agreed changed proposed in Rec Doc not needed. Leave proposed language as is. 12/9/04.

Final Action: Final recommended action by Committee

Notes:

RECOMMENDATION DOCUMENT

Number: FC R 42 121.683

Issue:

The proposed language of 121.683 is over burdensome and unnecessary as relates to maintaining a list of individuals who received additional hours of training.

Discussion & Analysis:

121.683 (b) states…….

(b) Each certificate holder must maintain current records that show the number of actual program hours of training that were provided to each crewmember for each curriculum segment. If a certificate holder provides any individuals with more hours of training than the number approved in its training program in accordance with § 121.859, the certificate holder must make available to the FAA a list of the names of individuals who received additional hours of training and the type of training.

This requirement appears to be primarily aimed at identifying crewmembers who may be weak and/or a curriculum segment that may be weak and reporting this data to the FAA, based upon the assumption that additional hours may be an indicator. The language is about two thoughts, recording and reporting.

Records:
The carrier and the FAA maintain historical records of training program and curriculum segment approvals. These records are sufficient to determine the number of program hours for each curriculum segment and, therefore, the number of hours that each crewmember would have accomplished during their satisfactory completion of the particular curriculum segment.

Therefore, it is unnecessary for a carrier to maintain records of training curricula program hours, as this information is already being kept by the carrier and the FAA.

Reporting:
Proposed rule 121.864 (h) provides the requirement for the carrier to maintain and report certain training/checking failures to the FAA. The requirements of 121.864 (h), coupled with routine inspector surveillance, are sufficient to keep the FAA appraised of the performance of both crewmembers and training curricula.

Recommendation:

Recommend revising the language of 121.683 (b) as follows…..

(b) Each certificate holder must maintain current records that show the number of actual program hours of training that were provided to each crewmember for each curriculum segment.

Flight Crewmember Specialty Committee Review: Summary of discussion with Committee

12/6/2004—Committee agreed with rec doc as is. Rec Doc Final.

Final Action: Final recommended action by Committee

Notes:

RECOMMENDATION DOCUMENT

Number: FC R 43 121.828

Issue: 121.828
Pilot and flight engineer: Requalification.

Discussion & Analysis:
The proposed rule bases requalification training on the amount of time since the pilot lost qualifications. This proposal bases that training on a more conservative timeline, based on the amount of time that pilot last performed their respective duties on the type airplane. This gives the operator a more accurate depiction of the amount of training required for the individual. Otherwise, there may be large differences between the recent activity of pilots entered into the same type requalification training curricula. Example: Two pilots completed recurrent training on 1/1/05. Pilot 1 became ill on 1/2/05 and did not fly for a long period of time. Pilot 2 became ill eight months later. Neither pilot was able to attend training around their recurrent training period (October base month). Both pilots return to work on 1/1/06. Under the current proposal both pilots would attend Phase I requalification training. Pilot 1 has not performed pilot duties in 12 months. Pilot 2 has not performed pilot duties in 3 months. This proposal would treat Pilot 1 as a Phase II requalification and Pilot 2 as a Phase I requalification.

This proposal also changes the time parameters for different phases of requalifcation.

Additionally, the recency of experience requirement does not apply to Phase II or III since the 121.819 maneuvers will accomplished through the normal curricula.

Discussion & Analysis:

The following text changes are proposed:

§ **121.828 Pilot and flight engineer: Requalification.**

(a) Except as provided in paragraphs (b) and (c) of this section, no certificate holder may use any person nor may any person serve as a pilot or flight engineer if that person has become unqualified by failing to satisfactorily accomplish any of the following:

(1) Recurrent ground and flight training curriculums, including proficiency tests, proficiency checks, and proficiency reviews, as required by § 121.813.

(2) Recent experience requirements as required by § 121.819(a) and § 121.821(a), as applicable.

(3) Pilot-in-command line checks as required by § 121.823.

(4) Pilot consolidation of knowledge and skills, as required by § 121.817.

(b) If a person fails to meet any of the requirements of paragraph (a)(1)-(a)(3), to be requalified the person must meet the requirements of § 121.811(a)(1)-(a)(3) and (b) in accordance with the approved program hours for that curricula. The requalification phase is based on the number of calendar months after the month in which the flight crewmember last performed duties on that type aircraft:

Phase I requalification – Not more than 9 calendar months
Phase II requalification – More than 9 calendar months, but not more than 27 calendar months
Phase III requalification – More than 27 calendar months.

The requalification curricula must meet the following requirements:

(1) Phase I requalification program. The pilot or flight engineer must complete the appropriate Phase I requalification activity within a 60-day period:

(i) Failure to accomplish recurrent training curriculum requirements. The pilot or flight engineer must satisfactorily accomplish all of the recurrent training curriculum modules or any modules that were not satisfactorily accomplished by the end of the grace period. The pilot's or flight engineer's base month for recurrent training will not be changed.

(ii) Failure to accomplish recent experience requirements. The pilot must re-establish recent takeoff and landing in accordance with § 121.819(c)(1). If a flight engineer has failed to accomplish the recent experience requirements, the flight engineer must meet the recent experience requirements of § 121.821(c)(1).

(iii) Failure to satisfactorily accomplish the pilot-in-command line check. The pilot in

command must satisfactorily accomplish a line check. The base month for the next line check will be re-established based upon the month in which the check is accomplished.

(2) Phase II requalification program. The pilot or flight engineer must complete the appropriate Phase II requalification activity within a 60-day period:

(i) Failure to accomplish recurrent training curriculum requirements. If the pilot or flight engineer has failed to accomplish the recurrent training curriculum, the pilot or flight engineer must satisfactorily accomplish a requalification training curriculum of X ground training hours and Y flight training hours. The pilot's or flight engineer's recurrent base month must be changed to correspond to the month in which the requalification proficiency test was satisfactorily accomplished. The Administrator determines the number of program hours required for each curriculum. The pilot in command must satisfactorily accomplish a pilot in command line check.

(3) Phase III requalification program. If a pilot or flight engineer must complete the following Phase III activities within a 90-day period:

(i) The pilot or flight engineer must satisfactorily accomplish the indoctrination training curriculum and the initial training curriculum. In addition, pilots must accomplish a qualification LOFT. The Administrator will determine the program hours required for each curriculum, but in no case may the time be less than the minimum program hours required for indoctrination and initial training in Table 2A of § 121.859. A pilot in command must also satisfactorily accomplish a line check.

(ii) The pilot's or flight engineer's recurrent base month must be changed as appropriate to correspond to the month in which the proficiency test was satisfactorily accomplished. Also, the base month for the next pilot-in-command line check will be reestablished based upon the month in which the check is accomplished.

[Source: New]

(c) If the pilot consolidation requirements of paragraph (a)(4) of this section are not met, the person must meet either the requirements of § 121.811(a)(1)-(a)(3) and (b) or the following requirements to become requalified:

(1) More than 150 days but less than 211 days without completing consolidation. If the person has not accomplished 100 hours of experience in the type airplane to meet the consolidation requirement within 150 days but less than 211 days, the person may be requalified according to the following procedures:

(i) The pilot must satisfactorily accomplish, by day 210 of the consolidation period, the indoctrination training curriculum and the initial training curriculum. The pilot's recurrent base month must be changed to correspond to the month in which the requalification proficiency test was satisfactorily accomplished. The Administrator will determine the program hours required for each curriculum.

(ii) The pilot must accomplish the 100 hours of experience (the remaining hours that were not accomplished in accordance with § 121.817) by day 270 of the consolidation period.

(2) More than 210 days without completing consolidation. If the pilot does not accomplish the requalification requirements of paragraph(c)(1)(i) of this section, by day 210 or does not accomplish consolidation by day 270, in accordance with paragraph (c)(1)(ii) of this section, the pilot may be requalified according to the following procedures:

(i) The pilot must satisfactorily accomplish the indoctrination training curriculum, the initial training curriculum, and qualification LOFT. A pilot in command must also satisfactorily accomplish a line check.

(ii) The pilot's recurrent base month must be changed as appropriate to correspond to the month in which the proficiency test was satisfactorily accomplished. Also, the base month for the next line check will be reestablished based upon the month in which the check is accomplished.
(iii) The Administrator will determine the program hours required for each curriculum, but in no case may the program hours be less than the minimum hours required for indoctrination and initial ground and flight training in Table 2 of § 121.859.
(iv) Any hours acquired toward consolidation before the pilot satisfactorily accomplished the proficiency test do not count towards satisfying the consolidation requirements of § 121.817. After the pilot satisfactorily accomplishes the proficiency test, the pilot must restart consolidation.
[Source: New]

Committee Review: Summary of discussion with Committee
Need to do a search and replace in NPRM of "grace" (grace period, grace month, etc.) and change to "eligibility period."

Make the same editorial changes in Phase II and Phase III requalification (intro language) as made in Phase I.

Need to do global search and replace "airplane" with "aircraft."

Group agreed with rec doc, with changes. 12/9/04.

Final Action: Final recommended action by Committee

Notes:

RECOMMENDATION DOCUMENT

Number: FC R XX 121.829

Issue: 121.829 (a)(3) and (4) Check Pilot and Check Flight Engineer Qualification

Discussion & Analysis: The referenced proposed rule would require that a candidate for assignment as a check airman for a particular Part 121 operator must "have served for at least 1 year as a flight instructor in the part 119 certificate holder's approved program in an airplane of the same group in which that person is to check. Although elsewhere in the proposed rule, Part 142 TCEs, under contract or other arrangements with the certificate holder, may be presented by the certificate holder to the FAA for approval as check airmen, this portion of the proposal would essentially eliminate certificate holders from the ability to have 142 TCEs approved as check airmen for the carrier.

Though it may be desirable in some quarters for prospective check airmen to have a year's experience instructing in the specific part 119 certificate holder's program, sufficient training, evaluation and consideration of the check airman candidate's experience should be adequate to acquire FAA approval for a Part 142 TCE to become a check airman for the carrier.

At least at one point in time, the FAA agreed with this view. Reference the extract below from the preamble in the Federal Register for the final rule creating Part 142. (Docket No. 26933, July 2, 1996)

"NATCO stated that if each instructor, check airman, and evaluator can be shown to be qualified to fulfill the responsibilities, then a prerequisite for 1 year of employment should have no bearing on that person's effectiveness.

The FAA agrees. As mentioned in the section entitled ``Related Activity'' there is a separate rulemaking action underway, a final rule, to amend appendix H of part 121 accordingly.

After re-examination following analysis of comments, the FAA revised proposed Sec. 121.402(a) to provide that a part 121 certificate holder may continue to provide training, testing, and checking to another part 121 certificate holder provided the training meets the requirements of part 121 and the POI of that receiving certificate holder approves that training.

The FAA further revised this section to indicate that the only entity, other than another part 121 certificate holder, that may provide training to a part 121 certificate holder is a training center certificated under part 142 of this chapter. This revision will ensure standardization and increase safety through the use of state-of-the-art training media that are inherent in training centers."

Recommendation: Recommend that the proposed rule be changed to read:
(3) Have served as a flight instructor in a part 119 or a part 142 certificate holder's approved program in an airplane of the same group in which that person is to check.

(4) Have served as a pilot in command, second in command, or flight engineer, as appropriate, on an airplane of the same group in which that person is to check.

Committee Review: Summary of discussion with Committee

Final Action: Final recommended action by Committee
Per Charlie Strickland, this has already been addressed in another rec doc. This rec doc can be deleted. 12/9/04

Notes:

RECOMMENDATION DOCUMENT

Number: FC R 46-121.837

Issue: 121.837 Aircrew Program Designee

Discussion & Analysis
Under present regulations, Part 142 FAA approved Training Center Evaluators with certification authorization may be approved by Part 121 Principle Operation Inspectors to conduct testing of the certificate holder's pilots for the purpose of issuing new airman certificates or additional ratings to existing certificates. The proposed rule would eliminate the granting of this authority.

Recommendation:

ADD the following sub-paragraphs to proposed 121.837:

(c) A certificate holder may contract with, or otherwise arrange to use the services of, a training center certificated under part 142 of this chapter to provide testing, checking, and reviews required by this part, as approved by the certificate holder's POI, only if the training

center. -

(1) Has TCEs qualified under the applicable requirements of §121.XXX, or §142.XXX, and are approved by the certificate holder's POI to provide testing, checking and reviews to persons subject to the requirements of this subpart.

(d) No certificate holder may use a TCE nor may any TCE serve as an aircrew program designee in a training program established under this part unless, with respect to the airplane type involved, that person has satisfactorily accomplished all of the following training, testing, checking, and recent experience requirements:

(1) The initial, transition, or upgrade training curriculums that are required to serve as a pilot in command or flight engineer, as applicable, in operations under this part, in accordance with §§ 121.877 and 121.879.

(2) The appropriate check airman training; and every 18 months thereafter recurrent check airman training curriculums that are required to accomplish the functions of check airmen, in accordance with §§ 121.889 and 121.891. For pilot aircrew program designees these requirements must be satisfactorily accomplished for both pilot seats.

(3) Observation checks of an aircrew program designee. The Administrator must initially observe the TCE conducting a proficiency test for the purpose of evaluating an applicant for a certificate or rating. Thereafter, the person may conduct proficiency tests, proficiency checks, or proficiency reviews if within the preceding 24 months an FAA inspector has observed the person conducting a proficiency test. All observation checks must be accomplished in a flight simulator.

(4) The recent experience requirements of § 121.840 (b)(1)(i) or (ii), as applicable.

Committee Review: Summary of discussion with Committee

Training and Qualification requirements in part 142 for a TCE need to be more clearly spelled out. While TCEs don't work for a part 119 certificate, they need to have the same qualifications as if they did work for a part 119 certificate holder except for holding a medical. Need to make conforming changes to Part 142 per changes in 121.

See attached for revisions to Table A and Table B in NPRM. The purpose of the changes were to clarify the roles of part 142 and part 119 certificate holders.

Group agreed to rec doc, with changes. 12/9/04.

Final Action: Final recommended action by Committee

Notes:

Table A
PERSONNEL POSITIONS AUTHORIZED TO ADMINSTER PILOT TRAINING, EVALUATION, AND OBSERVATION ACTIVITIES UNDER SUBPART Y

1 2 1								
EMPLOYEE OF	**EMPLOYER and POSITION**							
	Other Contractor		**Part 142 or Other Part 119 Certificate Holder**			**The Part 119 Certifi Holder**		
Pilot Training, Evaluation, And Observation Activities Under Subpart Y (by airplane type)	**Ground Training Instructor**	**Flight Training Instructor**	**Ground Training Instructor**	**Flight Training Instructor**	**[delete this blank column]**	**Ground Training Instructor**	**Flight Training Instructor**	
Ground Training	X	X	X	X		X	X	
Flight Training		X		X			X	
Certificate Or Rating Examination								
Proficiency Test (Initial, Transition, Upgrade, Recurrent, Requalification)								
Qualification Loft							X	
Supervision Of Operating Experience								
PIC Initial Line Observation								
Line Check - All Flightcrew Members								
Proficiency Review							X*	
Proficiency Check								
Observation Of Operating Experience								
Observation Of Flight Instructor								
Observation Of Check Airman								
Observation Of APD								

See § 121.865 for special limited authorizations for Initial Cadre Personnel.
* Requires authorization by the Administrator for specific duties to be performed. May be a Part 142 TCE who has been designated by the POI.

Table B
PERSONNEL POSITIONS AUTHORIZED TO ADMINISTER FLIGHT ENGINEER TRAINING, EVALUATION, AND OBSERVATION ACTIVITIES UNDER SUBPART Y

1 2 1								
EMPLOYEE OF	**EMPLOYER and POSITION**							
	Other Contractor		**Part 142 or Other Part 119 Certificate Holder**			**The Part 119 Certificat**		
Flight Engineer, Evaluation, And Observation Activities Under Subpart Y (by airplane type)	**Ground Training Instructor**	**Flight Training Instructor**	**Ground Training Instructor**	**Flight Training Instructor**	**[Delete this blank column]**	**Ground Training Instructor**	**Flight Training Instructor**	
Ground Training	X	X	X	X		X	X	
Flight Training		X		X			X	
Certificate Or Rating Examination								
Proficiency Test (Initial, Transition, Upgrade, Recurrent, Requalification)								
Qualification Loft							X	
Supervision Of Operating Experience								
Proficiency Review							X*	
Proficiency Check								
Observation Of Operating Experience								
Observation Of Flight Instructor								
Observation Of Check Airman								
Observation Of APD								

See § 121.865 for special limited authorizations for Initial Cadre Personnel.
* Requires authorization by the Administrator for specific duties to be performed. May be a Part 142 TCE who has been designated by the POI.

RECOMMENDATION DOCUMENT

Number: FC R XX 121.871

Issue: 121.871 Training Program: Training equipment other than flight simulation devices.

Discussion & Analysis
The proposed rule refers to equipment used in a certificate holder's training program and places a number of conditions and qualifications for the use of such equipment. The equipment is defined in part as "Training equipment, other than flight simulation devices qualified under part 60 of this chapter....."
By defining equipment as what it is not leaves great opportunity for various opinions as to exactly what equipment must be considered for application of this paragraph. The proposed rule mentions that the FAA must "approve all" training equipment, and that "each piece" of training equipment must satisfy the FAA requirements. Opinions may include video projectors and slide projectors, although I do not believe that is the intent. The proposal does leave room for such devices, and more, to be included by some individuals.

Recommendation:
Identify specifically what pieces of equipment the proposed rule is intended to address. Examples of what may be included are Cockpit Procedural Trainers, Part-Task Trainers, and desktop simulations.

Also, make reference to examples of things that might be considered as included but should not be considered. Examples such as the projectors mentioned above.

Revise 121.871(a) and (b) to read as follows:

(a) The FAA must approve training equipment used to functionally replicate aircraft equipment or furnishings such as door trainers, overwing exit trainers, cabin mockup trainer, for the certificate holder and the crewmember function or procedure involved.

b) The certificate holder must demonstrate to the satisfaction of the FAA that such training equipment meets all of the following:

(1) The form, fit, function, and weight (as appropriate) of the equipment as installed in the airplane including all equipment and furnishings that may complement or may hinder the operation of that equipment.

(2) Normal operation (and abnormal and emergency operation, if appropriate) including the following:

(i) The required force and travel of the equipment.

(ii) If applicable, the variations in equipment operated by the certificate holder.

(3) Operation of the equipment under adverse situations if appropriate.

(c) All such training equipment must be modified to conform with each modification to the airplane or airplane equipment replicated that results in changes to the performance or function of the equipment replicated.

(d) All such training equipment must have a discrepancy log in close proximity to each piece of training equipment. The discrepancy log must be readily available for review by each instructor or representative of the Administrator conducting training or evaluation with that piece of equipment.

(1) Each instructor or representative of the Administrator conducting training or evaluation and each person conducting an inspection of such equipment who discovers a discrepancy, including any missing, malfunctioning, or inoperative components, must write or cause to be written a description of that discrepancy into the discrepancy log at the end of the inspection or the training session.

(2) All corrections to those discrepancies must be recorded as soon as the corrections are made, and the dates of the discrepancies and corrections must be recorded.

(3) A discrepancy log must be maintained for at least 60 days.

(e) No person may use or allow the use of or offer the use of such training equipment with a missing, malfunctioning, or inoperative component for meeting training or evaluation requirements of this chapter for crewmember qualification during tasks that require the use of the correctly operating component.

Committee Review:

Group agreed with rec doc with noted changes. Group made changes because they were concerned that rule was unclear and might include too many pieces of equipment. Revisions tried to clarify intent.

Flight Attendants should look at revisions.

12/9/04

Final Action:

Notes:

RECOMMENDATION DOCUMENT

Number: FC R 121.683 (a) (1)

Issue:

There is no reference to the recording of the evaluations of other pilots and flight engineers who are serving during a PIC line check required by 121.823 (d).

Discussion & Analysis:

There is no stated requirement to collect or maintain records for the flight crewmembers who are evaluated while serving during a PIC line check.

121.683 (a) (1) states..

The records must show whether the crewmember or aircraft dispatcher complies with the applicable sections of this chapter, including proficiency and route checks, airplane and route qualifications, training, and all required physical examinations and flight, duty, and rest periods.

Recommendation:

The following addition to the rule clarifies that random line checks are to be part of the training records.

The records must show whether the crewmember or aircraft dispatcher complies with the applicable sections of this chapter, including proficiency and route checks, random line checks, airplane and route qualifications, training, and all required physical examinations and flight, duty, and rest periods.

Flight Crewmember Specialty Committee Review: Summary of discussion with Committee

Group agreed that this rec doc is not needed. It was taken care of by changes to 121.823(d) rec doc.

Final Action: Final recommended action by Committee

Notes:

RECOMMENDATION DOCUMENT

Number: FC R 121.813(d)(2)_(e)(1)

Issue: Required Recurrent Flight Training

Discussion & Analysis: As the rule is written, the requirement for an FSD training session, plus a recurrent LOFT each nine months is excessive. It is felt that alternating a recurrent LOFT with an FSD training session each nine months is adequate, especially considering that all FSD training events must include a full crew. This, gives a LOFT environment, which meets the intent of the regulation.

A significant cost impact would occur in additional simulator sessions and lost airman productivity with the current rule language. It is estimated that the cost would be an additional $1M per year based on 1,000 line pilots.

Recommendation: Change FAR 121.813(b)to read:

(b) Nine months after a pilot or flight engineer has satisfactorily accomplished the proficiency test prescribed in § 121.879(b), a pilot or flight engineer must have satisfactorily accomplished all of the following:

(1) Recurrent ground training.

(2) Recurrent flight training.

(3) A proficiency test.

Change (d) to read:

(d) During each of the 9-month training periods that make up the 18-month cycle, a pilot or flight engineer must accomplish at least all of the following:

(1) Recurrent ground training as prescribed in § 121.881.

(2) Recurrent LOFT or FSTD course of instruction.

(3) A proficiency check or proficiency review; however, proficiency reviews may not be given in consecutive 9-month training sessions.

(e) During each 18-month cycle, each pilot or flight engineer must satisfactorily accomplish at least all of the following:

(1) Recurrent ground training as prescribed in § 121.881

(2) At least one FSTD course of instruction as prescribed in § 121.881.

(3) At least one recurrent LOFT.

(4) Two proficiency checks or one proficiency review and one proficiency check in accordance with (d)(3) of this section.

(f) Each 36 months, a pilot or flight engineer must accomplish airplane emergency ground training drills in accordance with the QPS.

[Source: §§ 121.417, 427, 433(c); revised and new][review this relative to pilot requirements and frequency]

(g) [re-letter existing (f)]

Committee Review: Summary of discussion with Committee

Group agreed to to rec doc, with changes. 12/7/04.

Need to change reference in 813(c) from (b)(4) to (b)(3).

Need to be consistent with “flight training instruction” and “FSTD course of instruction.”—do word search to use “FSTD course of instruction”

Final Action: Final recommended action by Committee

Notes:

RECOMMENDATION DOCUMENT

Number: FC R 121.823 (d)

Issue:

While it is understood that the other required pilots and flight engineers who are serving during a flight in which the pilot in command is accomplishing a line check are also being evaluated, there is no term used to describe this event nor language to cover the recording of the satisfactory/unsatisfactory performance of these persons.

Discussion & Analysis:

121.823 (d) states..

During the line check of the pilot in command required by paragraph (a) of this section, the check pilot conducting the line check must evaluate all other required pilots and flight engineers.

There is no term established for the action of evaluating the other required persons. Further, because there is no term established, there is no reference in 121.683 (a) (1) to the recording of the evaluation of the other required persons.

Recommendation:

The following revision is recommended to 121.823 (d).

The check pilot conducting the line check must evaluate the entire flight crew in the performance of their duties during the line check of the pilot in command required by paragraph (a) of this section. The evaluation of the other required flight crewmembers will be recorded only where the check airman observes a lack of proficiency.

Preamble language: This documents current practice. Whenever check airmen conduct line checks, they always observe the crew as a whole. If one of the flight crewmembers performs unsatisfactorily, the check airman must document this.

Flight Crewmember Committee Review: Summary of discussion with Committee

Group agreed to revised language. Final.

Final Action: Final recommended action by Committee

Notes:

RECOMMENDATION DOCUMENT

Number: FC R 121.829(a)(3)

Issue: Requirement for individuals to have one year as an instructor with the certificate holder in order to qualify as a Check Pilot.

Discussion & Analysis: The common practice is for certificate holders to have instructor staff that are not line pilots. These individuals are employed for their instructional ability and expertise, and are usually retired pilots or those on medical disability. Therefore, for the most part, they are ineligible to give line checks and operating experience.

The rule should allow for line checks and operating experience to be administered by qualified line captains, who do not necessarily have one year of instructing with the certificate holder. As for checking events in an FSD (ie, Proficiency Tests/Proficiency Checks), the one year of instructing experience is a good idea.

Recommendation: (3) If a person is to perform Proficiency Tests or Proficiency Checks in an FSD, have served for at least 1 year as a flight instructor in the part 119 certificate holder's approved program in an airplane of the same group in which that person is to check.

Committee Review: Summary of discussion with Committee

Taken care of by another rec doc. 12/10/04.

Final Action: Final recommended action by Committee

Notes:

RECOMMENDATION DOCUMENT

Number: FC R 121.829(a)(3)

Issue: Requirement for individuals to have one year as an instructor with the certificate holder in order to qualify as a Check Pilot.

Discussion & Analysis: The common practice is for certificate holders to have instructor staff that are not line pilots. These individuals are employed for their instructional ability and expertise, and are usually retired pilots or those on medical disability. Therefore, for the most part, they are ineligible to give line checks and operating experience.

The rule should allow for line checks and operating experience to be administered by qualified line captains, who do not necessarily have one year of instructing with the certificate holder. As for checking events in an FSD (ie, Proficiency Tests/Proficiency Checks), the one year of instructing experience for an otherwise inexperienced Check Airman is a good idea. [Verifiable experience is a viable alternative to the requirements of (a)(3) below.—put in preamble]

Recommendation

§ 121.829 Check pilot and check flight engineer: Eligibility and approval.

(a) To be eligible to become a check pilot or check flight engineer and to continue to serve as a check pilot or check flight engineer, a person must meet the following requirements:

(1) Have an ATP or Flight Engineer certificate, and ratings as appropriate, AND;.

[Source: § 121.411(b)(1)]

(2) Except as provided in (a)(4) of this section, have satisfactorily accomplished the certificate holder's flight and ground training for the pilot-in-command or flight engineer position in accordance with § 121.879 and § 121.831, AND;.

[Source: § 121.411(b) (2) and (c)(2)]

(3) Have served for at least 1 year as a flight instructor in a part 119 certificate holder's approved program, or have served as a TCE for a part 142 certificate holder, or have served as a pilot in command, second in command, or flight engineer, as appropriate, in an airplane of the same group in which that person is to check.

(4) TCEs must complete ground and flight training for the subjects and events that they are authorized to evaluate.

Committee Review: Summary of discussion with Committee

Group okay with changes. 12/9/04

Final Action: Final recommended action by Committee

Notes:

RECOMMENDATION DOCUMENT

Number: FC R 121.881(b)(1)(i)_(b)(2)(i), and (b)(3)

Issue: Required Recurrent Flight Training

Discussion & Analysis: As discussed in FC R 121.813(d)(2)_(e)(1). This conforms to changes in 121.813 and 121.873.

Recommendation: Change FAR 121.881(b)(1)(i) to read:

(i) The curriculum must provide at least 4 hours FSTD course of training with instruction and practice, 4 hours recurrent LOFT, and either two proficiency checks or a proficiency check and a proficiency review. All of these activities are part of the program hours required in § 121.859.

Change FAR 121.881(b)(2)(i) to read:

(2) Each FSTD course of training must meet the following requirements:

(i) It must provide at least 4 hours of flight training at the applicable duty position, plus a briefing or briefings before and after the training.

Change FAR 121.881(b)(3) to read:

(3) Each LOFT session must meet the requirements of § 121.873.

Committee Review: Summary of discussion with Committee
Committee agrees to rec doc as changed. 12/7/04.

Final Action: Final recommended action by Committee

Notes:

RECOMMENDATION DOCUMENT

Number: FC R X 873

Issue: Clarify LOFT training requirements.

Discussion & Analysis:

The changes to 121.873 allow air carriers flexibility in their LOFT scenarios so the scenarios are representative of their operations. Also, these changes simplify rule language, while still ensuring safety.

Recommendation: Revise 121.873 to read as follows:

§ 121.873 Training program: General LOFT requirements.

(a) LOFT segments must be given by a flight instructor or check airman who is qualified in accordance with this subpart.

[Source: 121.409(b)(4) revised]

(b) LOFT segments must be accomplished in a Level C or Level D simulator.

(c) Each LOFT segment must be at least 1 ½ hours in duration, must reflect an operating cycle, and must be representative of the certificate holder's operation.

(d) Each pilot must accomplish at least two LOFT segments in each qualification LOFT, and, in each recurrent 18 month cycle.

(e) Use of a complete flight deck crew, with each duty position filled by a person who is qualified or in student status to serve in that duty position.

[Source: § 121.409(b) with omissions and revisions]

[Source: New]

(f) Any person serving in a flightcrew member position during a LOFT who does not perform satisfactorily may not serve as a required crewmember or operate under this part without receiving additional training to correct the deficiencies. The additional training must occur during a separate training session.

[Source: New]

Committee Review: Summary of discussion with Committee

Put in information section in QPS: Some examples that "reflect an operating cycle" and are "representative of the certificate holder's operation" are departure, arrival; departure, arrival, missed approach divert alternate; departure, air turn back; cruise relief of captain by first officer, problem, captain incapacitation, arrival.

Group agrees with new rec doc. 12/7/04.

Final Action: Final recommended action by Committee

Notes:

RECOMMENDATION DOCUMENT

Number: FC_R_50_821_FE_Recency.doc

Issue:

Current and Proposed rule language still asks for 50 hours in 6 months as a recency requirement, with a PC as an AMOC..

Discussion & Analysis:

This requirement is out of sync with a 9 month training cycle, and simple pro-ration to 75 hours in 9 months is too long an interval.

Recency should be accomplished in an aircraft. This is because even the most thoroughly developed LOFT scenarios fall short of providing the entire realism of the environment in which a flight engineer must operate.

An alternative of a PC is acceptable if performed as an integral member of a crew.

In addition there is a very awkward mis-reference to a paragraph which does not appear to exist.

Recommendation: Change Draft 121.821 to read:

§ 121.821 Flight engineer: Recent experience.

(a) No certificate holder may use any person nor may any person serve as a flight engineer on an airplane unless within the preceding 3 months that person has accomplished at least three (3) operating cycles as a flight engineer in the airplane.

[Source: § 121.453(a) revised]

(b) A flight engineer who has not met the requirements of paragraph (a) of this section may reestablish recent experience in one of the following ways:

(1) If not more than 3 months have passed since the flight engineer did not meet the recent experience requirements of paragraph (a) of this section, the flight engineer must satisfactorily accomplish a proficiency check. This proficiency

check must be accomplished as an integral member of a crew.

(2) If more than 3 months, but less than 6 months, have passed since the flight engineer did not meet the recent experience requirements of paragraph (a) of this section, the flight engineer must satisfactorily accomplish a proficiency check. This proficiency check must be accomplished as an integral member of a crew in a flight simulator.

(3) If 6 or more months have passed since the flight engineer did not meet the recent experience requirements of paragraph (a) of this section, the person must accomplish requalification in accordance with § 121.828(b), as applicable.

[Source: New]

Committee Review: Summary of discussion with Committee

Group agreed with rec doc, but we need to revisit device level in FE QPS table. Note—(b) 1 includes FTDs, (b)(2) is only simulators.

Group agrees with rec doc.

Final Action: Final recommended action by Committee

Notes:

RECOMMENDATION DOCUMENT

Number: FC R 121.839

Issue: Training required for TCEs and part 142 flight instructors to serve as instructors for part 119 certificate holders.

Discussion & Analysis: See similar discussion of issue in rec doc for 121.829

Recommendation: Change FAR 121.839b)to read:

Flight Instructor Qualification

§ 121.839 Flight instructor: Training, testing, and recent experience.

No certificate holder may use a person nor may any person serve as a flight instructor in a training program established under this subpart, unless with respect to the airplane type involved, that person has the certificates and ratings required by § 121.805(a)(3). Except as provided in paragraph (g), have satisfactorily accomplished all of the training, testing, checking, and recent experience requirements in paragraphs (a) through (f) of this section. For pilot flight instructors, the requirements of this section must be satisfactorily accomplished

for both pilot seats.

[Source: § 121.412(b) lead-in and (b)(1) revised]

(a) The training curriculums that are required to serve as a pilot in command or flight engineer, as applicable, in operations under this part in accordance with § 121.879 or § 121.881. For a pilot flight instructor, if the person has not served as a pilot in command, the person must accomplish upgrade training and evaluation to a pilot in command; however, the person does not have to accomplish pilot-in-command operating experience.

[Source: § 121.412(b)(2) and (b)(3) revised]

(b) The appropriate initial or transition flight instructor training curriculum, as applicable; and every 18 months thereafter, recurrent training curriculums that are required to accomplish the functions of a flight instructor in accordance with §§ 121.885 and 121.887.

[Source: § 121.412(b); Appendix H, paragraph; new]

(c) Within the preceding 24 months, an observation check during which the person conducts instruction under the observation of an FAA inspector, or of an aircrew program designee or check airman who is an employee of the certificate holder. This observation may be accomplished in full in a flight simulator; or in part in a flight simulator and in part in a flight training device. This paragraph applies after March 19,

1987.

[Source: § 121.414(a)(2), but with changes]

(d) If the flight instructor is to administer proficiency reviews, in addition to paragraph (c) of this section, within the preceding 24 months, an observation check in which the person conducts a review under the observation of an FAA inspector, or of an aircrew program designee or check airman who is an employee of the certificate holder. This observation may be accomplished in full in a flight simulator.

[Source: new]

(e) If the flight instructor is to administer proficiency reviews, an authorization from the Administrator to administer such reviews.

[Source: new]

(f) The recent experience requirements of § 121.840.

[Source: 121.412(b)(6)]

(g) TCEs and instructors for part 142 certificate holders must complete ground and flight training for the subjects and events that they are authorized to train.

Committee Review: Summary of discussion with Committee Group okay with rec doc.
Final Action: Final recommended action by Committee
Notes:

FEDERAL REGISTER

Vol. 78 Tuesday,
No. 218 November 12, 2013

Part III

Department of Transportation

Federal Aviation Administration

14 CFR Part 121
Qualification, Service, and Use of Crewmembers and Aircraft Dispatchers; Final Rule

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 121

[Docket No.: FAA–2008–0677; Amdt. No. 121–366]

RIN 2120–AJ00

Qualification, Service, and Use of Crewmembers and Aircraft Dispatchers

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: This final rule revises the training requirements for pilots in air carrier operations. The regulations enhance air carrier pilot training programs by emphasizing the development of pilots' manual handling skills and adding safety-critical tasks such as recovery from stall and upset. The final rule also requires enhanced runway safety training and pilot monitoring training to be incorporated into existing requirements for scenario-based flight training and requires air carriers to implement remedial training programs for pilots. The FAA expects these changes to contribute to a reduction in aviation accidents. Additionally, the final rule revises recordkeeping requirements for communications between the flightcrew and dispatch; ensures that personnel identified as flight attendants have completed flight attendant training and qualification requirements; provides civil enforcement authority for making fraudulent statements; and, provides a number of conforming and technical changes to existing air carrier crewmember training and qualification requirements. The final rule also includes provisions that provide opportunities for air carriers to modify training program requirements for flightcrew members when the air carrier operates multiple aircraft types with similar design and flight handling characteristics.

DATES: Effective March 12, 2014.

ADDRESSES: For information on where to obtain copies of rulemaking documents and other information related to this final rule, see ''How To Obtain Additional Information'' in the **SUPPLEMENTARY INFORMATION** section of this document.

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SUPPLEMENTARY INFORMATION:

Authority for This Rulemaking

The FAA's authority to issue rules on aviation safety is found in Title 49 of the United States Code (U.S.C.). This rulemaking is promulgated under the authority described in 49 U.S.C. 106(f), which vests final authority in the Administrator for carrying out all functions, powers, and duties of the administration relating to the promulgation of regulations and rules, and 44701(a)(5), which requires the Administrator to promulgate regulations and minimum standards for other practices, methods, and procedures necessary for safety in air commerce and national security.

Also, the Airline Safety and Federal Aviation Administration Extension Act of 2010 (Pub. L. 111–216) specifically required the FAA to conduct rulemaking to ensure that all flightcrew members receive ground training and flight training in recognizing and avoiding stalls, recovering from stalls, and recognizing and avoiding upset of an aircraft, as well as the proper techniques to recover from upset of an aircraft. Public Law 111–216 also directed the FAA to require air carriers to develop remedial training programs for flightcrew members who have demonstrated performance deficiencies or experienced failures in the training environment. In addition, Public Law 111–216 directed the FAA to issue a final rule with respect to the notice of proposed rulemaking (NPRM) published in the **Federal Register** on January 12, 2009 (74 FR 1280).

List of Acronyms

To assist the reader, the following is a list of acronyms used in this final rule:

AC Advisory Circular
AOA Angle of Attack
AQP Advanced Qualification Program
ARC Aviation Rulemaking Committee
ATP Airline Transport Pilot
AURTA Airplane Upset Recovery Training Aid
CAB Civil Aeronautics Board
CAP Continuous Analysis Process
CAST Commercial Aviation Safety Team
CFR Code of Federal Regulations
CRM Crew Resource Management
CTP Certification Training Program
DOT Department of Transportation
FAA Federal Aviation Administration
FCOM Flightcrew Operating Manual
FDR Flight Data Recorder
FFS Full Flight Simulator
FSB Flight Standardization Board
FSTD Flight Simulation Training Device
FTD Flight Training Device
IAS Indicated Airspeed
ICAO International Civil Aviation Organization
ICATEE International Committee for Aviation Training in Extended Envelopes
INFO Information for Operators
IOS Instructor Operating Station
LOC–I Loss of Control In-Flight
LOFT Line Oriented Flight Training
MDR Master Differences Requirements
NPRM Notice of Proposed Rulemaking
NTSB National Transportation Safety Board
OEM Original Equipment Manufacturer
OMB Office of Management and Budget
PIC Pilot in Command
POI Principal Operations Inspector
PRIA Pilot Records Improvement Act
PTS Practical Test Standards
SAFO Safety Alert for Operators
SIC Second in Command
SMS Safety Management System
SNPRM Supplemental Notice of Proposed Rulemaking

Table of Contents

I. Overview of Final Rule

On May 3, 2004, the FAA established the Crewmember/Dispatcher Qualification Aviation Rulemaking Committee (ARC) as a forum for the FAA and the aviation community to discuss crewmember and aircraft dispatcher qualification and training. The ARC submitted recommendations to the Associate Administrator for Aviation Safety in April 2005.[1] These recommendations focused on changes to the regulatory requirements, the development of qualification performance standards (QPS) appendices specific to the qualification, training and evaluation of crewmembers (i.e. pilots, flight engineers, and flight attendants) and aircraft dispatchers, and reorganization of the existing regulations for traditional air carrier training programs, found in subparts N and O of part 121.

Based on the ARC's recommendations, the FAA proposed a comprehensive reorganization and revision to crewmember and aircraft dispatcher qualification, training, and evaluation requirements in a notice of proposed rulemaking (NPRM) published January 12, 2009 (74 FR 1280).

On February 12, 2009, shortly after publication of the NPRM, a Colgan Air, Inc. Bombardier DHC–8–400, operating as Continental Connection flight 3407, crashed into a residence in Clarence Center, New York, about 5 nautical miles northeast of the airport resulting in the death of everyone on board and one person on the ground. The National Transportation Safety Board (NTSB) determined that the probable cause of this accident was the pilot in command's (PIC) inappropriate response to the activation of the stick shaker, which led to an aerodynamic stall.

The Airline Safety and Federal Aviation Administration Extension Act of 2010 (Pub. L. 111–216), enacted August 1, 2010, included a number of requirements to form ARCs and conduct rulemaking related to the results of the NTSB investigation of the Colgan Air accident. For example, in § 208 of Public Law 111–216, Congress directed the FAA to conduct rulemaking to ensure that all flightcrew members receive ground training and flight training in recognizing and avoiding stalls, recovering from stalls, and recognizing and avoiding upset of an aircraft, as well as the proper techniques to recover from upset. Public Law 111–216 also directed the FAA to conduct rulemaking to ensure air carriers develop remedial training programs for flightcrew members who have demonstrated performance deficiencies or experienced failures in the training environment. In addition, Public Law 111–216 included a number of related requirements for rulemaking.[2]

In light of the statutory mandate to conduct rulemaking related to stall and upset prevention and recovery training, as well as significant comments on the NPRM and the need to obtain additional data and clarify the proposal, the FAA published a supplemental notice of proposed rulemaking (SNPRM) on May 20, 2011 (76 FR 29336). The SNPRM included pilot training requirements intended to mitigate the causal factors related to pilot training identified by the NTSB in its investigation and report on the 2009 Colgan Air accident.

The FAA recognizes the critical safety roles and contributions of all crewmembers and aircraft dispatchers in today's integrated operating environment. The agency has taken steps in addition to this final rule to ensure that crewmember and aircraft dispatcher training reflects that integrated operating environment.

Since the publication of the SNPRM, however, there have been several changes within the aviation industry. These changes have resulted from work by the FAA and air carriers to implement the related rulemakings and guidance required by Public Law 111–216. Specifically, recent changes to the Airline Transport Pilot certification requirements for first officers (second in command pilots) have raised the baseline knowledge and skill set of pilots entering air carrier operations.

In addition, while the agency finalizes the proposed rulemaking that will require part 121 operators to implement safety management systems (SMS), many air carriers have already begun to develop SMSs, which will assist air carriers in identifying risks unique to their own operating environments (including air carrier training programs), and establishing mitigations to address those risks. Implementation of the initiatives identified in the FAA's 2009 Call to Action to Enhance Airline Safety has also impacted the training environment.

As a result of these changes, the FAA believes it is necessary to consider the cumulative effects of these efforts across the aviation industry before additional regulations are imposed. Accordingly, at this time, the agency has decided to finalize certain provisions of the proposal that enhance pilot training for rare, but high-risk scenarios, and that provide the greatest safety benefit. The time required in order to publish a final rule that contained the comprehensive revisions and reorganization of existing training program requirements as proposed in the SNPRM would result in unacceptable delay in light of the risk presented by these scenarios.

The FAA will continue to assess the need for the comprehensive revisions and reorganization of pilot, flight engineer, flight attendant and dispatcher qualification and training requirements proposed in the NPRM and SNPRM as it evaluates the cumulative effectiveness of these various efforts outlined above. If this assessment indicates that additional action is warranted, the FAA will engage stakeholders on these important issues and work to develop additional safety measures as appropriate.

This final rule adds training requirements for pilots that target the prevention of and recovery from stall and upset conditions, recovery from bounced landings, enhanced runway safety training, and enhanced training on crosswind takeoffs and landings with gusts. Stall and upset prevention require pilot skill in manual handling maneuvers and procedures. Therefore, the manual handling maneuvers most critical to stall and upset prevention (i.e., slow flight, loss of reliable airspeed, and manually controlled departure and arrival) are included in the final rule as part of the agency's overall stall and upset mitigation strategy. These maneuvers are identified in the final rule within the ''extended envelope'' training provision.

Further, the final rule requires air carriers to establish remedial training and tracking programs for pilots with

[1] The ARC recommendations are available at Regulations.gov, FAA–2008–0677–0049.

[2] The rulemakings required by Public Law 111–216 include § 203, FAA pilot records database; § 206, Flight crewmember mentoring, professional development, and leadership training; § 215, Safety management systems; § 216, Flight crew member screening and qualifications; and § 217, Airline transport pilot certification. These rulemaking projects are in various stages of development, and updates on the status of these rulemakings can be found on the U.S. Department of Transportation's (DOT) Report on DOT Significant Rulemakings, available at *http://www.dot.gov/regulations/report-on-significant-rulemakings*.

performance deficiencies or multiple failures; includes additional training for instructors and check airmen who conduct training or checking in a flight simulation training device (FSTD); and incorporates pilot monitoring training into existing requirements for scenario-based flight training. The final rule also provides for efficiencies in training flightcrew members who operate multiple aircraft types with similar design and flight handling characteristics. In addition, the rule finalizes other discrete SNPRM proposals, such as ensuring that personnel identified as flight attendants have completed flight attendant training and qualification requirements; requiring approval of training equipment; revising record keeping requirements for communication records between the flight crew and dispatch personnel; establishing civil enforcement authority for making fraudulent or intentionally false statements; and other technical and conforming changes.

Table 1, Summary of Final Rule Provisions, provides additional detail regarding the final rule provisions incorporated into existing subparts of part 121.

TABLE 1—SUMMARY OF FINAL RULE PROVISIONS

Final rule provision [3]	Description of provision	Timeline for compliance [4]
Fraud and falsification (§ 121.9)	Although currently prohibited by criminal statute, this section authorizes the FAA to take certificate action or assess a civil penalty against a person for making a fraudulent or intentionally false statement.	Compliance is required on the effective date of the final rule.
Personnel identified as flight attendants (§ 121.392).	Prohibits part 121 operators from identifying persons as flight attendants if those persons have not completed flight attendant training and qualification.	Compliance is required on the effective date of the final rule.
Approval of flight simulation training devices (§ 121.407).	Conforms the requirements for the evaluation, qualification, and maintenance of flight simulation training devices used in part 121 to existing part 60 requirements.	Compliance is required 5 years after the effective date of the final rule.
Training equipment other than flight simulation training devices approved under part 60 (§§ 121.408, 121.403(b)(2)).	Ensures that all equipment used in approved training programs adequately replicates the equipment that will be used on an aircraft.	Compliance is required 5 years after the effective date of the final rule.
Pilot monitoring (§§ 121.409, 121.544, appendix H).	Requires training on pilot monitoring to be incorporated into existing requirements for scenario-based training and establishes an operational requirement that flightcrew members follow air carrier procedures regarding pilot monitoring. The pilot not flying must monitor the aircraft operation.	Compliance is required 5 years after the effective date of the final rule.
Training for instructors and check airmen who serve in FSTDs (§§ 121.413, 121.414).	Requires check airmen and flight instructors who conduct training or checking in FSTDs to complete initial, transition, and recurrent training on the operation of the FSTD and the device's limitations.	Compliance is required 5 years after the effective date of the final rule.
Remedial training program (§§ 121.415(h) and 121.415(i)).	Implements Congressional direction to require part 121 operators to identify and correct pilot training deficiencies through remedial training programs.	Compliance is required 5 years after the effective date of the final rule.
Proficiency checks for PICs (§ 121.441(a)(1)(ii)).	Amends current provision to require PICs who fly more than one aircraft type to receive a proficiency check in each aircraft type flown.	Compliance is required 5 years after the effective date of the final rule.
Related aircraft differences training (§§ 121.400, 121.418, 121.434, 121.439, 121.441).	Allows air carriers to modify training program requirements for flightcrew members when the air carrier operates aircraft with similar flight handling characteristics.	Since the related aircraft provisions provide relief to operators, compliance is permitted on the effective date of the final rule.
Extended envelope flight training maneuvers and procedures (§§ 121.407(e), 121.423, 121.424, 121.427(d)(1)(i), 121.433(e), appendix E).	Requires pilot flight training on the following maneuvers and procedures: • Upset recovery maneuvers ..... • Manually controlled slow flight ..... • Manually controlled loss of reliable airspeed. • Manually controlled instrument arrivals and departures. • Recovery from stall and stick pusher activation, if aircraft equipped. • Recovery from bounced landing. This training is required in a full flight simulator (FFS) during all qualification and recurrent training and will require additional time to complete.	Compliance is required 5 years after the effective date of the final rule.

TABLE 1—SUMMARY OF FINAL RULE PROVISIONS—Continued

Final rule provision [3]	Description of provision	Timeline for compliance [4]
Extended envelope ground training subjects (§§ 121.419(a)(2), 121.427).	Requires pilots to complete ground training during qualification and recurrent training on stall prevention and recovery and upset prevention and recovery. This training adds 2 hours to qualification ground training and 30 minutes to recurrent ground training.	Compliance is required 5 years after the effective date of the final rule.
Communication records for domestic and flag operations (§ 121.711).	Codifies details of content for records of communication between aircraft dispatchers and flight crew previously described in a legal interpretation.	Compliance is required on the effective date of the final rule.
Runway safety maneuvers and procedures (Appendices E and F).	Expands existing taxi and pre-takeoff requirements.	Compliance is required 5 years after the effective date of the final rule.
Crosswind maneuvers including wind gusts (Appendices E and F).	Expands existing requirement for training on crosswind maneuvers to include gusts.	Compliance is required 5 years after the effective date of the final rule.

[3] Table 1 does not include all technical or editorial amendments.

[4] All final rule provisions are effective 120 days after publication in the FEDERAL REGISTER. However, certain provisions have an extended timeline for compliance consistent with the proposal in the NPRM and SNPRM. The FAA encourages early compliance and will work with all operators to ensure compliance with the final rule training provisions is achieved as soon as practicable but no later than 5 years after the effective date of the final rule.

Table 2 shows the FAA's estimate for the base case costs, including the low and high cost range, in 2012 dollars. Table 2 also shows the estimated potential quantified safety benefits using a 22-year historical accident analysis. The FAA conducted a sensitivity analysis to explore the effect of reducing the historical analysis period from 22 years to 10 years in response to comments disputing the use of a 22-year time frame. Using a shorter historical analysis period, the estimated benefits of this final rule increase by approximately 17 percent. This analysis can be found in Appendix 14 of the Regulatory Impact Analysis, which is available in the docket for this rulemaking.

Table 2—Total Benefits and Costs (2012 $ Millions) From 2019 to 2028

Total Benefits and Costs ($ Millions)				
			Present Value	
Range		2012 $	7%	3%
Low	Cost	$274.1	$130.8	$197.5
High	Cost	$353.7	$168.8	$254.8
Base Case	**Cost**	**$313.9**	**$149.8**	**$226.1**
	Benefit	**$689.2**	**$317.1**	**$488.7**

II. Background

A. Statement of the Problem

The agency has identified 11 aircraft accidents over a 22-year interval (between 1988 and 2009), including the 2009 Colgan accident, that may have been prevented or mitigated by the training requirements in this final rule. This final rule also responds to several requirements in Public Law 111–216 and addresses seven National Transportation Safety Board (NTSB) recommendations.

Several of the accidents that the FAA has determined could have been mitigated by the pilot training requirements in the final rule involved rare, but high-risk in-flight events. For example, on February 12, 2009, a Colgan Air, Inc., Bombardier DHC–8–400, operating as Continental Connection flight 3407, was on an instrument approach to Buffalo-Niagara International Airport, Buffalo, New York, when it crashed into a residence in Clarence Center, New York, about 5 nautical miles northeast of the airport resulting in the death of everyone aboard and one person on the ground. The NTSB determined that the probable cause of this accident was the pilot in command's (PIC) inappropriate response to the activation of the stick shaker, which led to an aerodynamic stall from which the airplane did not recover. The PIC's response was inappropriate because he pulled back on the control column rather than pushing it forward to reduce the angle of attack. As a result, the airplane's pitch increased and its airspeed decreased, resulting in the stall. A contributing factor relevant to this rulemaking was both pilots' failure to monitor airspeed via their primary flight display and thus their failure to recognize the impending stick shaker onset as airspeed fell and pitch increased. The NTSB noted that the ''failure of both pilots to detect this situation was the result of a significant breakdown in their monitoring responsibilities and workload management.'' The PIC's poor response suggests he was surprised by activation of the stick shaker. Had the flightcrew been required to complete the extended envelope training provisions required by this final rule, this accident would likely have been mitigated.

Prior to the Colgan Air accident, on November 12, 2001 American Airlines flight 587 crashed in a residential area of Belle Harbor, New York. The airplane accident occurred shortly after takeoff from John F. Kennedy International Airport, Jamaica, New York. All 260 people aboard the airplane and 5 people on the ground were killed, and the airplane was destroyed by impact forces and a postcrash fire. The NTSB found the probable cause of this accident to be the in-flight separation of the vertical stabilizer as a result of the loads beyond ultimate design caused by the second in

command's (SIC) unnecessary and excessive rudder pedal inputs. The rudder input was a reaction to wake turbulence.

Characteristics of the Airbus A300–600 rudder system design and elements of the American Airlines Advanced Aircraft Maneuvering Program also contributed to the incorrect rudder pedal inputs. The NTSB found that the American Airlines Advanced Aircraft Maneuvering Program excessive bank angle simulator exercise could have caused the SIC to have an unrealistic and exaggerated view of the effects of wake turbulence; erroneously associate wake turbulence encounters with the need for aggressive roll upset recovery techniques; and develop control strategies that would produce a much different, and potentially surprising and confusing, response if performed during flight.

The provisions adding upset prevention and recovery training in this final rule (§§ 121.419 and 121.423) may have mitigated this accident because the training delivers recovery strategies which focus on primary control inputs and early intervention strategies. Further, the provisions that require pilots to complete upset prevention and recovery training in a full flight simulator (FFS) (§ 121.423) with an instructor who has been trained on the specific motion and data limitations of the FFS (§ 121.414) would mitigate the possibility of delivering negative training in simulation.

In another in-flight accident on September 8, 1994, USAir (now US Airways) flight 427, a Boeing 737–3B7 (737–300), N513AU, crashed while maneuvering to land at Pittsburgh International Airport, Pittsburgh, Pennsylvania. Flight 427 was operating as a scheduled domestic passenger flight from Chicago-O'Hare International Airport, Chicago, Illinois, to Pittsburgh. The flightcrew did not report any problems with the airplane and radar data indicates that the closest other traffic was about 4.5 miles and 1,500 feet vertically separated from flight 427 at the time of the accident. About 6 miles northwest of the destination airport, the airplane entered an uncontrolled descent and impacted terrain near Aliquippa, Pennsylvania. All 132 people on board were killed, and the airplane was destroyed by impact forces and fire. The NTSB determined that the probable cause of the accident was a loss of control of the airplane resulting from the movement of the rudder surface to its limit. The rudder surface most likely deflected to its limit in a direction opposite to that commanded by the pilots as a result of a failed main rudder power control unit (PCU). The FAA has determined that the provisions regarding upset prevention and recovery training in this final rule may have prevented or mitigated this accident.

Also, on December 20, 2008, Continental Airlines flight 1404, a Boeing 737–500, N18611, departed the left side of runway 34R during takeoff from Denver International Airport, Denver, Colorado. At the time of the accident, visual meteorological conditions prevailed, with strong and gusty winds out of the west. The NTSB reported that, as the airplane crossed uneven terrain before coming to a stop it became airborne, resulting in a jarring impact when it regained contact with the ground. A postcrash fire ensued and the airplane was substantially damaged. The PIC and 5 of the 110 passengers were seriously injured; the SIC, 2 cabin crewmembers, and 38 passengers sustained minor injuries.

The NTSB accident report revealed that before starting the takeoff roll the PIC verbally repeated the wind speed and direction; however, during the takeoff roll the PIC inconsistently applied cross wind correction. The NTSB found that the probable cause of the accident was the PIC's ceased rudder input, which was needed to maintain directional control of the airplane, about 4 seconds before the excursion, when the airplane encountered a strong and gusty crosswind that exceeded the PIC's training and experience. The FAA has determined that the expansion of existing requirements for training on crosswind maneuvers to include wind gusts in this final rule may have prevented or mitigated this accident.

The final rule also addresses preventable runway safety accidents and incidents that have occurred on a more frequent basis. For example, on August 27, 2006, Comair flight 5191, a Bombardier CL–600–2B19, crashed during takeoff from Blue Grass Airport, Lexington, Kentucky, resulting in the death of the PIC, a flight attendant, and 47 passengers. The SIC also received serious injuries. The flight crew was instructed to take off from runway 22 but instead proceeded to take off from runway 26, which was much shorter. The airplane ran off the end of the runway and crashed into the airport perimeter fence, trees, and terrain. The airplane was destroyed by impact forces and postcrash fire. The NTSB determined that the probable cause of this accident was the flightcrew members' failure to use available cues and aids to identify the airplane's location on the airport surface during taxi and their failure to cross-check and verify that the airplane was on the correct runway before takeoff. The enhanced runway safety training provisions in this final rule would likely have mitigated this accident.

B. Related Actions

1. FAA Modernization and Reform Act of 2012 (Pub. L. 111–216)

Public Law 111–216 contained a number of related requirements for rulemaking, resulting in the following rulemaking initiatives: Pilot Certification and Qualification Requirements for Air Carrier Operations; Safety Management Systems; Flight Crewmember Mentoring, Leadership and Professional Development; and Pilot Records Database. The rule related to pilot certification was recently published and the remaining initiatives are in various stages of development. Further, the agency determined that amendments to FSTD qualification and evaluation standards in part 60 are needed to support the provisions in this final rule.

On July 15, 2013, the FAA published the final rule on Pilot Certification and Qualification Requirements for Air Carrier operations (78 FR 42324) (Pilot Certification rule). This final rule creates new certification and qualification requirements for pilots in air carrier operations including operations conducted under part 121. As a result of this action, a second in command pilot (first officer) in domestic, flag, and supplemental operations must now hold an airline transport pilot (ATP) certificate and an airplane type rating for the aircraft to be flown. Further, the Pilot Certification rule adds to the training and experience requirements for an ATP certificate with an airplane category multiengine class rating or an ATP certificate obtained concurrently with an airplane type rating. To receive an ATP certificate with a multiengine class rating, a pilot must have 50 hours of multiengine flight experience and must have completed a new FAA-approved ATP Certification Training Program (CTP). This new training program will include academic coursework and training in an FSTD. The Pilot Certification rule raises the experience requirement and the baseline knowledge for incoming part 121 pilots in that it provides foundational knowledge on many topics including aerodynamics, meteorology, air carrier operations, leadership/professional development, and crew resource management (CRM).

On November 5, 2010, the FAA published an NPRM that proposes to

require each part 121 operator to develop and implement a safety management system (SMS) to improve the safety of its aviation-related activities (75 FR 68224). The SMS NPRM proposed to require part 121 operators to develop systematic procedures, practices, and policies for the management of safety risk for all of its aviation systems. While crewmember and dispatcher training programs constitute aviation systems and as such must be addressed within the certificate holder's SMS, the requirements in this final rule do not duplicate the SMS proposal. For example, the remedial training requirements in this final rule may serve as an element of a robust SMS and provide specific solutions to identified pilot performance deficiencies, thereby complementing the SMS requirements for continuous monitoring, analysis, and corrective action.

In addition, the agency has initiated a separate rulemaking to implement the requirements of § 206 of Public Law 111–216 related to flight crewmember mentoring, leadership and professional development. The action is necessary to ensure that air carriers establish or modify training programs to address mentoring, leadership, and professional development of flight crewmembers in part 121 operations. Although the agency proposed certain academic training related to § 206(a)(1)(D)—(E) in the SNPRM preceding this final rule, the agency is not proceeding with those elements of the proposal in this final rule. These issues will be considered in the Flight Crewmember Mentoring, Leadership, and Professional Development rulemaking project (RIN 2120–AJ87).[5]

Also, the FAA has initiated a separate rulemaking project to define simulator fidelity requirements for several new and modified training tasks mandated for air carrier training programs by Public Law 111–216 (Part 60 rulemaking).[6] This rulemaking would amend part 60 to establish new or updated FSTD technical evaluation standards for training tasks such as full stall training, airborne icing training, and upset recognition and recovery training. Furthermore, this rulemaking would improve the minimum FSTD evaluation requirements for crosswinds with gusts (takeoff/landing) and bounced landing recovery methods in response to NTSB and Aviation Rulemaking Committee (ARC) recommendations. The rulemaking will help ensure simulator fidelity when conducting various flight training tasks.

In addition, to address the requirements of § 203 of Public Law 111–216, the FAA has initiated a rulemaking project (RIN 2120–AK31) to develop a pilot records database and phase out the requirements of the Pilot Records Improvement Act (PRIA) found at 49 U.S.C. 44703(h). Although the FAA, in the SNPRM, had proposed to conform § 121.683 (proposed as § 121.684) to the PRIA provisions, the FAA will consider these requirements in the pilot records database rulemaking to avoid confusion and possible redundancy. Thus, the FAA has not included proposed § 121.684 in the final rule.

In connection with these rulemaking initiatives and this final rule, Public Law 111–216 also required the FAA to establish several ARCs and several Task Forces to further examine existing training program requirements and develop recommendations for improvements. The FAA chartered the Air Carrier Safety and Pilot Training ARC; the Training Hours Requirement Review ARC; and the Stick Pusher and Adverse Weather Event Training ARC (the 208 ARC) to respond to the directives in Public Law 111–216.

The 208 ARC also worked to develop effective upset prevention and recovery training methodologies. Subsequently, the International Civil Aviation Organization (ICAO), the European Aviation Safety Agency (EASA), and the FAA decided to combine efforts to identify and establish an acceptable approach to eliminating such occurrences. ICAO sponsored seven meetings in 2012 during which Civil Aviation Authorities and subject matter experts were encouraged to participate in focused discussions. Also, as a number of initiatives were underway simultaneously that sought to reduce the number of loss of control in-flight (LOC–I) events, ICAO brought many of the groups involved with these efforts into the ensuing discussions under what became known as the loss of control avoidance and recovery training (LOCART) initiative.

The ARCs have presented their recommendations to the FAA. The reports from the following ARCs have been placed in the docket for this rulemaking:

- Air Carrier Safety and Pilot Training ARC
- Stick Pusher and Adverse Weather Event Training ARC
- Training Hours Requirement Review ARC

The agency notes that many of the new requirements in this final rule are consistent with ARC recommendations, including pilot monitoring requirements; enhanced simulator instructor training; upset prevention and recovery training; manual handling training; and remedial training requirements.

Finally, the FAA recognizes that drafting proposals on related topics simultaneously can give the appearance of overlapping or duplicative requirements. As we have done in this rule and in prior rulemakings issued to address the discrete sections of Public Law 111–216, the FAA will continue to minimize any overlapping or duplicative requirements.

2. FAA Modernization and Reform Act of 2012 (Pub. L. 112–95)

On February 14, 2012, following the publication of the SNPRM, the FAA Modernization and Reform Act of 2012 (Pub. L. 112–95) added certain flight attendant requirements similar to those included in the SNPRM, such as English language proficiency and training on various aspects of flight attendant response to passenger intoxication. Specifically, § 304 of Public Law 112–95 (49 U.S.C. 44728) requires flight attendants to be proficient in English and identifies certain English language competencies that must be demonstrated. In current part 61, English language proficiency is an eligibility requirement for all pilot certificates. In current part 63, English language proficiency is an eligibility requirement for a flight engineer certificate. The statutory mandate therefore ensures that all crewmember communication complies with crew resource management objectives.

Compliance with § 304 has been required since the statute was enacted. The FAA has published an INFO for air carriers to use when complying with the statutory requirement. This INFO can be accessed at *http://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/info/all_infos/*.

Additionally, § 309 of Public Law 112–95 (49 U.S.C. 44734) requires each air carrier to provide flight attendants with training on providing alcohol to passengers, recognizing intoxicated passengers, and dealing with disruptive passengers. Section 309 also requires air carriers to provide flight attendants with situational training on the proper method for dealing with intoxicated passengers. Currently, under 14 CFR

[5] As provided in Appendix Q, Table 2A, of the SNPRM the agency proposed academic training on PIC authority, PIC responsibility, leadership and command, and conflict resolution every 18 months at an introductory level for SICs and a refresher level for PICs.

[6] Flight Simulation Training Device (FSTD) Qualification Standards for Extended Envelope and Adverse Weather Event Training Tasks, RIN 2120–AK08.

121.421, operators are already required to provide flight attendants with training on how to handle passengers whose conduct might jeopardize safety. To assist operators with meeting the specific statutory mandate in § 309, the FAA has published an INFO regarding compliance with the statutory requirement. This INFO can be accessed at *http://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/info/all_infos/*.

3. Related Agency Initiatives

In the time since the Colgan accident in 2009, the FAA has put forth several initiatives that support improved pilot training in part 121 operations. These initiatives, along with the requirements in the final rule, are intended to reduce the number of aviation accidents.

One major initiative was the FAA Call to Action to Enhance Airline Safety, which began in June of 2009. (The report ''Answering the Call to Action on Airline Safety and Pilot Training'' will be placed in the docket for this rulemaking). The Call to Action included a number of key initiatives including a two-part focused review of air carrier flightcrew member training, qualification, and management practices. First, the FAA assessed the capability of air carriers to identify, track, and manage low-time flightcrew members and those who have failed evaluations or have demonstrated a repetitive need for additional training. Second, the FAA conducted additional inspections to revalidate that the air carriers' training and qualification programs met regulatory standards.

As part of the Call to Action, in 2009 the FAA inspected 85 air carriers to determine if they had systems to provide remedial training for pilots.[7] The FAA did not inspect carriers who train pilots under an Advanced Qualification Program (AQP) because AQP includes such a system. When the inspections began in June of 2009, not all air carriers had developed remedial training programs. However, by January 2010, after the completion of the inspections, all air carriers had some part of a remedial training system.

Also, on August 6, 2012, the FAA published Advisory Circular (AC) 120–109, Stall and Stick Pusher Training which was developed based on a review of recommended practices developed by major airplane manufacturers, labor organizations, air carriers, training organizations, simulator manufacturers, and industry representative organizations.[8] This AC identified best practices and guidance for training, testing, and checking for pilots to ensure correct and consistent responses to unexpected stall warnings and stick pusher activations. This AC also included guidance regarding the development of stall and stick pusher event training.

Additional FAA actions to address pilot training requirements include the following:

- Information for Operators (INFO) 09007 Pilot Training and Checking—Pneumatic Deicing Boot Equipped Airplanes recommends that operators enhance pilot training and checking to ensure safe operations in icing conditions. All INFOs can be accessed at *http://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/info/all_infos/*
- Safety Alert for Operators (SAFO) 09015 Training for Landing on Contaminated Runways highlights FAA guidance regarding training and procedures for landing on contaminated runways. All SAFOs can be accessed at *http://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/safo*
- INFO 10002 Agency Best Practices consolidates guidance and resources that can be used by operators to improve pilot training.
- SAFO 10006 Inflight Icing Operations and Training Recommendations includes recommendations regarding Pilot and Dispatcher training to address severe icing conditions associated with freezing rain and freezing drizzle.
- INFO 10010 Enhanced Upset Recovery Training highlights the availability of the Airplane Upset Recovery and Training Aid that all operators can use to develop an effective upset recovery training module.
- SAFO 13002 Manual Flight Operations recommends that in this age of aircraft automation, training and flight operations should emphasize manual handling when appropriate to ensure pilots retain the ability to manually fly the airplane.

C. National Transportation Safety Board (NTSB) Recommendations

This final rule addresses the following NTSB recommendations for certificate holders operating under Title 14 of the Code of Federal Regulations (14 CFR) part 121:

- A–96–120. Require 14 CFR part 121 and 135 operators to provide training to flightcrews in the recognition of and recovery from unusual attitudes and upset maneuvers, including upsets that occur while the aircraft is being controlled by automatic flight control systems, and unusual attitudes that result from flight control malfunctions and uncommanded flight control surface movements.
- A–05–14. Require all 14 CFR part 121 air carrier operators to establish programs for flightcrew members who have demonstrated performance deficiencies or experienced failures in the training environment that would require a review of their whole performance history at the company and administer additional oversight and training to ensure that performance deficiencies are addressed and corrected.
- A–05–30. Require all 14 CFR part 121 and 135 air carriers to incorporate bounced landing recovery techniques in their flight manuals and to teach these techniques during initial and recurrent training.
- A–07–44. Require that all 14 CFR part 91K, 121, and 135 operators establish procedures requiring all crewmembers on the flight deck to positively confirm and cross-check the airplane's location at the assigned departure runway before crossing the hold short line for takeoff. This required guidance should be consistent with the guidance in AC 120–74A and SAFO 06013 and 07003.
- A–10–22. Require 14 CFR part 121, 135, and 91K operators and 14 CFR part 142 training centers to develop and conduct training that incorporates stalls that are fully developed; are unexpected; involve autopilot disengagement; and include airplane-specific features, such as a reference speeds switch.
- A–10–23. Require all 14 CFR part 121, 135, and 91K operators of stick pusher-equipped aircraft to provide their pilots with pusher familiarization simulator training.
- A–10–111. Require 14 CFR part 121, 135, and 91K operators to incorporate the realistic, gusty crosswind profiles developed as a result of Safety Recommendation A–10–110 into their pilot simulator training programs.

In the analysis for the final rule, the FAA identified 11 accidents involving part 121 operations, resulting in fatalities or injuries that occurred between 1988 and 2009 that may have been prevented or mitigated if the proposed enhanced training requirements had been in effect at the time of those accidents. Causal factors that contributed to these accidents

[7] Due to airline mergers and bankruptcies, there are fewer total air carriers (83 as of February 2013) operating under part 121.

[8] *http://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.information/documentID/1020244*

included inadequate pilot training regarding recovery from stall, upset recovery, runway safety, bounced landings, crosswind takeoffs with gusts, and pilot monitoring. These accidents resulted in 601 fatalities, 48 serious injuries, and 137 minor injuries. A detailed description of this accident analysis, and how it was conducted, is provided in the benefits section of the regulatory evaluation for this final rule.

D. Sections 208 and 209 of Public Law 111–216

This final rule responds to Public Law 111–216, sections 208 and 209. Under Public Law 111–216, Congress directed the FAA to conduct rulemaking to ensure that all flightcrew members receive ground training and flight training in recognizing and avoiding stalls, recovering from stalls, and recognizing and avoiding upset of an aircraft, as well as the proper techniques to recover from upset; directed the FAA to conduct rulemaking to ensure air carriers develop remedial training programs for flightcrew members who have demonstrated performance deficiencies or experienced failures in the training environment; and directed the FAA to issue a final rule with respect to the NPRM.[9]

E. Summary of NPRM and SNPRM

On January 12, 2009, the FAA published an NPRM (74 FR 1280), proposing major changes to the requirements for crewmember and aircraft dispatcher training programs in domestic, flag, and supplemental operations. The primary purpose of the NPRM was to establish new requirements for traditional air carrier training programs to enhance crewmember and aircraft dispatcher training. The NPRM proposed a significant reorganization of training and qualification requirements as new subparts to be added to part 121.

Upon review of the comments to the NPRM, the FAA identified several issues that were not adequately addressed in the NPRM. Furthermore, the FAA determined that additional data and clarification were necessary. Because of the substantive changes and reorganization of the NPRM, on May 20, 2011 the FAA published the rulemaking proposal in its entirety in an SNPRM (76 FR 29336).

F. Differences Between SNPRM and Final Rule

In the SNPRM, the agency included the NPRM proposals to reorganize and revise crewmember and aircraft dispatcher qualification, training, and evaluation requirements in existing subparts N and O of part 121. This reorganization would have resulted in the creation of two new subparts within part 121.

The agency has decided to finalize provisions proposed in the SNPRM that enhance pilot training for rare but high risk scenarios and provide the greatest safety benefit. The final rule also includes other discrete provisions proposed in the SNPRM and described in Table 1. As discussed in the Overview section of this preamble, the remaining proposals in the SNPRM require further deliberation. These remaining proposals include the following:

- The operational requirements pertaining to crewmembers and aircraft dispatchers, except for § 121.9 (Fraud and falsification), § 121.392 (Personnel identified as flight attendants) and § 121.711 (Communication records), which are reflected in Table 3 below.
- The reorganization and restructuring of crewmember and aircraft dispatcher training and qualification in proposed subparts BB and CC, including the crewmember and aircraft dispatcher qualification performance standards in proposed Appendices Q, R, S and T (except as specifically noted in Table 3 below).

Thus, the FAA may pursue additional rulemaking in the future to address the more comprehensive changes proposed in the NPRM and SNPRM.

The agency has incorporated the final rule provisions into existing subparts of part 121 rather than creating new subparts within part 121. Table 3 identifies the SNPRM source for each of the final rule provisions.

TABLE 3—SNPRM SOURCE OF PROVISIONS INCLUDED IN FINAL RULE

Description of final rule provision	Final rule provision	SNPRM provision
Fraud and falsification	§ 121.9	§ 121.9.
Personnel identified as flight attendants	§ 121.392	§ 121.392.
Approval of FSTDs	§ 121.407	§ 121.1345.
Training equipment other than FSTDs approved under part 60.	§§ 121.408, 121.403(b)(2)	§§ 121.1331, 121.1351.
Pilot monitoring	§§ 121.409, 121.544, appendix H	§§ 121.1213, 121.1353.
Training for instructors and check airmen who serve in FSTDs.	§§ 121.413, 121.414	§§ 121.1377, 121.1381.
Remedial training	§ 121.415(h) and § 121.415(i)	§ 121.1355(a)(4), (a)(5) and (b).
Proficiency checks for PICs	§ 121.441(a)(1)(ii)	§ 121.1223.
Related aircraft differences training	§§ 121.400, 121.418, 121.434, 121.439, 121.441.	§§ 121.1205, 121.1206, 121.1215, 121.1230.
Extended envelope ground training subjects	§§ 121.419(a)(2), 121.427	Appendix Q, Attachment 2, Table 2A.
Extended envelope training maneuvers and procedures (Including requirements to train in an FFS).	§§ 121.407(e), 121.423, 121.424, 121.427(d)(1)(i), 121.433(e), appendix E.	Appendix Q, Attachment 3, Tables 3A and 3B.
Communication records for domestic and flag operations.	§ 121.711	§ 121.711.
Runway safety maneuvers and procedures	Appendix E, Flight Training Requirements: I(c), I(d). Appendix F, Proficiency Check Requirements: I(c), I(d).	Appendix Q, Attachment 3, Table 3A.

[9] The FAA notes that § 201 of Public Law 111–216 states that ''[t]he term 'flight crewmember' has the meaning given the term 'flightcrew member' in part 1 of title 14, Code of Federal Regulations.'' Part 1 defines ''flightcrew member'' as ''a pilot, flight engineer, or flight navigator assigned to duty in an aircraft during flight time.'' Because flight engineers and flight navigators do not manipulate the aircraft controls and flight navigators are no longer used in part 121 operations, the FAA assumes that Congress did not intend to require these flightcrew members to complete training on recovery from full stall and upset. Further, because no accidents have been attributed to flight engineer performance and the agency has not identified any issues related to flight engineer training, the remedial training requirements in the final rule apply to pilots only.

TABLE 3—SNPRM SOURCE OF PROVISIONS INCLUDED IN FINAL RULE—Continued

Description of final rule provision	Final rule provision	SNPRM provision
Crosswind maneuvers including wind gusts	Appendix E, Flight Training Requirements: II(c), IV(d). Appendix F, Proficiency Check Requirements: II (c), V(c).	Appendix Q, Attachment 3, Table 3A.

III. Discussion of Public Comments and Final Rule

A. General

The FAA received approximately 130 comments in response to the SNPRM. Commenters included air carriers, labor organizations, trade associations, training organizations, one aircraft manufacturer, Families of Continental Flight 3407, the NTSB, and individuals. Air carrier and trade associations commented that the SNPRM was overly prescriptive; the FAA underestimated costs and overestimated benefits; and the FAA underestimated the effect of the proposal on air carriers that use an AQP for training. Labor organizations' comments included concerns regarding the proposed integration of lower fidelity and non-motion simulators for pilot training; the standards by which CRM competencies would be integrated into job performance training and evaluated; and the proposed recordkeeping requirements. An aircraft manufacturer supported the related aircraft initiatives included in the SNPRM. The NTSB and Families of Continental Flight 3407 were generally supportive of the SNPRM but raised concerns regarding the efficacy of the remedial training proposal further discussed in section III. (Discussion of Public Comments and Final Rule) J. (Remedial Training Programs) of this preamble.

The agency received several comments on the proposed flight attendant and aircraft dispatcher training requirements. Labor organizations generally supported the proposed training and qualification requirements, but air carriers asserted some provisions, such as the proposals regarding requalification requirements and check flight attendant and check dispatcher training and qualification, were unnecessary and would place an undue burden on operators.

As part of the FAA's effort to move forward with a rule that finalizes specific statutorily mandated requirements and provisions proposed in the SNPRM that enhance pilot training and provide the greatest safety benefit, but require time to implement, the final rule does not include the flight attendant and aircraft dispatcher training requirements proposed in the SNPRM. In the discussion that follows, the FAA has addressed those comments related to the provisions included in this final rule.

B. Compliance With Final Rule Requirements

In the SNPRM, the agency proposed an effective date for the final rule of 120 days after publication of the final rule in the **Federal Register**. However, for the crewmember and aircraft dispatcher training and qualification revisions in proposed subparts BB and CC, the agency proposed to allow air carriers to come into compliance with the requirements no later than 5 years after the effective date of the final rule. As explained in the SNPRM, setting the effective date for 120 days after publication of the final rule and allowing use of the existing regulations for 5 years would provide existing certificate holders and the FAA time to smoothly transition to the new requirements.

Consistent with the proposal, all provisions in this final rule will become effective 120 days after publication of the final rule in the **Federal Register**. In the final rule, compliance is required on the effective date unless the regulatory text for a particular provision indicates the alternate date for compliance of 5 years after the effective date. Although the final rule allows air carriers up to 5 years to come into compliance, the FAA encourages air carriers to comply with these provisions as early as possible to maximize the safety benefits that this rule will achieve.

In the final rule, the agency modified the compliance date for certain provisions as follows:

- The final rule eliminates the 5-year compliance date for the provisions regarding related aircraft (§ 121.418) because these amendments provide voluntary alternatives to certain requirements of subparts N and O.
- The final rule eliminates the 5-year compliance date for the provision regarding the prohibition on fraud and falsification (§ 121.9) because all persons subject to the final rule prohibitions on fraud and falsification are currently prohibited from committing fraud and falsification by criminal statute, 18 U.S.C. 1001.
- The final rule eliminates the 5-year compliance date for the provision regarding personnel identified as flight attendants (§ 121.392) because this requirement imposes a minimal burden on air carriers.

Consistent with the SNPRM, the final rule requires compliance with the agency proposals regarding dispatch communication records upon the rule's effective date. The applicable date on which compliance is required for each substantive final rule provision is summarized in Table 1 of this preamble.

The FAA recognizes that some air carriers may have implemented a number of the new training requirements in the final rule but the agency has determined that maintaining a 5-year compliance period as proposed in the NPRM and SNPRM continues to be appropriate for the training-related initiatives because it may not be feasible for most part 121 operators to achieve compliance by the effective date of the final rule.

To accomplish many of the new safety-critical flight training provisions, the FFSs in which the training must be completed must be updated. As discussed previously, the FAA has initiated the Part 60 rulemaking to develop the standards for updating these simulators to ensure the extended envelope training provided for in this final rule is conducted in a realistic, accurate training environment. The FAA believes the 5-year compliance period for these provisions will provide sufficient time for completion of that rulemaking project and the actual updates to the FFSs that would be required by that rulemaking. The FAA will continue to evaluate the time necessary for compliance with the training requirements set forth in this final rule based on the updates that are necessary for the FFSs and will seek public comment on this issue in the Part 60 rulemaking. In addition, based on the comments received to the SNPRM, the FAA recognizes that some operators may already have the technology and simulation knowledge necessary to incorporate these training requirements into their approved training programs. The FAA encourages these operators to

initiate compliance with this rule as soon as practicable. To help facilitate these efforts, operators should contact the FAA's National Simulator Program to obtain the relevant guidance material on evaluating the FSTDs used to provide extended envelope training.

The FAA recognizes the public benefit associated with early implementation of the new safety-critical training requirements. The FAA will work with all operators to ensure compliance with the final rule training provisions is achieved as soon as possible but no later than 5 years after the effective date of the final rule. As originally proposed, we anticipated that air carriers would complete holistic changes to their training programs at one time. Upon further reflection and based on the revisions to the final rule and the simulator updates discussed earlier, we note that individual air carriers may submit proposed training program revisions for approval at any point after the effective date. The agency will work with each air carrier to meet their implementation needs.

C. Applicability of Final Rule Requirements and Impact of Final Rule on Operators with Advanced Qualification Program Curriculums

Air carriers that conduct operations under part 121 may train and qualify crewmembers and aircraft dispatchers in accordance with the provisions of current subparts N, O, and P. Alternatively, air carriers may train and qualify crewmembers and aircraft dispatchers under an AQP in accordance with the provisions of subpart Y.

Subpart Y does not contain training and evaluation requirements, per se. However, an AQP developed in accordance with subpart Y allows air carriers to use alternative methods for training and evaluating pilots, flight engineers, flight attendants, and aircraft dispatchers based on instructional systems design, advanced simulation equipment, and comprehensive data analysis to continuously validate curriculums.

In accordance with § 121.909, to obtain approval of an AQP, an air carrier must develop a Qualification Standards Document that specifies which requirements of parts 61, 63, 65, 121 (including subparts N, O, and P), or 135, as applicable, will be replaced by the AQP curriculum. Each requirement contained in part 61, 63, 65, 121, or 135 that is not specifically addressed in an approved AQP curriculum continues to apply to the certificate holder.

The SNPRM principally affected part 121 operators that train and qualify crewmembers and aircraft dispatchers in accordance with the provisions of current subparts N, O, and P. However, commenters generally noted that the FAA underestimated the impact of the proposed requirements on AQP carriers. Additionally, some commenters noted that AQP should be mandated as the sole training method to be used by all certificate holders conducting part 121 operations.

First, as previously discussed, AQP provides for an alternate method of compliance with the standards provided by parts 61, 63, 65, 121 (including subparts N and O), or 135, as applicable. This means that even if the agency mandated AQP for all part 121 operators, the agency would have to provide standards from which to create the compliance methods in an AQP. These standards would change as the technology used in training tools evolves and as the FAA learns more about factors contributing to accidents and effective training methodology. Further, the final rule includes training requirements that are mandated by statute (i.e., upset and stall prevention and recovery). Without a revision to the traditional training requirements in this final rule, the FAA would not be able to require these maneuvers and procedures for pilots as part of pilot AQP curriculums.

Second, commenters including Continental, American, USAirways, JetBlue, Delta, and ASTAR, stated that the agency did not fully consider all of the direct and indirect effects that the proposal would have on part 121 operators that currently conduct training under an AQP. The agency has reviewed its final rule cost analysis to determine whether carriers that currently train flightcrew members under an AQP would incur additional costs not previously considered. Upon further review of existing pilot AQPs and the final rule requirements, the agency has determined the new ground and flight training requirements in the final rule are generally not addressed by existing pilot AQPs. Therefore, in the final rule regulatory evaluation, the agency has revised its cost analysis and determined that it is appropriate to attribute costs to the additional ground and flight training requirements for all pilots who train under subparts N and O as well as those who train under an AQP.

Applicable requirements of part 121 that are not specifically addressed in the certificate holder's AQP continue to apply to the certificate holder and to the individuals being trained and qualified by the certificate holder. See § 121.903(b). This final rule differs from the SNPRM in that it does not alter the training and qualification principles established in subparts N and O, but rather adds discrete new pilot training subjects, procedures and maneuvers. Accordingly, an operator that uses AQP to train flightcrew members must submit a revised Qualification Standards Document if that operator seeks to address these additional ground training subjects and flight training procedures and maneuvers through alternative methods in accordance with subpart Y.

Third, in response to comments that AQP should be mandated for all part 121 operators, the FAA maintains its position as stated in the SNPRM. Although the FAA considers AQP to be an effective voluntary alternative for compliance with minimum training and qualification requirements, the FAA does not believe that it is appropriate to require all air carriers to train under AQP. The FAA recognizes that AQP may not be appropriate for every certificate holder. The AQP is a voluntary program established to allow a greater degree of regulatory flexibility in the approval of innovative training programs. Based on a documented analysis of operational requirements, a certificate holder under AQP may propose to depart from the traditional practices with respect to what, how, when, and where training and testing is conducted. Detailed AQP documentation requirements, data collection, and analysis provide the FAA and the operator with the tools necessary to adequately monitor and administer an AQP. See 70 FR 54810, 54811 (Sept. 16, 2005).

The FAA further recognizes that some air carriers may not wish to incur the costs associated with an AQP. Such costs include additional personnel and management infrastructure to develop and facilitate the required data collection, analysis, and application required under AQP. Furthermore, some air carriers may prefer the structured requirements of a traditional program to the analytically-driven AQP training program. Other air carriers that use contract training facilities may not find AQP to be a suitable alternative to traditional training requirements. Accordingly, the final rule does not require all certificate holders to train under the AQP requirements in subpart Y of part 121. This determination is consistent with the recommendations provided by the Training Hours Requirement Review ARC findings. See Training Hours Requirement Review ARC Report.

D. Fraud and Falsification

In the SNPRM, the FAA proposed adding § 121.9, a new general requirement that would prohibit a person from making intentionally false or fraudulent statements on an application, record, or report required by part 121. The SNPRM also specified the consequences of making incorrect and intentionally false or fraudulent statements. Although the language would be added to part 121 for the first time, it is not a new concept in FAA regulations. Similar language already appears in 14 CFR 61.59 and 67.403, and was recently added to part 139 subpart B at § 139.115. Moreover, 18 U.S.C. 1001 currently prohibits fraud and intentional falsification in matters within the jurisdiction of the executive branch.

The FAA proposed adding the requirement to part 121 to emphasize the importance of truthful statements, especially with regard to training and checking of crewmembers and aircraft dispatchers. The FAA considers the making of intentionally false or fraudulent statements a serious offense. Falsification has a serious effect on the integrity of the records on which the FAA's safety oversight depends. If the reliability of these records is undermined, the FAA's ability to promote aviation safety is compromised.

Airbus requested clarification regarding to whom the proposed sanctions would apply. Continental supports the prohibition of fraudulent or intentionally false statements, but commented that the assignment of responsibility and potential sanctions go too far. For example, it is Continental's understanding that the proposal adopts a strict liability standard for a part 121 operator by imposing denial of a training program application or removal of a training program approval for infractions. Continental further commented that the FAA should hold a carrier responsible for fraudulent or intentionally false statements only when it can prove carrier approval or endorsement of such actions; individual employee or contractor actions should not be automatically attributed to a carrier. They conclude that penalties against carrier training programs should only be levied when FAA can prove carrier approval of such actions. In addition, Continental stated that the proposal to impose penalties for incorrect statements or entries is inconsistent with FAA enforcement policy, because Order 2150.3B, FAA Enforcement and Compliance Program, and case law recognize that not all acts warrant enforcement action, especially unintended acts. Continental notes that the introduction of penalties for incorrect statements or entries, which may have been made inadvertently, will serve no deterrent purpose and recommends eliminating paragraph (c) of proposed § 121.9.

The agency agrees with comments that not all certificate holder actions necessarily warrant the strictest agency response and clarifies that § 121.9 does not set forth a strict liability standard. Section 121.9 identifies the potential consequences for intentional falsification or fraud. However, the potential sanctions set forth in § 121.9(b) are limited to cases of intentional falsification or fraud that violate § 121.9(a). As discussed in the following paragraph, proposed § 121.9(c) regarding consequences for making incorrect statements has not been included in the final rule.

Further, in response to comments that § 121.9 is inconsistent with agency guidance, the agency responds that the addition of § 121.9 does not alter the agency's policy in Order 2150.3B regarding the factors it considers in assessing whether to pursue enforcement action, the type of enforcement action (i.e. administrative, legal, etc.) to pursue, and the nature of the sanction that will be pursued, if any. In fact, § 121.9(b)(3)–(4) of the proposal recognize that a more flexible response by the agency may be warranted in certain circumstances. Not all action taken as a result of a regulatory violation is punitive as is the case with the proposal to deny an application or approval of a training program upon the discovery of incorrect training-related information upon which the agency relied. Rather, as is the case today, the agency may withdraw an approved training program to assess the safety and effectiveness of the program based on accurate information. Therefore, proposed paragraph (c) is not necessary and has not been included in the final rule.

In response to commenters' concerns that certificate holders may be held liable for the actions of any person under § 121.9 as proposed, the regulatory language of § 121.9(b) applies to certificate holders as well as any person acting on behalf of a certificate holder who commits an act prohibited by § 121.9(a). Commenters' concerns regarding liability for the acts of their employees have been addressed by case law. Part 119 certificate holders are ultimately responsible for compliance with the duties required to satisfy part 121 requirements and are expected to oversee the conduct of persons they employ. If a certificate holder could be considered liable only upon proof that it was at fault independently, it would have an incentive to minimize oversight of persons it employs.

Currently, 18 U.S.C. 1001 prohibits fraud and falsification in matters within the jurisdiction of the executive branch. Accordingly, there is no cost or additional burden to the certificate holder to comply with this provision, and there is no reason to delay compliance with this section by 5 years.[10] In the final rule, this provision will become effective 120 days after publication in the **Federal Register**.

E. Personnel Identified as Flight Attendants

In existing § 121.391, the FAA requires flight attendants on an aircraft operated under part 121 when the agency determines that the presence of a flight attendant is required to ensure the safety of the aircraft and its occupants. When such a determination has been made, the agency also identifies the minimum number of flight attendants required. However, a certificate holder may choose to provide a flight attendant when one is not required or a certificate holder may choose to provide additional flight attendants in excess of the required minimum number of flight attendants.

Historically, there has been an inconsistent application of the rules regarding training and qualification requirements for these flight attendants who are not required to be on the aircraft. In part 121, the agency requires flight attendants to complete training that will enable them to perform safety-related functions in a normal operating environment as well as to increase passenger and crewmember survivability in an accident. However, the identification of any crewmember as a flight attendant implies that the crewmember is fully qualified to perform all safety-related flight attendant duties and responsibilities upon which other crewmembers or passengers may rely.

Accordingly, in § 121.392 of the SNPRM and the final rule, the agency requires any person identified by the certificate holder as a flight attendant on an aircraft in operations under part 121 to have completed the part 121 flight attendant training and qualification requirements. This requirement applies whether or not the person serves as a required crewmember. The agency

[10] 18 U.S.C. 1001 is a criminal statute prohibiting fraud and intentional falsification in matters within the jurisdiction of the executive branch. This regulation will allow the agency to pursue civil enforcement in instances in which a person has committed fraud or falsification.

further clarifies that certificate holders must identify a person serving as a crewmember who has not yet completed all flight attendant training and qualification requirements to serve as a required crewmember on a particular aircraft, such as a person who is gaining the aircraft operating experience required by § 121.434(e), as a qualifying flight attendant. Air carriers may determine how they want to identify these individuals to passengers, as appropriate for their operation. Some possible methods would be to differentiate their uniform from that of fully qualified flight attendants, identify flight attendants in training as ''trainees'' via nametags or to make an announcement to passengers before the aircraft pushes back from the gate.

The FAA did not receive any comments on this section as proposed in the SNPRM. Proposed § 121.392 appears in the final rule with a modified compliance date as discussed in section III.B. of this preamble.

F. Approval of Airplane Simulators and Training Devices

Currently, existing § 121.407 requires a certificate holder to obtain the agency's approval for the use of airplane simulators and other training devices in a training program approved under part 121.[11] In the NPRM (§ 121.1347) and in the SNPRM (§ 121.1345), the agency proposed to require each FSTD used in a part 121 training program to be qualified and maintained in accordance with 14 CFR part 60—Flight Simulation Training Device Initial and Continuing Qualification and Use, and approved by the Administrator for use in training or evaluating the particular flight training maneuver or procedure. This proposal aligned the existing requirements for approval of airplane simulators and other training devices in a part 121 training program with the requirements regarding the evaluation, qualification, and maintenance of FSTDs added to title 14 in 2006. The part 60 FSTD requirements currently apply to all persons using or applying to use an FSTD to meet any requirement of title 14, chapter 1, Federal Aviation Administration, Department of Transportation, including the training and qualification requirements of subparts N and O. See 14 CFR 60.1(b).

Southwest, American, USAirways, Continental, FedEx, and a number of other commenters questioned how the proposal would affect devices qualified in accordance with ACs that predate part 60. These commenters recommended a blanket statement on simulation and various types of simulator qualification that states an FFS could be either qualified under part 60 or grandfathered into regulation by § 60.17 although not actually qualified under part 60.[12]

This final rule does not modify the existing part 60 requirements for the evaluation, maintenance, and qualification of FSTDs. In the final rule, the agency clarifies that § 60.17 will continue to address previously qualified devices that may be used in part 121 training programs.

Through modifications to existing § 121.407, the final rule incorporates the proposal to conform part 121 requirements regarding the use of FSTDs in approved training programs with the existing part 60 requirements that already apply to the use of FSTDs in part 121 training programs.

G. Approval of Training Equipment Other Than Flight Simulation Training Devices

Current regulations do not provide specific requirements for training equipment other than FSTDs, but the regulations generally require training equipment to be adequate. To ensure that all equipment used in approved training programs is adequate for the particular task for which it is used, in § 121.1351 of the NPRM and SNPRM, the FAA proposed requirements for training equipment other than FSTDs. The FAA has retained this provision as § 121.408 of the final rule. Section 121.408 states that the FAA must approve training equipment (e.g. cockpit procedures trainers, door/exit trainers, water survival equipment, etc.) used to functionally replicate aircraft equipment required to be used as part of the approved training program.

In the SNPRM, the agency explained that this provision would apply to training equipment including, but not limited to, portable emergency equipment, including life vests and fire extinguishers, aircraft exit trainers, and equipment for overwater operations. In response to comments to the NPRM that the proposed requirements in § 121.1351 were overly broad and open to interpretation, the agency restated the purpose of this requirement in the SNPRM was focused on ensuring that crewmembers receive training on emergency equipment that replicates the actual equipment they would use in emergency situations in aircraft operations. The proposed requirements in § 121.1351 appear in § 121.408 of the final rule with the clarifications described in the following paragraphs.

In response to the SNPRM, American, the Air Transport Association of America, Inc. (ATA) (now known as Airlines for America), USAirways, Continental, ASTAR, FedEx, and Southwest requested more specificity about the types of training equipment that would be covered under this section. American, ATA, USAirways, Continental, ASTAR, and FedEx further stated that it would be difficult to comply with the provision that requires the training equipment to replicate the form, fit, function, and weight, as appropriate, of the aircraft equipment, because much of the data, which must come from the manufacturers, is not part of the information currently provided by the manufacturers.

In the final rule, the FAA maintains the existing requirements in § 121.403(b)(2) that all training devices mockups, systems trainers, procedures trainers and other training aids be listed in the air carrier's approved training program. The final rule also includes a new provision, proposed in the SNPRM, which clarifies the FAA's intent regarding the criteria that must be met by this training equipment. This provision requires that training equipment used to accomplish the training requirements of this part meet the form, fit, function, and weight, as appropriate, of the actual equipment that crewmembers will be using during normal and/or emergency aircraft operations. In addition, the equipment must replicate the normal operation (and abnormal and emergency operation, if appropriate) of the aircraft equipment including the required force, actions and travel of the aircraft equipment and variations in aircraft equipment operated by the certificate holder, if applicable. It must also replicate the operation of the aircraft equipment under adverse conditions, if appropriate.

The FAA has qualified the requirement with ''as appropriate'' to allow for flexibility in cases where manufacturer's data is not available or it is impracticable or unnecessary to meet this requirement. The FAA clarifies that the requirements in section § 121.408 apply to training equipment used to

[11] The agency notes that the terms ''visual simulator'' and ''airplane simulator'' as used throughout part 121, are currently referred to as ''full flight simulators'' in part 60. A ''training device'' or ''flight training device,'' as used throughout part 121 are currently referred to as ''flight training devices'' in part 60. A ''non-visual simulator'' or a ''simulator without a visual system'' is a motion simulator without a visual presentation. These types of devices have either been retired or upgraded to FFSs with the installation of visual displays.

[12] Although this comment was made in connection with the use of an FSTD to maintain pilot recent experience requirements, it is generally applicable to a number of other conforming references to part 60 throughout the SNPRM.

accomplish job performance requirements only where replication of the actual equipment used in operations is key to the learning objectives of the drill. Further, certain criteria do not affect the efficacy of training equipment as a training tool. For example, the weight of the entire door trainer would not have to match the weight of that size section of an actual aircraft fuselage, but the weight of the door/window that the crewmember is opening would have to replicate the weight of the actual exit on an aircraft in order to prepare a crewmember adequately to react in an emergency. The key objective of this requirement is that the training equipment reflects the equipment that would be used by the crewmember in normal and/or emergency aircraft operations in order to accomplish the learning objectives of the drill.

Additionally some commenters noted that the FAA has not required the official approval of training equipment outside of the National Simulator Program or part 60. In response, the FAA clarifies that existing § 121.403(b)(2) already requires that all training device mockups, systems trainers, procedures trainers, and other training aids be listed in the air carrier's approved training program. The requirements of § 121.408 simply clarify the functional attributes and requirements that must be met by this training equipment.

Commenters (American, ATA, USAirways, Continental, ASTAR, FedEx and Southwest) have assumed that this provision would apply to door and window trainers, but question whether it would also include unique slat/flap handle trainers, intruder resistant cockpit door latch trainers, and many other cockpit or cabin items for which a hands-on trainer would be beneficial, but not necessarily required.

The FAA agrees that it is important to clarify what training equipment must meet the requirements of § 121.408. In the final rule, the FAA has amended § 121.408(b) to require that the provisions of this section apply to training equipment used to meet the training requirements of this subpart. This includes portable emergency equipment (e.g. fire extinguishers, portable oxygen bottles, and protective breathing equipment), aircraft exit trainers, equipment for overwater operations, and other equipment used to meet hands on training requirements.

The agency notes that air carriers may find it useful to create hands on training opportunities for crewmembers to enhance training in a certain area, even when hands on performance training is not required by regulation. When a device (e.g. unique slat/flap handle trainers, intruder resistant cockpit door latch trainers, and many other cockpit or cabin items) is not required by the training requirements of this subpart, the functional attributes and requirements for the equipment of § 121.408 do not apply. However, the device must still be listed in the air carrier's approved training program, under the requirements of § 121.403, and contribute to training objectives.

Southwest also asserts that the requirement proposed in § 121.1351(d) that all training equipment must have a method of documenting discrepancies in close proximity, precludes the use of technology to maintain an electronic log book for discrepancies unless a recording device is located in close proximity to each piece of equipment. Southwest proposed changing ''close proximity'' to ''within the training facility.''

The FAA agrees with the commenter and in the final rule has amended the requirements of § 121.408(d) to only require a method for documenting discrepancies for all training equipment. This provision will allow the greatest flexibility for air carriers to develop, and submit for approval, a method that works effectively in their particular training environment.

H. Pilot Monitoring Duties and Training

Existing regulations do not explicitly address development of pilot monitoring skills. However, pilot monitoring duties are currently included in the operating manual required by § 121.133. Therefore, the FAA expects that they are incorporated in air carrier standard operating procedures.

Historically, the FAA has referred to the individual completing pilot monitoring duties as the pilot not flying. In FAA AC 120–71A, Standard Operating Procedures for Flight Deck Crewmembers, the agency provides guidance regarding a means to incorporate standard operating procedures for the pilot not flying and pilot flying duties into the operating manual. The FAA amended this AC in 2003. In one notable change, the agency replaced the term ''pilot not flying'' with the term ''pilot monitoring'' to convey that the pilot not flying should be actively engaged in the safe operation of the aircraft and as such, should be trained and evaluated in performing active pilot monitoring skills.

In § 121.1213 of the NPRM and SNPRM, the agency proposed to codify the use of the term ''pilot monitoring'' to reflect the activities conducted by the pilot who is seated at the controls, but not flying the aircraft or the FSTD. The agency further proposed to require a pilot to accomplish pilot monitoring duties in accordance with the operating manual. The proposals did not change the current duties and responsibilities of the pilots at the controls.

The Air Line Pilots Association, International (ALPA) supported the use of the term ''pilot monitoring,'' as incorporated in the NPRM and SNPRM, as it better describes the function of the pilot who is not actually controlling the aircraft. Southwest, Fed Ex, Continental, American, ATA, and USAirways commented that the agency should include a definition of ''pilot monitoring'' in the final rule to clarify the term. The agency is not persuaded by commenters that a definition of ''pilot monitoring'' is required. In the final rule, § 121.544 of subpart T includes the proposed description of the pilot who must complete pilot monitoring duties with sufficient detail such that an additional definition is not necessary.

In § 121.1213 of the SNPRM, the agency's proposal combined operational and training requirements for the pilot monitoring. Southwest, Continental, ASTAR, American, ATA, USAirways, and FedEx commented that the agency should remove language in the proposal that would require pilots to accomplish pilot monitoring duties in accordance with the operating manual while at the controls of an FSTD during training. These commenters stated that there may be times when a pilot is instructed to behave in a way other than specified by the operating manual to complete a training objective (e.g., incapacitated pilot, get into upset event for training purposes, check pilot training, etc.).

In response to comments, the agency clarifies that training requirements must be based on operating manual contents and standard operating procedures so that pilots can receive comprehensive training on the procedures that must be followed during operations. However, the agency recognizes that it may not always be feasible or practical to maintain consistency with the operating manual for the ''set up'' of certain maneuvers and procedures in a training environment. Therefore, the final rule addresses pilot monitoring duties and training in separate provisions. Section 121.544 of the final rule provides pilot monitoring duties and § 121.409 and appendix H provide pilot monitoring training.

The agency's determination regarding the need for training on pilot monitoring is supported by the NTSB final report on the Colgan accident. In the NTSB final report on this accident, the NTSB

stated, ''The flight crewmembers failed to monitor the airplane's pitch attitude, power, and especially its airspeed and failed to notice, as part of their monitoring responsibilities, the rising low-speed cue on the IAS display. Multiple strategies can be used to protect against catastrophic outcomes resulting from these and other monitoring failures, including flight crew training, flight deck procedures, and low-airspeed alert systems . . .'' The NTSB concluded that ''the monitoring errors made by the accident flight crew demonstrate the continuing need for specific pilot training on active monitoring skills.'' See NTSB Rep. AAR–10/01, at p. 94.

In the SNPRM, the agency proposed to require pilots to serve as pilot monitoring during Line Oriented Flight Training (LOFT) to facilitate opportunities for pilots to practice and demonstrate proficiency in pilot monitoring skills and workload management under the supervision of a flight instructor or check airman. The final rule includes requirements for part 121 operators to provide opportunities for pilot monitoring training during LOFT.

Currently, the agency requires LOFT, a scenario-based training event with minimal check pilot or flight instructor interruption, for all pilots who complete training in an advanced simulation training program. In accordance with appendix H, LOFT must consist of two representative flights for each pilot. In addition, air carriers may substitute LOFT that meets the requirements of § 121.409, for the recurrent proficiency check requirement specified in § 121.441. Further information regarding LOFT can be found in AC 120–35C, which provides guidelines for the design and implementation of LOFT.

In § 121.1353 of the SNPRM, the agency proposed to add specificity to existing LOFT requirements by requiring each pilot to serve as pilot flying and pilot monitoring any time a part 121 operator uses LOFT in a training curriculum. Similar to existing LOFT requirements in appendix H, the agency proposed that LOFT must consist of two operating cycles. However, the SNPRM defined ''operating cycle'' as a gate-to-gate operation. Further, the agency proposed that one of the required operating cycles would be a ''pilot flying cycle'' and one cycle would be a ''pilot monitoring cycle.''

Southwest, ASTAR, American, ATA, USAirways, Continental, UPS, and FedEx, stated that the two operating cycles that must be completed during LOFT should not be required to include two full gate-to-gate (taxi-in and taxi-out) scenarios. These comments were provided in response to the proposal for two operating cycles for all LOFT and with particular concern regarding recurrent LOFT. These commenters state two gate-to-gate operating cycles would reduce the effectiveness of LOFT due to more time and emphasis on ground operations and less on flight operations.

Further ASTAR, American, ATA, USAirways, Continental, UPS, and FedEx stated that, for those carriers engaged in long haul, international flights, the requirement to design LOFT with two operating cycles representative of the certificate holder's operation will be challenging. Commenters recommend that for purposes of a LOFT, ''Operating Cycle'' should be defined to include only takeoff, climb, en route, descent and landing.

The FAA concurs with commenters that two gate-to-gate operating cycles are unnecessary for the reasons cited by commenters. In response to carriers' concerns regarding the effect of requiring two operating cycles for LOFT, the agency clarifies that LOFT is intended to be representative of a certificate holder's operation, not a replication of the flight. As described in FAA AC 120–35C Line Operational Simulation: Line Oriented Flight Training, Special Purpose Operational Training, Line Operational Evaluation, LOFT is conducted as a line operation and allows for no interruption by the instructor during the session except for a non-disruptive acceleration of uneventful en route segments. Accordingly, the crew completing LOFT must complete one taxi-out and one taxi-in during the 4-hours required for LOFT in current § 121.409. Additional segments need only consist of takeoff, climb, en route, descent, and landing.

Commenters state that the proposed requirement for two operating cycles during which a pilot serves exclusively as pilot monitoring or pilot flying was not representative of actual line operations. This proposal would force crews into predetermined pilot flying and pilot monitoring roles irrespective of actual line operations in order to meet the regulatory requirements.

The agency agrees with comments that the LOFT training should be representative of actual line operations. During typical line operations, a pilot may not serve exclusively as either the pilot flying or the pilot monitoring. Therefore, the final rule does not require exclusive pilot monitoring and flying cycles during LOFT. Instead, the final rule requires pilots who must complete LOFT in accordance with appendix H or who complete LOFT as an alternative to the proficiency check requirement specified in § 121.441, to complete two representative flight segments and to serve as pilot monitoring for a period of time during the LOFT. This change ensures pilots will have an opportunity to practice pilot monitoring under the supervision of a flight instructor or check airman while maintaining a representative scenario-based training environment.

In addition, in the SNPRM, the agency proposed to require part 121 operators to evaluate active pilot monitoring skills. American, ATA, USAirways, Continental, and ASTAR commented that the proposed evaluation requirements § 121.1213 will require the development of new pilot monitoring standards, and grading and data collection methods making the requirement burdensome.

Based on review of the comments and the proposal, the agency clarifies that pilot monitoring is most appropriately assessed in the LOFT environment which is intended to represent a normal operation. Therefore, it would not be appropriate to require monitoring as a discrete training and evaluation item.

The final rule requirement to include pilot monitoring during LOFT does not place any additional simulator time burden on operators who use advanced simulation training programs to train their pilots or substitute LOFT for recurrent proficiency check requirements because the requirement can be met during the ordinary course of any LOFT that is currently part of a part 121 operator's training program. However there may be some burden due to the need to amend an air carrier's training program. This burden has been reflected in the information collection requirements that are discussed in the Paperwork Reduction Act discussion in Section IV of the preamble. The FAA has included this requirement in the final rule as amendments to paragraph 6 in appendix H and § 121.409.

I. Flight Instructor (Simulator) and Check Airmen (Simulator) Training

Existing §§ 121.413 and 121.414 require flight instructors and check airmen to complete initial and transition ground and flight training. The ground training focuses on instruction and evaluation methods, procedures, and techniques. Sections 121.413 and 121.414 do not currently require ground training on the specific operation and limitations of the simulator or training device.

However, appendix H to part 121 requires certificate holders to provide enhanced instruction for flight

instructors and check airmen that serve in advanced simulation training programs. Flight instructors and check airman who serve in a part 121 advanced simulation training program must complete the training required by §§ 121.413 and 121.414, as applicable, as well as annual training identified in appendix H that includes simulator operation, limitations, and minimum equipment required for each course of training.

In §§ 121.1377 and 121.1381 of the SNPRM, the agency proposed requirements for all flight instructors and all check airmen who serve in FSTDs to complete ground training on FSTD use, operation, and limitations based on existing appendix H annual training requirements. To coincide with the SNPRM proposal for flightcrew member recurrent training, the agency proposed an 18 month interval for recurrent flight instructor and check airman training.

Aviation Performance Solutions (APS) expressed specific concern about the qualifications of instructors conducting training in upset recognition and recovery. APS stated that the delivery of upset recognition and recovery training by instructors who have not first been provided with such information themselves and qualified in the delivery of information and techniques in this area has a high probability of propagating incorrect or unsafe information and techniques. APS recommended that the FAA require instructors to receive training and be specifically qualified to deliver training in the area of upset recognition and recovery.

The FAA agrees with this commenter's concerns regarding the importance of instructor training for upset recovery training. Similar concerns were raised by the 208 ARC, which identified the lack of instructor knowledge, qualification, and standardization as a major hazard for the delivery of upset recovery training.

In the final rule, the FAA has determined that instructor and check airman training must not only contain initial and recurrent training for maneuvers, concepts and techniques but must also include training on both the data and motion limitations of the FSTD. Accordingly, the agency added these enhanced training requirements for flight instructors and check airmen to current §§ 121.413 and 121.414. Further, the FAA has established the recurrent interval for flight instructor and check airmen training at 12 months to coincide with appendix H recurrent training that flight instructors and check airmen who conduct training or checking in FSTDs must complete.

Training on the limitations of the specific FSTD will enable instructors and check airmen to provide upset recovery training consistent with the capabilities and performance of the specific aircraft type. This comprehensive instructor training will not only increase instructor standardization and the quality of upset recovery training, but also reduce the risk of negative training which could easily occur with an untrained instructor. These enhanced instructor and check airmen training requirements are consistent with recommendations of the 208 ARC. Current training for check airmen and instructors is extensive and the FAA has determined that these new final rule requirements can be integrated into the part 121 certificate holder's current curriculum for check airmen and instructor training.

Commenters including Continental and American stated that the proposed check airmen recurrent training requirements in the SNPRM would result in additional cost to air carriers. The FAA has revised the projected benefits and costs based on the specific provisions that are adopted in this final rule. The final rule recurrent training requirements for flight instructors and check airmen who serve in FSTDs can be accomplished within the instructor and check airman requirements in existing appendix H. Therefore, costs are limited to those costs that may accrue from the revision to existing manuals and training courseware. This burden has been reflected in the information collection requirements that are discussed in the Paperwork Reduction Act discussion in Section IV of the preamble.

J. Remedial Training Programs

In § 208(a)(2) of Public Law 111–216, Congress directed the Administrator to conduct a rulemaking to require part 121 operators to establish remedial training programs for flightcrew members who have demonstrated performance deficiencies or experienced failures in the training environment. See footnote 2. This statutory requirement for rulemaking is consistent with NTSB recommendation A–05–14 and existing FAA guidance regarding pilot remedial training.

The Congressional direction is similar to NTSB recommendation A–05–14, issued following the Federal Express flight 647 accident in Memphis, Tennessee on December 18, 2003. See NTSB/AAR–05/01. The NTSB's review of Federal Express's pilot training procedures and oversight at the time of the accident revealed that Federal Express's pilot training program focused on a pilot's performance on the day of the check with little or no review of that pilot's performance on checks months or years earlier. In January 2004, as a result of a series of operational accidents and incidents, Federal Express implemented an enhanced oversight program to identify and track pilots who have demonstrated performance deficiencies or failures in the training environment. The NTSB's report on the accident concluded that a similar proactive program would provide safety benefits for other part 121 operators. Accordingly, in recommendation A–05–14, the NTSB recommended that the FAA require all part 121 operators to establish programs for flightcrew members who demonstrated performance deficiencies or experienced failures in the training environment that would require a review of their whole performance history at the company and administer additional oversight and training to ensure that performance deficiencies are addressed and corrected. The NTSB reiterated recommendation A–05–14 in the Colgan Air flight 3407 accident report (NTSB/AAR–10/01) after the investigation revealed that the pilot demonstrated continued weaknesses in basic aircraft control and attitude instrument flying during multiple evaluations within a 3-year period.

On October 27, 2006, the agency issued SAFO 06015, ''Remedial Training for Part 121 Pilots.'' Consistent with NTSB recommendation A–05–14, in this SAFO, the agency recommended a process to identify pilots with persistent performance deficiencies or who have experienced multiple failures in training and checking. The agency explained that the process should accomplish three objectives: (1) Review the entire performance history of any pilot in question; (2) provide additional remedial training as necessary; and (3) provide additional oversight by the certificate holder to ensure that performance deficiencies are effectively addressed and corrected. Following the Administrator's Call to Action to Enhance Airline Safety, in January 2010, the agency confirmed that all part 121 operators had implemented remedial training consistent with the objectives of SAFO 06015. See FAA Fact Sheet, January 27, 2010.

In the SNPRM, the agency explained that the statutory requirement for the development of remedial training programs for flightcrew members who have demonstrated performance deficiencies or experienced failures in the training environment was included

as part of the continuous analysis process (CAP) proposed in § 121.1355. See 76 FR 29336, 29340 (May 20, 2011).

In the SNPRM, the FAA revised the CAP process to include more detailed requirements to ensure that all part 121 operators regularly analyze flightcrew member training and checking and that any deficiencies in flightcrew member performance or operation of the training program are identified and corrected. See 76 FR at 29361. The agency further proposed to require part 121 operators to monitor flightcrew members who completed remedial training. See 76 FR at 29361.

Commenters, including the Regional Airline Association (RAA), questioned whether the proposed CAP was generally duplicative of activities that would be required in accordance with a certificate holder's SMS. Specifically, RAA commented that the CAP proposal unnecessarily duplicates activities that more appropriately fall within the purview of an airline SMS. RAA suggested that, rather than maintaining CAP and SMS as ''separate silos'' for analyzing a certificate holder's training program, the agency withdraw proposed §§ 121.1355 (applicable to crewmembers) and 121.1441 (applicable to aircraft dispatchers) and incorporate the CAP into the agency's proposed SMS rule.

The agency agrees that elements of the proposed CAP were similar to the proposed SMS requirements. Accordingly, in the final rule, the agency has only retained the pilot-specific remedial training components of the proposed CAP that complement the proposed SMS requirements. The agency clarifies that the analysis process element of the remedial training program requirement may serve as a component of a robust SMS.

1. Analysis Process

Section 121.415(h) of the final rule retains the SNPRM proposal that each approved training program must include a process for the regular analysis of individual pilot training and checking performance to identify pilots with performance deficiencies during training and checking or multiple failures during checking. The agency recommends that air carriers analyze an individual pilot's performance after completion of any qualification curriculum or recurrent training/checking event. To meet the intent of a regular analysis, the agency expects an air carrier to analyze an individual pilot's performance at least annually. The agency expects this analysis to include a review of the pilot's performance during all training and checking with the air carrier to identify performance deficiencies or multiple failures.

2. Remedial Training and Tracking

The purpose of remedial training and tracking is to ensure that the failures or identified performance deficiencies are addressed and corrected. Therefore, effective remedial training must be tailored to the individual pilot. Possible methods of remedial training include, but are not limited to, one-on-one training with an instructor, repeat of ground or flight training modules, additional LOFT, or a combination of methods. The remedial training requirements in the final rule are consistent with the Air Carrier Safety and Pilot Training ARC recommendations, which called for implementing structured remedial training programs, while retaining flexibility for air carriers to tailor tracking to the individual pilot.

Section 121.415(i) of the final rule requires the approved training program to include methods for remedial training and tracking [13] of pilots that have been identified during the analysis process required under 121.415(h).

In § 121.1335(b) of the SNPRM, the agency proposed to require that the air carrier monitor (identified as tracking in the final rule) an individual who has completed remedial training until the individual satisfactorily completes the following recurrent training session to ensure the crewmember's competent performance during this period. ATA, American, USAirways, Continental, FedEx, and Southwest commented that the duration of the monitoring (identified as tracking in the final rule) of an individual who completed remedial training was unclear.

After further review of the SNPRM and consideration of the comments, the agency has determined that the certificate holder must have the flexibility to establish the duration of pilot tracking. Pilot tracking is an element of the remedial training process to manage pilots with performance deficiencies or multiple failures to ensure that the performance deficiencies or failures are effectively corrected. The agency expects air carriers to conduct additional observation of pilot performance following completion of remedial training to determine whether the pilot has mastered the maneuver(s), procedure(s) or subject area(s), in which he or she has previously demonstrated weakness. Possible methods of tracking include, but are not limited to, additional PIC line checks, SIC line checks or observations, additional proficiency checks, additional flight training, or a combination of these methods. Given the potential range of identified areas of weakness, the individual pilot performance during remedial training and tracking and the frequency of opportunities to continuously demonstrate proficiency in those areas, the agency determined that the necessary time frame for tracking these pilots' performance will vary. The agency expects certificate holders to continue to track a pilot until the performance deficiencies or failures are effectively corrected. The agency also expects each certificate holder's approved training program to include specific indicators used to determine that the pilot has mastered the maneuver(s), procedure(s), or subject area(s) in which the pilot has previously demonstrated weakness.

The agency clarifies that tracking is separate from required recurrent training and checking. Regardless of any additional training or checking that a pilot completes during tracking, recurrent training and checking is still required at the intervals specified in part 121. A pilot's due month for recurrent training or checking may not be changed based on completion of any additional training or checking required by the certificate holder's remedial training and tracking program.

The NTSB and Families of Continental Flight 3407 commented that once a pilot completes a ''checkride'' there will be no further tracking of this individual even if he or she subsequently experiences difficulty performing a maneuver, similar to the scenario identified during the investigation of the Colgan accident. The requirement for additional tracking of pilot performance is not the only opportunity for a certificate holder to consider a pilot's overall training and checking performance. As previously discussed, the final rule includes the requirement for regular analysis of individual pilot training and checking performance. If a pilot completes tracking and subsequently demonstrates weakness again, this pilot would again be identified during the analysis process. Then, this pilot would again be required to complete remedial training and tracking in accordance with the certificate holder's approved training program.

[13] After further review of the SNPRM, in the final rule remedial training requirements, the agency has replaced the term, ''monitoring'' with the term, ''tracking.'' The agency made this substitution because the term ''monitoring'' was inconsistent with existing guidance and to avoid confusion with ''pilot monitoring'' duties described elsewhere in the final rule.

Families of Continental Flight 3407 commented that enhanced recordkeeping requirements are necessary for a complete assessment of a pilot's performance. The agency believes that existing air carrier training and checking recordkeeping practices provide sufficient information for operators to successfully implement the remedial training program requirements in the final rule. In addition, § 121.683 requires operators to maintain records to demonstrate pilot compliance with the training and qualification requirements of subparts N and O.[14] Records regarding an individual's performance in the training or checking environment are of the type that could be used to satisfy the requirements of § 121.683(a)(1). Accordingly, these records should be currently available for operator use in implementing an effective remedial training program including the regular analysis of pilot training and checking performance.

K. Related Aircraft Differences Training

Under existing regulations, flightcrew members must complete the training, checking, and qualification requirements for each aircraft type they operate. In addition, due to differences in instrumentation and installed equipment, the skills and knowledge required to operate aircraft of the same type may be different. Therefore, crewmembers trained on one variant of an aircraft type may require additional training to safely and efficiently operate other variants of that aircraft type. This additional training is identified in existing regulations as differences training.

The FAA, through Flight Standardization Boards (FSB), provides analysis of the differences between the variations of existing aircraft types during certification. The analyses are published in a Master Differences Requirements (MDR) document in each FSB report. Under existing regulations, an operator preparing a training program must review the MDR, determine the differences between the variants of the aircraft type, and develop a training program, subject to FAA approval, that addresses these differences.

With the rapid advancement in modern technologies, both in manufacturing techniques and systems design and application, industry now incorporates products and processes that have redefined the relationships between and within aircraft types. For example, the technological development of flight guidance computers has produced ''fly-by-wire'' control laws embedded in computer software that increasingly determine and control the handling or flight characteristics of an aircraft. The use of such technology can produce aircraft types of differing models and aerodynamic airframes, with similar handling or flight characteristics. In addition, modern aircraft systems and displays may allow different type certificated aircraft to have common flight deck and systems designs, such that minimal differences training may be warranted.

Given this technological advancement, when requested by industry, the FSB will analyze and compare aircraft with different type certificates and their associated systems. Through this analysis, the FSB may recommend training reduction for identified similarities between aircraft types. These recommendations are documented in FSB reports for each aircraft and have been used by certificate holders to develop training program curriculums.

In the SNPRM, the agency proposed to extend the differences training concept to aircraft with different type certificates. This proposal would not change existing requirements pertaining to differences training for variants of a single aircraft type.

To address the relationships among aircraft with different type certificates, in the SNPRM, the FAA proposed to add to part 121 a definition for ''related aircraft'' for use exclusively in the context of flightcrew member training, checking, and qualification. Related aircraft refers to two or more aircraft of the same make (with either the same or different type certificates) that have been demonstrated and determined by the Administrator to have commonality to the extent that flightcrew member training, checking, recent experience, operating experience, operating cycles, and line operating flight time for consolidation of knowledge and skills may be reduced while still meeting the training and qualification requirements for service on the other aircraft. This definition is consistent with the related aircraft definition in AC 120–53A—Guidance for Conducting and Use of Flight Standardization Board Evaluations. The agency has provided an update to this advisory circular (AC 120–53B) in the docket for this final rule.

Based on the FAA's experience with evaluating aircraft similarities in the training, checking and operations contexts, in § 121.1206 of the SNPRM, the FAA proposed to allow certificate holders to seek related aircraft designation for aircraft with different type certification for use in part 121 training program development. Having such a designation would allow certificate holders to take advantage of any similarities that may exist between different aircraft types in its operation. Certificate holders could develop a related aircraft differences training program (inclusive of training and checking), make modifications to existing training programs, or seek a deviation from the SNPRM's proposed recency, operating experience and consolidation requirements.

In the final rule, the agency has added the proposal for related aircraft differences training to § 121.418 and has retained the proposed deviation authority with modifications. Further, consistent with § 121.1223 of the SNPRM, § 121.441(a)(1)(ii) of the final rule requires a PIC to complete a proficiency check in each aircraft type in which the PIC is to serve. Compliance with this provision will be required 5 years after the effective date of the final rule.

A certificate holder may seek a deviation to allow credit for related aircraft operating experience and consolidation, recency of experience and proficiency checking through a deviation request submitted in accordance with §§ 121.434, 121.439, and 121.441 respectively.

Currently, in accordance with § 121.433(d), a PIC who serves on more than one aircraft type must complete either recurrent flight training or a proficiency check on each aircraft type. To ensure PICs operating multiple aircraft types (whether designated as related or not designated as related) maintain proficiency on each aircraft type, the FAA has carried forward the proposal from the SNPRM to require a proficiency check on each aircraft type in which a PIC serves.

The recurrent frequency for a PIC proficiency check in this final rule aligns with the existing recurrent checking frequency of 12 months. The agency does not believe this requirement results in any additional burden or cost to a certificate holder. Section 121.433(d) currently requires a PIC to satisfactorily complete either recurrent flight training or a proficiency check on each aircraft type in which a PIC serves within the preceding 12 calendar months. Therefore, this amendment to § 121.441 does not require any additional time in an FSTD during flightcrew member recurrent

[14] As discussed in section II.B.1. of this preamble, the FAA has initiated a rulemaking project (RIN 2120–AK31) to develop a pilot records database and phase out the requirements of the PRIA found at 49 U.S.C. 44703(h) and will consider the requirements of § 121.683 in the pilot records database rulemaking.

training. Additionally, the FAA expects that any training program updates needed to reflect this change are minimal and are subsumed in the paperwork costs for the collective amendments made to the recurrent training provisions.

However, the final rule does allow a certificate holder to seek a deviation from this requirement for aircraft that are designated related. In accordance with § 121.441(f), a certificate holder may apply for a deviation that would allow reduced frequency and/or reduced content of the designated related aircraft proficiency check for PICs. Although the final rule does not amend the existing requirements applicable to SICs in § 121.441(a)(2), the deviation authority added to § 121.441(f) also permits a certificate holder to seek a deviation from the proficiency check requirements applicable to SICs for designated related aircraft.

The agency notes that, consistent with current practice, the FAA has not established a limit on the number of aircraft types, or variants within a type, on which a flightcrew member may be qualified to serve provided a flightcrew member is able to demonstrate proficiency and complete the training and checking requirements set forth in the certificate holder's approved training program.

Airbus supported the proposal to allow certificate holders to modify their pilot training programs based on FSB related aircraft designation. However, FedEx, Southwest, Continental, ASTAR, American, ATA, and USAirways questioned the necessity for the designation of related aircraft because existing FSB reports already define the relationship between aircraft. Commenters further asserted that they should not be required by regulation to seek approval from the FAA for related aircraft designation a second time outside the FSB process.

The agency clarifies that neither the proposal nor the final rule make any substantive changes to the process by which FSB analysis of aircraft with the same or different type certificates is currently conducted. Currently, part 121 requires differences training for variants of aircraft with the same type certification, but it does not specifically address a differences training concept for aircraft with different type certification. Thus, the agency determined codification of the related aircraft policy in AC 120–53A is necessary.

ASTAR, Continental, American, ATA, USAirways, and Southwest asked the agency to clarify the proposed recurrent training requirements for flightcrew members qualified on related aircraft that required an alternating sequence of flight training and checking for each related aircraft type.

Upon further review of the proposal, the agency has determined that the concept currently in place for recurrent differences training and recurrent evaluations should apply to training on aircraft designated as related. In the final rule, flightcrew member recurrent training must include all required ground training, flight training and checking and crewmember emergency training on a ''base aircraft.'' For an aircraft designated as related to the base aircraft, each flightcrew member must be trained or trained and checked on the differences as described in the FSB report.

ATA, USAirways, FedEx, Continental, ASTAR, Southwest, and American expressed confusion regarding the use of the term ''classification of related aircraft'' as proposed in the SNPRM provision that would allow part 121 operators to seek deviations from operating experience, consolidation, and recent experience requirements. These commenters also stated that there is no clear guidance on acceptable reasons for the agency to authorize a deviation from operating experience, consolidation and recent experience based on related aircraft designation.

In response to commenters' concerns regarding the term ''classification of related aircraft,'' the agency has amended the final rule deviation language to refer to ''designation of related aircraft'' for clarity and consistency. Regarding commenters' concerns about the basis for authorizing deviations from operating experience, consolidation and recent experience, the agency will evaluate a deviation request based on the recommendations in the FSB report. Additionally, the agency notes that under existing requirements and in the final rule, separate operating experience, operating cycles, and line operating flight time for consolidation of knowledge and skills are not required for variations within the same type airplane. See 14 CFR 121.434(a).

ATA, USAirways, FedEx, Continental, ASTAR, Southwest, and American noted that the deviations are now required to be approved by the FAA Director of Flight Standards. These commenters suggest that the deviation authority should remain at the principal operations inspector (POI) level, asserting that a POI who is familiar with the airline's operation, experience levels, and training programs is critical to making a well-founded decision regarding a deviation.

The agency generally agrees with commenters that POIs are the most familiar with the operation, experience levels and training programs of the certificate holder they oversee. However, upon further review of the proposal, the agency has determined that it is more appropriate to address the Administrator's delegation of authority for specific functions associated with related aircraft designations and deviations in guidance material. Accordingly, the final rule reflects this change.

The agency emphasizes that the related aircraft provisions do not create a requirement for an operator to seek designation of related aircraft. A part 121 operator's determination whether to pursue a related aircraft designation or develop related aircraft differences training is voluntary. The alternative to related aircraft differences training is for the part 121 operator to develop comprehensive training programs for any new aircraft type as is currently required.

L. Extended Envelope Flight Training

Currently, the agency does not require ground or flight training on recovery from aerodynamic (full) stall or upset conditions. In § 208 of Public Law 111–216, enacted August 1, 2010, Congress directed the FAA to require part 121 operators to provide flightcrew members with ground and flight training on the recognition and avoidance of stalls and upsets as well as full stall and upset recovery maneuvers. Public Law 111–216 also directed the agency to implement the recommendations of the expert panel convened to report on methods to increase flightcrew member familiarity with and response to stick pusher systems and adverse weather events.

Public Law 111–216 followed the Colgan accident in which the flight crew incorrectly responded to both a stall warning and a stick pusher activation resulting in an aerodynamic stall. Additional improper response to the stalled condition precipitated an upset condition from which the flight crew did not recover, resulting in the death of everyone on board as well as one person on the ground and a catastrophic loss of the aircraft.

In the SNPRM, the agency proposed to require flightcrew members to receive flight training on upset recognition and recovery, as well as recovery from full stall and stick pusher activations. The SNPRM also proposed to require pilot ground training on recognition and recovery from stall and upset.

As required by Public Law 111–216, the final rule includes stall and upset

ground and flight training. Consistent with Public Law 111–216 and the 208 ARC recommendations, the agency has determined that the greatest safety benefit can be achieved by adjusting the focus of the training requirements to ''avoid'' or prevent the upset or stall. Accordingly, the final rule promotes pilot manual handling skill development to prevent stall and upsets, coupled with training which allows pilots to quickly recover from developed stalls and upsets. The final rule also includes the proposed requirement for flight training on recovery from bounced landings.

In the final rule, the agency identifies the stall and upset prevention and recovery maneuvers and procedures as ''extended envelope training.'' The term ''extended envelope training'' refers to maneuvers and procedures conducted in a FSTD that may extend beyond the limits where typical FSTD performance and handling qualities have been validated with heavy reliance on flight data to represent the actual aircraft. In instances when obtaining such flight data is hazardous or impractical, engineering predictive methods and subject-matter-expert assessment are used to represent the aircraft adequately in the simulator.

The final rule extended envelope flight training maneuvers and procedures are required in qualification curriculums as proposed in the SNPRM, as well as in recurrent curriculums. The time required to complete the extended envelope training is in addition to existing programmed hour requirements for inflight training.[15]

In the SNPRM, the agency proposed to require all pilots in part 121 operations to complete recurrent training for the extended envelope flight training tasks at either 9 month or 36 month intervals. The agency also proposed to require all pilots to complete recurrent training or evaluation on approach to stall in at least one configuration (clean, takeoff or maneuvering, or landing) every 9 months. A number of commenters raised concern generally regarding the totality of required recurrent training proposed in the SNPRM. However, commenters did not provide specific objections to the proposed training or evaluation frequency for approach to stall or the extended envelope flight training tasks.

In the final rule, the agency replaces the term ''approach to stall'' with ''stall prevention training.'' [16] This change does not alter the substantive requirements of existing approach to stall training. The FAA has adopted this terminology change in concert with ICAO and as a result of the FAA/ICAO/EASA joint initiative to study the contributing factors of loss of control inflight, internationally recognized as the LOCART initiative.

The FAA has determined that the term ''stall prevention training'' more accurately describes the training objective intended by the existing ''approach to stall'' maneuvers. This terminology change also draws a clearer distinction from the full stall recovery training introduced in this final rule. As described in AC 120–109, pilots should continue to be trained that the primary response at the first indication of a stall is to reduce the angle of attack.

The recurrent frequency for stall prevention (approach to stall) training and evaluation and the extended envelope maneuvers training in this final rule aligns with the existing recurrent training and evaluation frequency of 6 months for PICs and 12 months for SICs. The extended envelope maneuvers training focuses on manual handling skills for proper response to development of slow flight, stall prevention and loss of reliable airspeed. Accordingly, in the final rule, the agency has increased the frequency for these manual handling maneuvers from the proposed rule and decreased the frequency of recurrent training proposed for stall and upset recovery from the proposed rule to target resources to the areas in which the greatest safety benefit can be achieved. As a result, and in order to encourage a cohesive training approach, the agency has determined that every 24 months, upset and stall recovery should be trained together with the manual handling skill development. The agency further notes that this frequency is consistent with the 208 ARC recommendation that upset recovery should be trained no less frequently than every 36 months.

Additionally, in furtherance of stall prevention, the agency ensures that the existing requirement to train or evaluate approach to stall every 12 months is maintained even if a part 121 operator substitutes line-oriented simulator training or LOFT for alternating SIC recurrent training. Training and checking on stall prevention (approach to stall) provides the greatest benefit in that proficiency in this area provides the highest likelihood that the pilot will be able to avoid the onset of stall or upset.[17]

Also, in the final rule, the agency is furthering the training concepts developed in the Pilot Certification rule. The requirements in both this final rule and the Pilot Certification rule use academic training to develop foundational knowledge and then consolidate that knowledge with FSTD training and experience. Together, these final rules require certificate holders to effectively provide a building block approach to learning for pilots. Developing the broad concepts of aerodynamics in the ATP CTP to the type specific aerodynamic concepts now required in an air carrier's training program, serves as an effective method to deliver the training mandated by Public Law 111–216 and recommended by the 208 ARC.

Enhanced academic knowledge, emphasis on prevention training, and the recommended recovery techniques developed by the Original Equipment Manufacturer (OEM) constitute a complete training solution. The agency expects that if this solution is properly delivered, it will have a significant effect on the LOC–I statistics.

1. Upset Prevention and Recovery

Existing regulations do not specifically require pilots to receive flight training on upset prevention and recovery. The Colgan Air flight 3407 and American Airlines flight 587 accidents reinforced the need for this training because each involved sudden or unexpected aircraft upset.

In the NPRM, the agency proposed to require flight training for upset recognition and recovery during every qualification curriculum and during recurrent training. In the SNPRM, the agency added a requirement for pilots to be evaluated on this task.

Upset prevention: The greatest safety benefit can be achieved if an upset condition is prevented through proper pilot intervention. Although the agency

[15] The programmed hours identified in § 121.424 refer to ''inflight'' training. As defined in 121.401, ''inflight'' refers to maneuvers, procedures or functions that must be conducted in the airplane. Extended envelope training does not fall within this definition because this training must be completed in a FFS. Therefore, the pilot inflight training programmed hours have not been amended to account for the additional time required for these new training requirements.

[16] The agency considers stall prevention training and approach to stall training as synonymous. As such, the FAA is not requiring certificate holders to adopt this new nomenclature in any documentation. However, the FAA will revise AC 120–109 and make other conforming changes to adopt this terminology in future rulemakings and guidance.

[17] The agency notes that currently, line-oriented simulator training (also referred to as line oriented flight training or LOFT) may be substituted for alternating SIC recurrent training which may exclude stall prevention (approach to stall) training. See §§ 121.409 and 121.441. For this reason, the final rule ensures that stall prevention training must be conducted every 12 months even if a part 121 training program substitutes LOFT for alternating SIC recurrent training.

supports training pilots on recovery skills for a developed upset, the probability of recovery from the upset condition decreases with the magnitude of the divergence from the desired flight path. Accordingly, the final rule extended envelope flight training includes both training on manual handling skills to enhance a pilot's ability to prevent upset, as well as training to recover from an upset condition. Each of these concepts is derived from recommendations received from the 208 ARC.

The purpose of requiring manual handling skills is to ensure correct pilot control inputs to avoid undesired flightpath deviations. Manual handling skills are essential to the prevention of stall and upset because they allow a pilot to master the aircraft's flight path without the use of total automation. Development and maintenance of these skills are necessary to keep pilots engaged in the operation of the aircraft and more easily allow them to become re-engaged if an abnormal problem arises which prohibits automation or typical flight path guidance. Thus, the final rule maintains the SNPRM proposal to require, as part of the extended envelope flight training, manual handling training throughout all phases of flight to better develop a pilot's core manual handling skills and consolidate the principles of airplane energy management.

Pilots must know the common errors to avoid and why they occur, as well as the importance of cross-checking and verifying inputs and communication and coordination between pilots. It is also critical for pilots to know how the airplane responds to inputs across all flight regimes (e.g., high and low altitudes, airspeeds, and energy states).

Accordingly, the training requirements in the final rule include manually flown arrival and departure, slow flight, and flight with loss of reliable airspeed. The agency expects that training on these maneuvers and procedures will provide pilots with the manual handling skills necessary to prevent undesired flight path divergence.

Manually controlled arrival and departure: In the SNPRM, the agency proposed to require pilots to complete training on manually controlled departure and arrival. The agency did not receive any comments on the proposal to train these maneuvers.

Existing appendices E and F of part 121 currently require area departure and area arrival for both training and checking, but these maneuvers need not be performed manually. Modern aircraft are commonly operated using autoflight systems (e.g., autopilot or autothrottle/autothrust). Autoflight systems are useful tools for pilots and have improved safety and workload management, and thus enabled more precise operations. However, continuous use of autoflight systems could lead to degradation of the pilot's ability to quickly recover the aircraft from an undesired state. Therefore, the agency has retained the provisions regarding manually controlled arrival and departure in the final rule.

Slow flight: In the SNPRM, the agency proposed to require ''slow flight'' training during qualification and recurrent training to provide pilots with an understanding of the performance of the airplane and ''hands-on'' exposure to the way the airplane handles at airspeeds that are just above the stall warning. Similarly, the 208 ARC recommended slow flight as a task which can develop a pilot's manual handling skill.

ALPA and an individual supported the proposed addition of slow flight to pilot training curriculums. However, ALPA expressed concern regarding the target speeds specified for slow flight in the draft advisory circular published with the SNPRM (AC 120–FCMT), which are set as those between the onset of stall warning and aerodynamic stall. ALPA believes that the airspeed for slow flight should be established by the manufacturer (such as Vref) and be near the onset of stall warning indication, but fast enough that stall warnings would rarely, if ever, be activated. ALPA further states that requiring slow flight practice at speeds that require pilots to continuously fly while ignoring impending stall indications would result in negative training and could cause pilots to become desensitized by the approach to stall warnings.

The FAA agrees that encountering continuous stall warnings during slow flight practice without initiating an immediate stall recovery procedure would result in negative training. The target speed for slow flight must be below the speeds that are normal and appropriate for the various configurations, but targeted to avoid stall warning devices. Further, the FAA concurs with the use of Vref for the configuration which should allow for the necessary experience in low speed/low energy handling characteristics with sufficient margins to avoid stall warning/stall onset with proper airspeed control. The agency will revise draft guidance contained in AC 120–FCMT on slow flight accordingly.

Loss of reliable airspeed: Finally, practice and experience with the recognition of and appropriate response to a system malfunction that results in loss of reliable airspeed is essential to minimizing the risk of stall and upset. Failure or erroneous display of critical flight information, such as airspeed, can lead to an upset if loss of energy is not quickly recognized and aircraft control is not maintained. As such, loss of reliable airspeed has been included in the final rule extended envelope training requirements.

The training of an airspeed indication system malfunction is critical for a pilot's understanding of type specific failure modes. Additionally, cascading failure of other dependent systems provides a training environment, which allows a pilot to practice manually handling an aircraft with varying degrees of automation and capabilities that may be present during upset. In many instances, the loss of reliable airspeed results in an aircraft which must be flown primarily by relying on pitch and power. Further, these maneuvers require an understanding of the aerodynamic qualities of large transport category aircraft. Therefore, this training requirement covers a broad spectrum of conditions that could be encountered during the period in which the upset could be prevented as well as during recovery. The training is also consistent with 208 ARC recommendations regarding pilot awareness of how system malfunctions affect their specific aircraft and the recommendation to provide more manual handling skill training with emphasis on the aircraft's pitch and power relationship.

Checking extended envelope flight training maneuvers: In the SNPRM, the agency proposed to require evaluation of two components of the extended envelope training—recovery from full stall and upset. Atlas Air recommended against any evaluation of upset recovery or any other maneuvers and procedures in this area. This commenter stated that the requirement to evaluate upset recognition and recovery skills will not improve pilot response and will likely have a negative unintended consequence that will far outweigh any perceived benefit of evaluating the maneuver.

Upon further review of the proposal and comments, the agency has removed the requirement to evaluate upset recovery from the final rule because the agency agrees that a successful recovery is somewhat difficult to quantify due to the multitude of variables involved. This final rule increases the academic knowledge of pilots, requires increased instructor training to deliver these concepts, develops pilot's manual handling skills which aid in upset

prevention, and trains the pilots in proper recovery techniques. Achieving the learning objective defined in the recovery maneuvers is paramount.

Evaluation and approval of upset training programs: Commenters also raised concerns regarding upset training. APS recommended that the FAA produce guidance for the evaluation and approval of programs of instruction in upset recognition and recovery that includes stipulations for appropriate content, methodology, and delivery of training.

The FAA concurs with the commenter's recommendation and will provide operators and training providers with sufficient and comprehensive guidance on the academic content, validated maneuvers, and appropriate cautions for the delivery of upset prevention and recovery training. In developing guidance, the agency has considered the recommendations of the 208 ARC on many aspects of training upset prevention and recovery in FSTD, including the scope and objective of conducting this training in an FSTD; the training device requirements; the instructor requirements; the academic training elements required before beginning upset prevention and recovery training in an FSTD; the flight training elements required including slow flight and manual handling training; and, the completion criteria for upset prevention and recovery training in an FSTD. In making its recommendations, the 208 ARC considered information provided by experts on LOC–I causal factors and reviewed previous guidance such as the Airplane Upset Recovery Training Aid (AURTA) produced by Airbus/Boeing and endorsed by the Flight Safety Foundation. The FAA has included e a copy of the ARC recommendations in the docket for this rulemaking.

Data and qualification of FSTDs: FlightSafety commented that most data packages do not contain the information and data necessary to model a FFS to accomplish the required upset recognition and recovery training. FlightSafety further commented that a mandate to train a recovery technique to use for a specific aircraft type without OEM data and/or FAA approved procedures would not improve training or safety. APS raised the same concern based in part on the expectation that extreme pitch and roll angles would necessarily be part of upset recognition and recovery training.

The FAA shares the commenter's concerns on the use of validated aircraft data and addresses this concern later in this section of the preamble. However, the agency disagrees with the assertion that upset recovery training must contain extreme pitch and roll angles. The FAA sought recommendations on this issue from the 208 ARC. The 208 ARC reviewed the work completed by such groups as the developers of the AURTA, the Industry/FAA Stall Work Group, and the International Committee for Aviation Training in Extended Envelopes (ICATEE). The 208 ARC validated much of the previous work done by each of these groups and used the AURTA Revision 2 [18] and the FAA AC 120–109 [19] as the basis of their recommendations. The ARC recommended the FAA use these two documents as source documents for the development of advisory material for upset prevention and recovery training.

Further, an airplane OEM group was also established within the 208 ARC to develop recommended standard OEM guidance for the recovery from nose-high/nose-low upsets. Airbus, ATR, Boeing, Bombardier, and Embraer developed the upset prevention and recovery template contained in the advisory material published with this final rule.

The FAA is satisfied the upset recovery techniques developed in conjunction with this final rule are appropriate. Each maneuver and associated recovery was developed by OEMs and has been validated to remain in both the data and motion limitations of a Level C or Level D FFS if conducted properly. The FAA also stresses that the increased instructor and check airmen training will allow instructors and check airmen to recognize any excursions outside of the data or motion capabilities of the device and debrief pilots on any such event.

Expand ''Upset'' definition: Calspan recommends the following expanded definition of upset: ''An aircraft upset is further defined as an airplane unintentionally exceeding the parameters normally experienced in line operations or an event that alters the normal response of the airplane to pilot input such that the pilot must adopt an alternate control strategy to sustain or regain controlled flight.''

Calspan commented that the definition of upset used in the NPRM does not capture how the precipitating event may impact the pilot's ability to control the aircraft. A number of accidents have occurred where a control failure or disturbance significantly altered the normal response of the airplane to pilot input such that conventional control strategies proved to be inadequate. Calspan further commented that the NPRM cited numerous NTSB recommendations developed from accidents that resulted in extreme upset conditions precipitated by an underlying control system issue. Calspan stated that these accidents were in fact controllable had the crew executed proper alternate control responses, but without upset recovery training they did not possess the knowledge and skill necessary to safely recover.

The FAA agrees that alternate control strategies are a component of a well-developed upset prevention and recovery training program. In guidance material developed for upset prevention and recovery, the agency will discuss the advantages and cautions for using alternate control strategies when primary control responses are not effective. However, the FAA disagrees with the commenter's assertion that most cited upset accidents were a result of control system issues. In the most recent accidents such as Colgan Air flight 3407, American Airlines flight 587 and USAir flight 427, the NTSB identified improper pilot response as a contributing factor.

Further, the FAA is not persuaded that the description of upset should be changed as recommended by the commenter. The agency continues to recognize the description of upset proposed in the NPRM. This description is also consistent with the AURTA and the 208 ARC recommendations.[20]

2. Stall Prevention and Recovery

In the SNPRM, the agency proposed to require pilots to train on recovery from full stall. Further, the agency proposed to require that, for pilots operating aircraft equipped with stick-pusher, stall recovery training must be completed by going through stick pusher release. Although the agency did not receive any comments objecting to the proposed requirement to train recovery from full stall in general, the agency did receive a number of technical comments regarding this proposed flight training. For example, ALPA commented that ICATEE has

[18] *http://www.faa.gov/other_visit/aviation_industry/airline_operators/training/media/AP_UpsetRecovery_Book.pdf*

[19] *http://www.faa.gov/documentLibrary/media/Advisory_Circular/AC%20120-109.pdf*

[20] In the NPRM Upset Recognition and Recovery is described as follows:

6.5 Task: Upset Recognition and Recovery

(d) Reference the most current version of the Industry's Airplane Upset Recovery Training Aid. An aircraft upset is almost universally described as exceeding one or more of the following:

(1) Pitch attitude greater than 25° nose up.

(2) Pitch attitude greater than 10° nose down.

(3) Bank angle greater than 45°or within these parameters, but flying at airspeeds inappropriate for the conditions.

concluded that there is a need and a benefit for training pilots to the full aerodynamic stall because aircraft behavior in a full aerodynamic stall is very different from the aircraft behavior in an approach to stall condition. However, ALPA cautioned that the ICATEE recommendation for full-stall training should be put into place only if the aerodynamic model of the aircraft in the FFS is representative of a full aerodynamic stall in flight; the instructor pilot is given enhanced training in upset recovery training; and the FFS has feedback capability to assist the instructor and pilots in ensuring the stall training is conducted and evaluated properly. The agency agrees with ALPA's comments and addresses these comments throughout the preamble. The separate part 60 rulemaking initiative previously noted is also responsive to the issues raised by ALPA.

One recovery procedure: ALPA commented that the FAA-Industry Stall/Stick Pusher Work Group concluded that successful recovery from an impending stall and a full aerodynamic stall, require the same procedure. ALPA supports an approach in which pilots are trained to treat an ''approach to stall'' the same way as a ''full stall.'' Further, ALPA commented that this would simplify pilot recognition and response to an impending stall and allows for a single pilot conditioned response (i.e., one recovery procedure) to both approach to stall warning and full aerodynamic stall.

The agency agrees with the comments regarding one procedure for recovery from an impending stall and full aerodynamic stall. In AC 120–109, Stall and Stick Pusher Training, the agency stresses that pilot training should emphasize treating an ''approach to stall'' the same as a ''full stall.'' This common recovery procedure is also consistent with the recommendations from the 208 ARC for stall prevention and recovery.

Stall training methods and evaluation: FlightSafety commented that, in practice, a pilot should initiate a stall recovery at the first indication of a stall or at least at the stick shaker warning. However, in the SNPRM, the agency proposed to require stick pusher training that would give a pilot the experience of allowing an aircraft to go through early warning signs of stall, including stick shaker, so that they experience stick pusher. Thus, FlightSafety believes the requirement as proposed will not enhance safety. Further, FlightSafety recommends conducting stick pusher recovery as a demonstration, with training emphasis placed on recovery well before stick pusher activation.

Similarly, while ALPA agrees with industry experts that full-aerodynamic stall training and recovery should be demonstrated as a ''train to proficiency maneuver,'' ALPA states that full-aerodynamic stall should not be an evaluated item. ALPA states that only stall recoveries initiated at the first sign of the stall should be evaluated. ALPA recommends that the final rule incorporate the recommendations from the FAA-Industry Stall/Stick Pusher Work Group by maintaining the training requirement as a demonstration maneuver but removing the requirement to evaluate full stalls and stalls to stick pusher activation.

The FAA agrees with the FlightSafety and ALPA comments regarding evaluation and traditional training methods for recovery from full stall and stick pusher release. As discussed earlier, given that recovery procedures for approach to stall and full stall are the same, to avoid the potential for negative training that might occur by having pilots avoid early warning signs of stall, the FAA is not requiring evaluation of recovery from full stall.

In § 121.423, added to subpart N by this final rule, the agency has revised the recovery from full stall and stick pusher activation tasks. In the final rule, recovery from full stall and stick pusher activation are instructor-guided hands-on experience tasks only. This training will emphasize the recovery by the pilot incorporating the same angle of attack (AOA) principles from the stall prevention (approach to stall) training. Accordingly, in the final rule, neither full stall nor stick pusher is evaluated during a proficiency check.

Further, just as with upset training, the FAA has focused training on maneuvers that develop a flightcrew member's skill of preventing stalls. The FAA will continue to emphasize training and checking of prompt recovery at the first indication of a stall. Approaches to stalls (stall prevention training) are critical maneuvers which gauge a pilot's understanding and early response to stall indications including stall warning; as such the final rule maintains existing requirements for evaluation of this task.

High altitude approach to stall maneuver: ALPA recommends splitting the proposed requirement to complete training on stalls in a ''clean configuration'' into two separate tasks: one for high altitude and one for low altitude because high altitude stalls have unique issues that should be separately trained. Although the FAA agrees with the comment regarding differences between high altitude stalls and low altitude stalls, in the final rule, the agency continues to require recovery from approach to stall as it exists in current appendices E and F (i.e., requiring training in at least takeoff, clean and landing configuration). The agency does not specify the scenarios for stall prevention (approach to stall) in order to provide part 121 operators with the flexibility needed to develop a training methodology most appropriate for their operation.

However, in AC 120–109, the FAA recommends that air carriers incorporate high altitude stall prevention training into their training programs. This AC also recommends training on the differences between low altitude and high altitude stall prevention and appendix 2 of the AC includes a sample training scenario of a clean configuration high altitude approach to stall.

Manufacturer stall recovery procedures: ALPA notes that the SNPRM did not consider that manufacturers are developing and publishing stall recovery procedures for each specific aircraft. ALPA recommends that the final rule and stall recovery guidance recognize this development by including language to ensure that the pilot correctly executes the manufacturer-recommended stall recovery procedure in the Flightcrew Operating Manual (FCOM) and returns the aircraft to a safe flying condition. The agency agrees with ALPA and in AC 120–109 emphasizes that the manufacturer's recommended stall recovery procedure takes precedence over the generic recovery template.

Recovery and training criteria: ALPA commented that stall recovery training and evaluation criteria should not mandate a predetermined altitude or emphasize a ''minimum loss of altitude.'' Similarly, Atlas Air stated that it has difficulty with overemphasis on ''minimizing altitude loss'' for approach to stall training.

In response to commenters' concerns regarding stall recovery training and evaluation criteria, the agency notes that it has recently issued a number of information and guidance documents to assist air carriers with properly and consistently evaluating pilots' recovery from approach to stall. The agency initially issued SAFO 10012, Possible Misinterpretation of the Practical Test Standards (PTS) Language ''Minimal Loss of Altitude,'' to clarify the intent of the requirement for ''minimal loss of altitude'' during evaluation of recovery from approach to stalls. Then, in August 2012, the agency published AC 120–109, Stall and Stick Pusher Training,

emphasizing that the primary goal of testing or checking recovery from approach to stall is to evaluate a pilot's immediate recognition and response, which should be an immediate reduction of AOA. Additionally, the agency has revised the approach to stall evaluation criteria in the ATP PTS. The ATP PTS revision eliminates the language referring to ''minimum loss of altitude,'' emphasizes reduction of AOA over maintaining altitude, and also recommends that one of the three required approach to stalls should be accomplished while the autopilot is engaged.

3. Recovery From Bounced Landing

In the SNPRM, the agency proposed to add training on recovery from bounced landing to initial and transition curriculums. The agency also proposed to require that pilots complete recovery from bounced landing in recurrent training. The agency determined that the appropriate recurrent training interval for this task was 36 months based on the agency's balancing of the potential risk with the frequency of such an event.

The FAA determined that training on recovery from bounced landing is necessary based on FAA review of accident history including FedEx flight 859. On September 14, 2004, a Boeing McDonnell Douglas MD–11F operating as FedEx flight 859 experienced a tail strike during a go-around maneuver from Memphis International Airport. Neither of the two flightcrew members was injured. In its investigation of this accident, the NTSB found the probable cause was the pilot's over-rotation during a go-around maneuver initiated because of a bounced landing. See NTSB Event ID DCA04MA082.

Upon further review of the accident history related to bounced landings, and comments submitted by the NTSB, the agency agrees with the NTSB that the bounced landing proposal is responsive to NTSB recommendation A–05–30 issued following the American Eagle flight 5401 accident in San Juan, Puerto Rico. On May 9, 2004, American Eagle flight 5401 skipped on initial contact with the runway. Then, after the initial touchdown, the PIC took control of the airplane. Flight data recorder (FDR) data indicated that after taking control, the PIC made several abrupt changes in pitch and power, which led to two bounces before the airplane crashed at Luis Muñoz Marin International Airport. The PIC was seriously injured; the SIC, 2 flight attendants, and 16 of the 22 passengers received minor injuries. The NTSB concluded that company guidance on bounced landing recovery techniques would have increased the possibility that the PIC could have recovered from the bounced landings or handled the airplane more appropriately by executing a go-around. The NTSB recommended that the FAA take action to require all part 121 and part 135 operators to incorporate bounced landing recovery techniques in their flight manuals and to teach these techniques during initial and recurrent training.

On June 9, 2006, the FAA issued SAFO 06005, Bounced Landing Training for certificate holders operating under Title 14 of the Code of Federal Regulations (14 CFR) parts 121 and 135. This SAFO recommends that each part 121 or 135 operator check to see that bounced landing recovery techniques are included in the manuals used by their pilots and in their initial ground training for each of the airplane types that the operator flies. The SAFO also recommends that those same techniques are reinforced by briefings and debriefings during flight training, supervised operating experience, and line checks. The SAFO includes instructions on how to develop bounced landing recovery techniques if not already addressed by the operator.

In 2009, the FAA enlisted the assistance of the ATA and the RAA to poll part 121 and 135 member carriers to find out if they incorporated recovery from bounced landing into their training program as SAFO 06005 suggests. Both organizations reported 100 percent implementation of the SAFO's recommendations.

The final rule requirements for flight training in an FFS on recovery from bounced landing supplements the ground training recommended by SAFO 06005. The agency has included the proposal for bounced landing training in the final rule subject to the modification described in the following discussion. In the final rule, the FAA has determined that recovery from bounced landing must be trained during all qualification training curriculums, including upgrade. The agency notes that any maneuver or procedure that is trained in recurrent must be covered in the pilot's qualification training because the pilot's base month for recurrent is reset upon the completion of the qualification curriculum. If an upgrade curriculum does not also include all maneuvers and procedures required by the recurrent curriculum, then the recurrent interval for a maneuver or procedure may be extended.

FlightSafety questioned how training would be developed for an aircraft that does not have written procedures for recovery from bounced landings and whether the FAA developed a training tool and syllabus for simulator training. FlightSafety further commented that if the agency has developed a training tool and syllabus for simulator training, it would question the data that forms the basis for the tool.

In the draft Flightcrew Member AC (AC 120–FCMT) published for comment with the SNPRM, the agency developed generic procedures and performance expectations for recovery from a bounced landing, including techniques for avoiding overcontrol and premature derotation during bounced landings. These procedures were based on a review of the accidents and extensive FAA and industry experience with these accidents and incidents. However, the FAA expects that the recommendations of the aircraft OEM to take precedence regarding procedures that may differ from any published FAA guidance.

4. Use of Full Flight Simulators for Extended Envelope Flight Training

Currently, air carriers may voluntarily use simulators for varying amounts of the training and checking required by subparts N and O. The agency requires an airplane simulator for windshear training only. See § 121.409(d). However, the FAA has long recognized that the use of simulation in flight training provides an opportunity to train, practice, and demonstrate proficiency in a safe, controlled environment.

In the SNPRM, the agency proposed to require all flight training and evaluation to be completed in an FSTD. This requirement included a range of FSTDs from Level 4 flight training devices (FTDs) through Level D FFSs depending on the maneuver or procedure. For the extended envelope maneuvers and procedures, the agency proposed to allow the use of FFSs ranging from Level A to Level D.

For certain maneuvers required in part 121 pilot training, such as the maneuvers included in the extended envelope training requirements, motion provides cues that may affect pilot control strategies and subsequently, vehicle performance. Motion serves as an essential element of a task when, in order to complete the task, the flightcrew member must make continual adjustments based on any number of sensory inputs. Accordingly, for those training tasks where motion is critical to achieving the training objective, such as ''recovery from stall,'' an FFS is essential to successful training outcomes.

Although commenters generally supported the agency's proposal to require FSTDs for all flight training and

evaluation, some air carriers such as Continental, United, and JetBlue were generally critical of the agency's reliance on FFSs, noting that effective training programs currently in place use a combination of FFSs and FTDs to deliver training. Other commenters such as the International Association of Machinists and Aerospace Workers (IAMAW) and the Transport Workers Union of America (TWU), ALPA, and APS stated that only the highest levels of FSTDs should be used to deliver training citing concerns including the risk for negative training. APS commented specifically that operators should be required to use the highest level of device available to train upset recognition and recovery because, considering the high consequence nature of aircraft upset events, every effort should be made to provide pilots with the greatest fidelity possible in order to learn the skills necessary for prevention and recovery from a LOC–I situation.

The agency has not included the proposal to require all flightcrew member training to be completed in an FSTD although currently, most operators use FSTDs in pilot training programs. The final rule does, however, require the extended envelope training required in § 121.423 to be completed in a FFS. The agency addresses the APS comments regarding the use of the highest level of device available for training upset events in the discussion on the requirement for Level C FFSs.

Level C FFS: In the final rule, the agency continues to require the extended envelope flight training maneuvers and procedures to be completed in an FFS. However, the final rule requires a minimum of a Level C FFS because these devices provide the highest level of aerodynamic modeling, visual fidelity and motion cueing to replicate the aircraft for motion based pilot training. The requirement to use a Level C or higher FFS is consistent with current appendix H requirements for Advanced Simulation Programs that do not permit Level B devices except in limited circumstances. Further, the 3-degree-of-freedom motion cues provided by Level A and B devices do not provide the level of fidelity required to meet the training objectives of the extended envelope flight training maneuvers and procedures as compared to the 6-degree-of-freedom requirements for Level C and higher devices.

In response to comments suggesting that the highest level of device is required for training in a simulated environment, the FAA has determined that the current distinction in capabilities between a Level C and Level D FFS is negligible for the extended envelope training included in this final rule. The primary difference that exists today between a Level C and a Level D FFS is the evaluation of vibration and sound. Level D evaluation involves objective criteria while Level C evaluation of vibration and sound is subjective.

Deviation Authority: Although the final rule applies the requirement to train in an FFS to a limited number of tasks, the agency has considered comments on the FSTD deviation authority proposed in the SNPRM as they relate to the final rule requirements. In the SNPRM, the agency proposed a means by which certificate holders could seek a deviation from the requirements to complete all flight training in an FSTD. The proposed deviation authority contemplated the use of an aircraft as an alternate training platform.

ASTAR commented on the SNPRM deviation authority, stating that the FSTD requirements in the SNPRM did not recognize that some operators fly older aircraft for which the level of simulator required exists in limited numbers or does not exist at all. The National Air Carrier Association, Atlas Air, and six individuals commented on deviation authority generally, opposing a deviation authority that allows training in lower level devices than those specified for each flight training task in the SNPRM.

The agency agrees that the challenges identified by ASTAR may arise with respect to the requirement to use a Level C or higher FFS for extended envelope flight training, although currently over 95% of FAA-evaluated FFS devices that replicate part 121 aircraft are either a Level C or higher FFS. Therefore, in those limited instances in which a Level C or higher FFS does not exist (e.g., certain older fleets such as the Convair 580) or for extraordinary reasons, access to a Level C or higher FFS is limited, a carrier may apply for FAA consideration of a deviation in accordance with the process described in § 121.423(e) of the final rule. Conducting extended envelope flight training inflight presents significant safety risks. Therefore, the extended envelope maneuvers and procedures must be trained in a controlled simulated environment or through another means by which the learning objectives can be achieved.

Training in Other Devices: Two training providers, ETC and Calspan, commented that current capabilities of existing FSTDs are limited in their ability to fully train crewmembers in the competencies needed to prevent and recover from LOC–I events because they cannot replicate the stressors that will be present. These commenters and APS suggested using alternate training resources (e.g., in-flight simulation aircraft or a continuous-g motion platform) in conjunction with FSTD and academic training. Calspan commented that academic training should be augmented with both an in-flight simulator and ground-based FFS training.

The agency intends for the extended envelope training to include ground training and flight training in a FFS. At this time the agency does not have sufficient information by which to determine the safety and effectiveness of the alternate training devices proposed by commenters. Enhanced academic knowledge, emphasis on prevention training and the recommended recovery techniques developed by the OEM constitutes a complete training solution. The agency has determined that if this solution is implemented properly, it will have a significant effect on the LOC–I statistics.

Consistency with International Civil Aviation Organization (ICAO) 9625: United, Continental, and USAirways stated that the FSTD requirements proposed in the SNPRM are inconsistent with some of the more progressive concepts in contained in ICAO Document 9625 which seeks to align simulator standards and training tasks on a global basis. It is designed to address all levels of pilot training and licensing, which is outside of the scope of the SNPRM.[21] Although the final rule does not contain many of the maneuvers contemplated by the SNPRM, the remaining maneuvers and FSTD requirements are consistent with the standards contained in the ICAO Document 9625.

Device Qualification: ALPA, FlightSafety, and Families of Continental Flight 3407 commented that existing FFSs lack the data package containing the information required to create the aerodynamic model necessary to accomplish full stall and upset recovery training. ALPA further commented that modifications to part 60 are also necessary for existing FSTDs to address bounced landings, as well as tasks such as icing, microburst and windshear, so as to avoid negative training in these areas.

[21] International Civil Aviation Organization (ICAO) Document 9625 addresses the use of Flight Simulation Training Devices (FSTDs). The methods, procedures and testing standards contained in this manual are the result of the experience and expertise provided by National Aviation Authorities (NAA), aeroplane and FSTD operators and manufacturers. Document 9625 may be obtained from ICAO at *www.icao.int.*

APS stated that there are Instructor Operating Station (IOS) capabilities that could enhance training in upset recognition and recovery. APS recommends that an FSTD specification be created for the qualification of newly manufactured devices which calls for information to be provided to the instructor indicating whether or not the FSTD is being operated within the valid training envelope for that device.

The FAA agrees with commenters that modifications to part 60 are necessary to train the extended envelope flight training tasks, but such modifications are outside of the scope of this rulemaking. Imposing new FSTD evaluation requirements will require revisions to the qualifications standards in part 60 (for newly qualified FSTDs) or an FSTD Directive (for previously qualified FSTDs). Accordingly, the FAA has initiated rulemaking to address the necessary changes to part 60 which will be needed to deliver the FFS fidelity and IOS tools needed to effectively deliver many of the extended envelope training tasks. Amendments to part 60 qualification standards for extended envelope training and the IOS panel upgrades are also responsive to the recommendations for simulation improvements from the 208 ARC.

The FAA believes that the 5 year compliance period in this rule provides an ample amount of time for an FSTD sponsor to conduct any necessary modifications as may be required by amendments to part 60 to ensure the FSTD validation limits are sufficient to conduct the required training tasks.

M. Extended Envelope Ground Training

Currently, the agency does not require specific ground training on stall or upset recovery concepts. As stated above, § 208 of Public Law 111–206 directed the FAA to require part 121 operators to provide flightcrew members with ground and flight training on the recognition and avoidance of aerodynamic stalls and upsets as well as aerodynamic stall and upset recovery maneuvers. The agency proposed to require training on these two ground training subjects in the SNPRM (Table 2A in attachment 2 of appendix Q). The agency did not receive any comments on this proposal.

The final rule includes training on stall prevention and recovery as well as upset prevention and recovery. In the final rule, the agency identifies upset ground training as upset prevention and recovery. The modification focuses the training requirements on knowledge to create awareness and the ability to prevent an occurrence of upset, rather than focusing solely on training after the upset has already occurred and recovery is necessary. Prevention serves to avoid incidents and includes any pilot action to avoid a divergence from a desired airplane state prior to entering an upset event. Recovery training serves to reduce accidents as a result of an unavoidable upset event. Accordingly, recovery refers to pilot actions that return an airplane that is diverging in altitude, airspeed, or attitude to a desired state. This change to ground training is consistent with the recommendations of the 208 ARC, convened by the FAA as required by § 208 of Public Law 111–216.

In the final rule the agency included ground training on full stalls and upset as additions to current § 121.419, Pilots and flight engineers: Initial, transition, and upgrade ground training. Section 121.427 requires that the subjects covered in § 121.419 are covered in recurrent training as well. Due to the addition of these subjects, the agency has adjusted the existing required programmed hours for initial and recurrent ground training. The agency has determined that 2 additional hours are required for initial training and 30 additional minutes are required for recurrent training, based on a review of the content required for training these subjects and the agency's experience evaluating and approving training programs.

N. Communication Records for Domestic and Flag Operations

Under the current regulations, § 121.711 requires certificate holders conducting domestic or flag operations to record all en route radio contacts between the certificate holder and its pilots and to keep the record for at least 30 days. Existing § 121.711 recodified 14 CFR 40.512, which provided that ''[e]ach air carrier shall maintain, and retain for a period of 30 days, records of radio contacts by or with pilots en route.'' The rationale behind this rule, as stated in the preamble to the NPRM that proposed § 40.512, was to ''enable the [Civil Aeronautics] Board and the Administrator to discharge fully their respective accident investigation and safety regulatory responsibilities.'' See 23 FR 7721, 7723 (October 7, 1958).

The FAA issued a legal interpretation of this section setting forth the minimum content that must be included in a § 121.711 communication record, including: the date and time of the contact; the flight number; aircraft registration number; approximate position of the aircraft during the contact; call sign; and narrative of the contact. See Legal Interpretation to John S. Duncan, Division Manager, Air Transportation Division, FAA Flight Standards Service, from Rebecca B. MacPherson, Assistant Chief Counsel, Regulations Division (Feb. 2, 2010), a copy of which is included in the docket for this rulemaking

In the SNPRM, the FAA proposed revisions to § 121.711 to clarify the contents of the record required for each en route radio contact between the certificate holder and its pilots, based on the agency's February 2010 legal interpretation. The agency also proposed to extend the record requirement in § 121.711 to supplemental operations. In the SNPRM, the FAA proposed that these additional recordkeeping requirements be effective 120 days from the publication of the final rule.

The FAA received comments on the proposed revisions to § 121.711 from Continental, USAirways, Southwest, American, ATA, FedEx, ASTAR, and one individual. Commenters stated that the time frame for implementation is too short because it requires carriers to incorporate new functionality into existing software systems, and the agency did not identify a safety benefit that would result from this new requirement. The commenters asserted that this requirement does not enhance safety or increase efficiency, but increases complexity and cost for operators, with no positive cost/benefit. Based on the foregoing, Continental, USAirways, Southwest, ATA, FedEx, and American recommend striking this proposal from the SNPRM.

As discussed in the background section of the preamble, the FAA has determined it is necessary to move forward at this time with a final rule that contains certain discrete provisions proposed in the SNPRM. As a result, this final rule does not change the operational control requirements for supplemental operations. Since the final rule does not provide for supplemental operators to share in operational control, it would be incongruous to impose the requirements of § 121.711 to communications in supplemental operations. Therefore, the communication record requirements in § 121.711 will not be extended to supplemental operations as part of this final rule.

In the final rule, the FAA has retained the proposed changes to § 121.711 as they apply to domestic and flag operators. As set forth previously, the agency has interpreted the current provision of the regulations as requiring certain minimum details regarding the contact between a certificate holder and its pilots. The approach in the SNPRM has merely codified the agency's

interpretation of the level of detail required to comply with existing regulations. Accordingly, in the final rule, the agency has retained the 120-day timeline for compliance with this provision because the final rule no longer extends the § 121.711 recordkeeping requirement to supplemental operations.

The communication record requirements in § 121.711 apply to communications that take place while an aircraft is ''en route'' to its destination. In the SNPRM preamble, the agency clarified that in this specific context, an aircraft is considered to be ''en route'' from the time the aircraft pushes back from the departing gate until the aircraft reaches the arrival gate at its destination. See 76 FR 29336, 29352 (May 20, 2011). One individual commenter noted that the agency's interpretation of ''en route'' in this context was inconsistent with a legal interpretation previously issued by the FAA and suggested that § 121.711 be revised to clearly state that communication records are required from the time the aircraft has pushed back from the origin gate until the time it arrives at the destination gate. See Legal Interpretation to Mr. Charles Lewis from Donald P. Byrne, Assistant Chief Counsel, Regulations Division (April 17, 1997); see also, Legal Interpretation to Ansel McAllaster, Manager, Flight Standards Division from John H. Cassidy, Assistant Chief Counsel, Regulations Division (September 21, 1988), copies of which are included in the docket for this rulemaking.

The FAA agrees with the commenter that clarification is necessary given the context in which the term ''en route'' is primarily used in existing regulations and the conflicting intent of the SNPRM. Therefore, the final rule revises § 121.711 to reflect the meaning of ''en route'' in this context, consistent with the meaning asserted in the SNPRM preamble.

The same individual further suggested removing the word ''radio'' from current § 121.711 ''if the intent is for the certificate holder to maintain records of all contact from pushback at origin to arrival at destination gate.'' As the commenter points out, if a pilot communicates with dispatch via a means of communication other than radio, a record may not be required under current § 121.711. The agency agrees with this commenter. Since the meaning of en route in the context of § 121.711 includes time when the aircraft is on the ground, the potential exists for non-radio communications to occur between dispatch and the flightcrew. Such a result would be contrary to the clear intent of the SNPRM and the original premise of § 121.711, which was to ensure that appropriate records of all en route communications between aircraft dispatchers and the flightcrew are created and maintained. Moreover, it would be inconsistent with the provisions of current § 121.99.

Sections 121.711 and 121.99 were added to part 121 in the same rulemaking and both provisions were recodifications from the Civil Aeronautics Board (CAB) regulations. See 29 FR 19186, 19195, and 19228 (Dec. 31, 1964). Section 121.99 describes the type of communication system each certificate holder is required to have for purposes of communications in domestic and flag operations. Although these provisions are not currently cross-referenced, they are closely intertwined because the requirements of § 121.711 contemplate the type of communication system that is required in § 121.99.

In 2007, § 121.99 was revised to change the previous requirement for a ''two-way radio communication system . . .'' to a requirement of a ''two-way communication system under normal operating conditions.'' See 72 FR 31662, 31668 (Jun. 7, 2007). This revision, removing the word ''radio,'' was made in recognition that advancements in technology have provided for other communication methods for contacting an aircraft other than radio. The agency explained the revision in the preamble to the NPRM stating that ''these changes would make the regulation more flexible for modern means of communication and would allow for future changes in technology.'' See 67 FR 77326, 77333–34 (Dec. 17, 2002). To ensure that § 121.711 is not rendered meaningless by the use of non-radio communication technology, the FAA has removed the word ''radio'' from § 121.711 in the final rule and included a cross-reference to § 121.99.

O. Runway Safety

Currently, the maneuvers ''taxi'' and ''pre-takeoff checks'' appear in appendices E and F and are required training and evaluation maneuvers. Upon review of accident and runway incursion history, the FAA determined that it was necessary to include additional procedures within ''taxi'' and ''pre-takeoff checks'' to reduce the causal factors that led to accidents and runway incursions.

For example, on August 27, 2006, Comair flight 5191 crashed during takeoff from Blue Grass Airport in Lexington, Kentucky. See NTSB/AAR–07/05. The flight crew was instructed to take off from runway 22 but instead lined up the airplane on runway 26 and began the takeoff roll. The airplane ran off the end of the runway and impacted the airport perimeter fence, trees, and terrain. The PIC, flight attendant, and 47 passengers were killed, and the SIC received serious injuries. The airplane was destroyed by impact forces and postcrash fire.

Existing agency guidance and advisory material identify procedures that part 121 operators should use to enhance runway safety. See AC 120–74B, Parts 91, 121, 125 and 135 Flightcrew Procedures During Taxi Operations; SAFO 06013 Flight Crew Techniques and Procedures That Enhance Pre-takeoff and Takeoff Safety; and SAFO 07003, Confirming the Takeoff Runway. The taxi and pre-takeoff procedures proposed in the SNPRM and included in the final rule are consistent with this guidance and advisory material.

In the SNPRM, the agency proposed to include three additional procedures during the execution of the ''taxi'' maneuver. The agency proposed that, to comply with the maneuver requirement, ''taxi,'' a flightcrew member must complete the procedures ''Use of airport diagram (surface movement chart),'' ''Appropriate clearance before crossing or entering active runways,'' and ''Observation of all surface movement guidance control markings and lighting.'' Although some certificate holders may already train and evaluate taxi at this level of specificity, the FAA has determined that this maneuver must be targeted by all certificate holders to ensure that flightcrew members consistently use available cues and aids to identify the airplane's location on the airport surface during taxi and verify proper clearances before crossing or entering active runways.

Further, in response to the accident involving Comair flight 5191 and NTSB recommendation A–07–044, the FAA determined it was necessary to add pre-takeoff procedures, ''receipt of takeoff clearance'' and ''confirmation of aircraft location and FMS entry for departure runway prior to crossing hold short line for takeoff.'' The purpose of these procedures is to positively confirm and cross check the airplane's location at the assigned departure runway before crossing the hold-short line for takeoff.

The final rule incorporates the proposals in the SNPRM for airport runway safety training into existing taxi and pre-takeoff checks requirements in appendices E and F of part 121. The FAA has determined that the training and evaluation time required to

complete these taxi and pre-takeoff procedures would not take any longer than the time currently required to complete those maneuvers because the procedures are incorporated into the existing taxi and pre-takeoff maneuver requirements.

In incorporating the final rule runway safety requirements into appendices E and F, the agency has eliminated the option to complete pre-takeoff procedures in a non-visual simulator. Flightcrew members use visual cues, signs, and markings to confirm the aircraft's location prior to crossing the hold short line for takeoff. Accordingly, if an operator chooses to train and evaluate pre-takeoff procedures in a simulator instead of inflight, a simulator with a visual system must be used. The agency does not believe this change causes any additional cost to operators since there are currently no non-visual simulators qualified by the FAA's National Simulator Program.

P. Crosswind Maneuvers Including Wind Gusts

Existing training requirements for a PIC and SIC include the requirement to perform multiple takeoffs and landings until the PIC or SIC achieves proficiency. Currently, as part of the required training and evaluation of takeoffs and landings, flightcrew members must successfully complete crosswind maneuvers, as set forth in appendices E and F to part 121.

In the NPRM, the proposed Qualification Performance Standards for pilots specifically provided that while performing landings during training, pilots must demonstrate the ability to ''apply gust and wind factors and take into account meteorological phenomena . . .''. See 74 FR 1280, 1366 (Jan. 12, 2009). This requirement was inadvertently left out of the SNPRM, but remains consistent with the SNPRM's incorporation of existing crosswind training into the proposed training requirements for flightcrew members.

In its comments on the SNPRM, the NTSB stated that this rulemaking should include the requirements to train high gusty crosswinds. The agency agrees that wind gust maneuvers are a critical component of crosswind takeoffs and landings and that the training requirement should clearly reflect the incorporation of this variable into crosswind takeoff and landing training.

The final rule clarifies that crosswind training for flightcrew members in takeoff and landing maneuvers includes training on maneuvers necessary to respond to wind gusts. Wind gusts are a key variable of crosswind training given that a pilot must be able to rapidly respond to changes in speed and direction of winds to maintain the correct flight path to the runway. Moreover, crosswind training that includes the wind gust variable will improve training in areas identified as probable causes of accidents by the NTSB, including the accident involving Continental Airlines flight 1404. The NTSB determined that the probable cause of this accident was the PICs ''cessation of rudder input, which was needed to maintain directional control of the airplane, about 4 seconds before the excursion, when the airplane encountered a strong and gusty crosswind that exceeded the captain's training and experience.'' In connection with this accident, the NTSB issued a number of safety recommendations including A–10–111, which advised the FAA to require part 121, 135, and 91K operators to incorporate realistic, gusty crosswind profiles into their pilot simulator training programs.

In the final rule, the FAA has amended appendices E and F to include the requirement for training and evaluation in crosswind takeoff and crosswind landing with gusts. The FAA has determined that this level of specificity is necessary to ensure that all flightcrew members have the necessary skills for takeoff and landing in gusty winds. It is likely that many certificate holders already train and evaluate crosswind takeoffs and landings with gusty winds included as a variable of the training. However, the agency recognizes that not all FFSs are capable of replicating gusts and is reviewing simulator capabilities as part of a separate rulemaking. Moreover, since crosswind takeoff and landing are already required and gusty winds are merely one variable of this current requirement, the agency does not believe any additional time is necessary to train and evaluate crosswind takeoffs and landings with gusts.

Q. Miscellaneous

The final rule includes a number of miscellaneous editorial and clarifying changes. These changes remedy typographical errors, redundancies and provisions that are no longer applicable within the regulatory text.

In those instances in which the agency must provide approval or authorization, for consistency, the final rule refers only to the Administrator. The Administrator's delegation of authority for specific functions is appropriately addressed in guidance material.

Finally, the agency has removed flight navigator training requirements from subpart N. Flight navigators are no longer required on aircraft used in part 121 operations. Also, consistent with the SNPRM, the agency replaced the terms proficiency check and competency check in § 121.413(a)(2) with checks and supervision of operating experience, to more accurately reflect check airman functions in part 121 operations.

R. SNPRM Economic Comments

In March 2010, the FAA conducted a preliminary regulatory evaluation to estimate the costs and benefits of the provisions proposed in the SNPRM. The agency received several comments on the SNPRM regulatory evaluation from air carriers, labor organizations and trade associations. This section provides a summary of issues raised by commenters on the SNPRM regulatory evaluation and the FAA's response.

1. Benefit Analysis

ATA, Continental, and United noted the benefit methodology developed for the SNPRM regulatory evaluation differs significantly from the original methodology used in the NPRM regulatory evaluation.

The FAA refined the SNRPM regulatory evaluation benefit analysis based on public comments to the NPRM analysis. For example, in the SNPRM benefit analysis, the FAA limited historical accidents to those associated with airlines that did not have an existing AQP for pilot training. The agency made this change based on comments stating it was inconsistent for the FAA to determine that the provisions in the NPRM would have minimal cost impact on AQP operators while claiming monetary benefits for preventing or mitigating accidents that involved carriers using AQP for training. Further, consistent with NPRM comments, the FAA discounted the benefits in the same way costs were discounted.

The agency has determined it is necessary to move forward at this time with a final rule to address certain provisions proposed in the SNPRM that enhance pilot training for rare but high risk scenarios and provide the greatest safety benefit. Therefore, the methodology used in the regulatory evaluation for the final rule differs somewhat from the SNPRM.

The final rule regulatory evaluation benefits analysis uses the same methodology as that used in the SNPRM analysis in terms of using the Commercial Aviation Safety Team (CAST) approach to select and score each accident, and discounting benefits and costs. However, after further review of the proposal and existing AQPs, the

FAA has determined that the training standards required in the final rule will result in new training for all pilots who complete training under subparts N and O as well as those who complete training under AQP.

Thus, the agency has estimated the benefits and costs of the final rule requirements on all part 121 operators, including those training pilots under an AQP. In addition, the final rule benefit analysis adds benefits from accidents involving air carriers that trained pilots under an AQP at the time of the accident if the accident could have been prevented or mitigated by the requirements in the final rule. The cost analysis for the final rule also calculates costs for carriers that use AQP to train pilots based on new training requirements for all pilots and not just traditionally trained pilots.

Several commenters raised concerns about the accident avoidance safety benefit analysis in which the FAA estimated the potential benefits of the SNPRM by attempting to calculate the number and cost of future accidents that would be prevented if this proposal were adopted. Continental and Southwest assert the methodology the FAA used assumed that past accident history from the chosen time period would be an accurate reflection of future accidents. The commenters contend that the accident rate per departure has been decreasing over the past 60 years and therefore the FAA methodology is flawed.

First, although part 121 accidents have generally decreased over the past 20 years, major and serious accidents still occur. The NTSB's records on Accidents and Accident Rates show that from 2001 to 2010, 26 major accidents, 19 serious accidents, 160 accidents with injuries, and 209 accidents with aircraft damage occurred.[22]

Second, OMB guidance directs the FAA to monetize quantitative estimates by using sound and defensible procedures to monetize benefits and costs. The FAA used the willingness-to-pay approach to assume that past accident history would be an accurate reflection of reducing the risk of future airplane accident fatalities. This approach is transparent, reproducible and follows OMB guidance. OMB states the willingness-to-pay approach is the best methodology to use if reduction in fatality risk is monetized, and the monetized value of small changes in fatality risk can be measured by the ''value of statistical life'' (VSL).[23]

The FAA estimated total damages for the accidents identified in the SNPRM regulatory evaluation based on assumptions identified in the benefits analysis. ATA commented that accident investigation costs were assigned based on the agency conducting the investigation and that it is unclear how the FAA identified which type of cost applied to each accident.

The FAA calculated investigation costs based on the results of a study completed in 2003 and 2004 to provide the FAA with critical values the agency uses in costs analyses. The results of the study can be found in a report ''*Economic Values for FAA Investment and Regulatory Decisions, A Guide''* at *http://www.faa.gov/regulations_policies/policy_guidance/benefit_cost/media/050404%20Critical%20Values%20Dec%2031%20Report%2007Jan05.pdf*. The benefit analysis added the weighted averages of investigation costs (in 2002 dollars) for an NTSB investigation, an FAA investigation and a private investigation from Table 8–2 of the study to estimate the total per accident investigation cost savings. Since Table 8–2 was in 2002 dollars, using a GDP deflator, we escalated the results of Table 8–2 to 2012 dollars. In addition, the FAA used Department of Transportation guidance to estimate accident costs found at *http://www.dot.gov/policy/transportation-policy/treatment-economic-value-statistical-life*. The SNPRM regulatory evaluation documented this report as a data source for accident costs.

ATA, Continental, and Delta commented that the SNPRM regulatory evaluation contains no description of the criteria the FAA used to determine which accidents were relevant or how the criteria were applied.

The process the FAA used to determine which accidents were relevant to the proposal is described in Section II.B.2. Accident Population and Scoring on page 7 of the SNPRM regulatory evaluation. To determine which accidents were relevant to the accident avoidance benefit analysis, the FAA initially reviewed accident data for U.S. certificate holders required to train under parts 121 and 121/135 from 1988 through 2009. The agency considered accidents that occurred during this 22-year period because this period includes accidents with open NTSB recommendations. The agency then selected accidents in which the NTSB identified areas of inadequate training as either the probable cause or a contributing factor to the accident. The accidents included for consideration in the analysis were those for which the FAA developed a regulatory change proposed in the SNPRM that could have mitigated each accident. Finally, the agency eliminated from consideration accidents that occurred by operators with an AQP training program and while the carrier was operating under part 135.

The importance of training varies for each of the accidents. Therefore, the FAA rated each accident by evaluating the effectiveness of the proposed rule against each accident using the scoring process in CAST. All of the accidents with published final NTSB reports were scored against the CAST safety enhancements. The agency used the NTSB recommendations along with narratives, probable cause, contributing factors and other pertinent data to score the accidents.

American, ATA, Continental, Southwest, and United believe the accident analysis should only include accidents from the past 10 years because of the dramatic decline in accident rates over the past 20 years. ATA and United contend the FAA should exclude pilot-related accidents from carriers who are now out of business, have merged with other carriers, or involve more than one airline.

For the benefits analysis, the FAA analyzed the causal factors, as determined by the NTSB, for past accidents that occurred in part 121 operations. As discussed earlier in this preamble, the first accident with pertinent accident causal factors was Delta flight 1141. Although the accident rate has declined in the last 10 years, accident causal factors identified by the NTSB during the 22-year historical benefit analysis period are still relevant and need to be addressed. Also, accidents by carriers who are out of business, have merged with other carries, or involve more than one airline could have been mitigated if this proposal had been in effect when the accident occurred. Therefore these accidents were included in the benefits analysis because (1) the accident occurred while the pilot was training under a part 121 traditional training program, and (2) new US certificated operators entering part 121 service and training under a traditional training program would benefit from the additional training requirement proposed in the SNPRM.

American, ASTAR, ATA, Continental, Delta, Southwest, and USAir contend the FAA has failed to give adequate credit for accident rate reduction

[22] NTSB Aviation Statistical Reports, Table 2. Accidents and Accident Rates by NTSB Classification, 1992 through 2011, for U.S. Air Carriers Operating Under 14 CFR 121, *http://www.ntsb.gov/data/table2_2012.html*, (visited. March 14, 2013).

[23] *http://www.whitehouse.gov/omb/circulars_a004_a-4*, March 4, 2013.

resulting from existing training program enhancements and technological advancements that have been incorporated over the last 20 years, including the following: Terrain Avoidance Warning System (TAWS); Controlled Flight into Terrain (CFIT) standard operating procedures; CFIT avoidance, vertical angles; CFIT prevention training; Visual Glide Slope Indicators (VGSI) requirements implemented; Area Navigation (RNAV) 3D and Required Navigation Performance (RNP) approach procedures; Flight Operation Quality Assurance (FOQA) and Aviation Safety Action Program (ASAP); loss of control prevention, policies, systems and training; and runway incursion prevention policies, systems and training. Taking these enhancements into account, the commenters assert the FAA economic analysis overstates the potential benefit/cost savings purported to be achieved by implementation of the proposed rule.

Even with these existing programs, the NTSB shows that major and serious accidents still occur. The final rule requirements include higher training standards and specific tasks which improve pilot training program's content and application that will reduce human error among crewmembers, particularly in hazardous or emergency situations.

Southwest disagrees with the FAA's analysis of NTSB recommendations relevant to training and accidents that could have been mitigated if the proposed training requirements had been in effect at the time of the accident. The SNPRM cited 28 NTSB recommendations relevant to training programs that were issued as a result of 178 accidents, which occurred between 1988 and 2009. Southwest reviewed the 28 NTSB recommendations and stated ''the FAA speculates that no more than 4 accidents were associated with pilot inflight actions.'' Additionally, Southwest noted the NTSB did not identify inadequate training as the probable cause of these four accidents. Therefore, Southwest disagrees with the FAA's conclusion that these pilot inflight accidents could have been mitigated if the proposed training requirements had been in effect at the time of the accident.

As part of the decision to move forward with certain provisions proposed in the SNPRM that enhance pilot training for rare but high risk scenarios and other discrete provisions, the agency has conducted a new analysis and determined the final rule addresses the seven NTSB recommendations identified in the background section of this preamble.

Moreover, the FAA clarifies that relevant NTSB recommendations were used to establish the proposed training requirements. These recommendations served as one of the components of the analysis used to establish the mitigation effect on discrete accidents. The approach taken to establish an effectiveness ratio (mitigation for each accident) for the training requirements included an analysis of each accident in the context of the CAST scoring process.

2. Cost Analysis

ATA, Continental, ASTAR, and United contend the SNPRM regulatory evaluation fails to provide documentation of the underlying assumptions of the cost estimates.

The FAA documented the sources for its information in the assumption sections, tables and footnotes of the SNPRM regulatory evaluation. The methodologies employed in the analysis were discussed in the sections preceding the tables showing total costs.

ATA and United stated the projected growth in affected crew population levels of initial/new hire training in the SNPRM regulatory evaluation was based on the net increase in total crew population but ignores training necessary to replace retiring crew. United also stated that, retirements alone are expected to be 5 percent annually throughout the benefit period and thus the FAA underestimated the pilot attrition rate in the SNPRM regulatory evaluation. As a result of underestimating the attrition rate, United asserts that we have underestimated the training costs that will result from retirements. United contends one retirement would generate at least two initial courses.

The FAA crew population forecast accounts for the replacement of a retired crewmember in the turnover percentage. Although United projected a 5 percent retirement rate for their pilots, the FAA maintains its assumption that 5 percent of the total number of pilots would leave an operator through attrition (including loss of medical certificate, loss of airman certificate, career transfer, or retirement). This assumption is based on objective data presented in a University of North Dakota study.[24] The FAA disagrees with United's assertion that for every crewmember who retires, two courses of initial training would be required. The agency assumed that for each pilot lost through attrition, one pilot will complete initial training. For any additional training, the agency considered transition training and upgrade training and accounted for those training costs in the final rule regulatory evaluation.

Based on the FAA Aerospace Forecasts 2013–2023, we expect the total number of part 121 pilots to increase by 0.4 percent annually.[25] Applying BLS labor wage data, the FAA has determined that the training costs due to attrition and growth will range from $51.6M to $69.1M.

ATA stated the FAA's determination of the net impact on annual training hours appears to be based on the minimum programmed hour requirements rather than on the actual number of training hours necessary to complete the required training tasks.

In preparing the cost estimate for the SNPRM regulatory evaluation, the FAA identified the proposed programmed hour requirements and calculated the incremental costs that the proposed programmed hours would add over the current regulatory requirements. If operators voluntarily exceed the training standard proposed in the SNPRM, then there was no additional compliance cost estimated in the FAA cost analysis.

ALPA, American, Continental, JetBlue, Southwest, United, UPS, and USAir stated the FAA underestimated the time it takes to complete flight training tasks proposed in the SNPRM.

On October 26, 2009 the FAA conducted a simulator trial to determine the time required to complete the proposed recurrent proficiency check requirements. The agency collected data on the time it took to complete the recurrent proficiency check tasks proposed in the NPRM and then used this data to estimate the time required to complete the proficiency check requirements proposed in the SNPRM. See *http://www.regulations.gov/#!documentDetail;D=FAA-2008-0677-0177*. In preparing the cost estimate for the SNPRM regulatory evaluation, the FAA used the data from the simulator trial to determine the additional training hours required by the proposal and calculated the incremental costs, over the current regulations, the proposed requirements would add.

[24] *http://www.faa.gov/news/conferences_events/aviation_forecast_2010/agenda/media/GAF%20Jim%20Higgins%20and%20Kent%20Love.pdf.* The University of North Dakota estimates that 2.12% of pilots have retired annually along with forecasting 2.94% pilot attrition (loss of medical, loss of certificate, career transfer) from 2009 to 2024. We rounded to three digits.

[25] FAA Aerospace Forecasts 2013–2033. Table 30: Active Pilots by Type of Certificate, Airline Transport, 2012–2033. *http://www.faa.gov/about/office_org/headquarters_offices/apl/aviation_forecasts/aerospace_forecasts/2013-2033/* Accessed March 2013.

On June 19, 2012, the FAA conducted a second simulator trial to determine the time required to complete the additional final rule maneuvers and procedures in each curriculum. During the second simulator trial, the agency observed two FAA pilots perform the extended envelope flight training requirements in an Airbus 330 Level D simulator.[26] The FAA pilots serving as the PIC and SIC both held ATP certificates and were current and qualified to operate the Airbus 330. All required checklists and procedures were completed in their entirety for each maneuver and procedure. In addition, all required Air Traffic Control (ATC) instructions and clearances were provided.

The data collected during this simulator trial provides the estimated simulator time required to meet the extended envelope flight training requirements in the final rule. The FAA has reviewed both simulator trials and revised the cost estimates for the training tasks required by the final rule.[27]

ATA, Continental, United, and USAIR noted the FAA calculates simulator costs at an hourly rate instead of the industry-standard 4-hour blocks for the purpose of keeping the cost of the proposed rule low. These commenters also stated the simulator hour projection for the SNPRM regulatory evaluation does not consider collective bargaining agreements that may further limit training hours per day.

The SNPRM regulatory evaluation calculated simulator costs at an hourly rate instead of 4-hour blocks. Industry is not tied to the 4-hour simulator training blocks. With the 5-year compliance date in the final rule for simulator training tasks, air carriers have the ability to revise their internal processes or re-negotiate contracts with simulator training providers. In addition, the FAA believes that bargaining agreements can be adjusted before the 5 year compliance date. Therefore these costs are not attributed to the rule. The final rule includes extended envelope training that must be completed in an FFS. The agency estimates that the time required to complete this training ranges from 90 to 135 minutes for initial training, 60 to 90 minutes for transition training, 45 to 60 minutes for upgrade training, and 30 to 45 minutes for recurrent training.

Continental contends the associated costs for legacy mainframe computer programming related to the proposed requirement for evaluating and recording line check performance in proposed § 121.1233(d) were not accounted for in the SNPRM regulatory evaluation. Continental also states the requirements proposed in the SNPRM would add significantly to the recordkeeping system requirement.

The agency notes programmers in major companies, such as Continental, are typically on staff. Staff programmers typically cover software updates and maintenance. The FAA has reviewed the paperwork requirements for the new final rule provisions and has revised the regulatory evaluation accordingly. Upon further review of the SNPRM regulatory evaluation, the agency identified paperwork costs that were inadvertently omitted. For the final rule regulatory evaluation, the FAA has further reviewed the potential costs of implementing the final rule requirements and captured additional detail. For example, the paperwork costs now fully address the review and development of training programs, courseware and manuals.

ATA, Continental, JetBlue, and USAir assert the SNPRM regulatory evaluation did not include non-paperwork costs for program development, and maintenance including high capital and management costs necessary to modify or replace training equipment, reconfigure training facilities, or re-program and maintain software systems.

The agency included costs in the SNPRM regulatory evaluation for maintenance, including high capital and management costs, necessary to modify or replace training equipment, reconfigure training facilities, or re-program and maintain software systems with a simulator or ground cost hourly rental expense.

For the final rule, the FAA determined that the average simulator rental fee is $500 per hour plus the cost of an instructor for consistency with the FAA's ''Pilot Certification and Qualification Requirements for Air Carrier Operations'' final rule. The FAA believes the hourly rental price accurately reflects the cost of capital and includes costs for maintenance, capital, management, reconfiguring training facilities, and reprogramming.

The FAA received several comments from air carriers stating the agency underestimated the cost of a number of SNPRM provisions, including: Operating manual changes; the continuous analysis process; crewmember and aircraft dispatcher requalification; flightcrew member recurrent training; relief pilot recent experience; PIC line checks; training with a complete flightcrew; flight attendant operating experience; check flight attendant requirements; aircraft dispatcher qualification and recurrent training; and, check dispatcher training.

At this time, the agency is proceeding with a final rule to address certain provisions proposed in the SNPRM that enhance pilot training for rare but high risk scenarios, provide the greatest safety benefit, and require time to implement, as well as certain other discrete proposals. This final rule does not include the provisions identified by commenters as having underestimated costs. If a subsequent final rule includes the provisions cited by commenters, the agency will review the costs identified in the SNPRM and determine whether reassessment of these costs is necessary.

3. General Cost-Benefit Analysis

ATA asserted that the FAA failed to correctly match the timing of the benefits and costs in the SNPRM regulatory evaluation and asserted that the incurrence of implementation costs would necessarily precede any benefits that might occur by at least two years.

The FAA initiated the benefits and costs of the analysis at the compliance date of the final rule. The compliance date proposed in the SNPRM was 2016, or 5 years after the proposed effective date of the final rule. In the SNPRM regulatory evaluation, the agency determined the timing of both the benefits and costs would start in 2016 and end in 2025.

In the SNPRM, the agency proposed an effective date for the final rule of 120 days after publication in the **Federal Register**. The agency further proposed to require compliance with certain amendments to part 121 on the effective date and to delay compliance with other amendments requiring time to implement, to 5 years after the effective date. However, in the SNPRM regulatory evaluation, the agency assumed the timing of both the benefits and costs for all provisions would start in 2016 to account for a compliance date of 5 years after the proposed effective date of the final rule, and end in 2025.

The agency agrees that some implementation costs may be incurred prior to when the full benefits of the final rule are realized. For the final rule, safety benefits are realized beginning in 2019, when compliance is required with

[26] Recognition of, and recovery from, full stall and demonstration of stick pusher activation were not completed during the second simulator trial. Therefore, the agency considered the time for recognition of, and recovery from, approach to stall—clean configuration, collected during the first simulator trial. The agency expects the time for each of these two maneuvers to be similar to the time for recognition of, and recovery from, approach to stall because full stall and stick pusher are further developed stages of an approach to stall.

[27] The FAA has amended the Technical Report to add the 2012 simulator trial data in new appendix G. The agency has placed the revised Technical Report in the public docket for this rulemaking.

the new pilot training maneuvers and procedures. However, the agency assumes paperwork costs associated with the training provisions for instructors and check airmen who serve in FSTDs will begin the year before the compliance date in preparation to meet the final rule requirements. For the paperwork costs associated with the remaining final rule provisions, the agency assumes new paperwork costs start to accrue on the date that compliance is required. These timelines are reflected in the table that appears in the Paperwork Reduction Act discussion in the Regulatory Notices and Analyses section of this preamble (Section IV). Greater detail regarding the paperwork burden can be found in the Summary of Estimated Paperwork Costs by Objective Grouping section of the final rule regulatory evaluation.

4. Economic Impact to Operators Training under AQP

The FAA received several comments from air carriers concerned that the agency failed to include costs to air carriers with pilots who train under an AQP in its economic analysis of the SNPRM.

In the economic analysis of the SNPRM, the agency determined the proposals in the SNPRM would have a minimal impact on carriers that train pilots using an AQP. Therefore, the SNPRM regulatory evaluation included only certain paperwork costs for these carriers.

Following further review of existing AQP curriculums and the final rule pilot training requirements, the agency has determined that the majority of new pilot training maneuvers and procedures are not incorporated into existing AQPs used to train pilots. Therefore, the FAA has estimated the cost of the new requirements on all part 121 operators, including those who train under AQP.

IV. Regulatory Notices and Analyses

Regulatory Evaluation

Changes to Federal regulations must undergo several economic analyses. First, Executive Order 12866 and Executive Order 13563 direct that each Federal agency shall propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs. Second, the Regulatory Flexibility Act of 1980 (Pub. L. 96–354) requires agencies to analyze the economic impact of regulatory changes on small entities. Third, the Trade Agreements Act (Pub. L. 96–39) prohibits agencies from setting standards that create unnecessary obstacles to the foreign commerce of the United States. In developing U.S. standards, this Trade Act requires agencies to consider international standards and, where appropriate, that they be the basis of U.S. standards. Fourth, the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4) requires agencies to prepare a written assessment of the costs, benefits, and other effects of proposed or final rules that include a Federal mandate likely to result in the expenditure by State, local, or tribal governments, in the aggregate, or by the private sector, of $100 million or more annually (adjusted for inflation with base year of 1995). This portion of the preamble summarizes the FAA's analysis of the economic impacts of this final rule. We suggest readers seeking greater detail read the full regulatory evaluation, a copy of which we have placed in the docket for this rulemaking.

In conducting these analyses, FAA has determined that this final rule: (1) Has benefits that justify its costs, (2) is not an economically ''significant regulatory action'' as defined in section 3(f) of Executive Order 12866, (3) is ''significant'' as defined in the U.S. Department of Transportation's (DOT) Regulatory Policies and Procedures; (4) will have a significant economic impact on a substantial number of small entities; (5) will not create unnecessary obstacles to the foreign commerce of the United States; and (6) will not impose an unfunded mandate on state, local, or tribal governments, or on the private sector by exceeding the threshold identified above. These analyses are summarized below.

Total Benefits and Costs of This Rule

The following table shows the FAA's estimate for the base case costs, including the low and high cost range, in 2012 dollars. This table also shows our estimated potential quantified safety benefits using a 22-year historical accident analysis period.

Total Benefits and Costs (2012 $ Millions) From 2019 to 2028

Range		2012 $	Present Value	
			7%	3%
Low	Cost	$274.1	$130.8	$197.5
High	Cost	$353.7	$168.8	$254.8
Base Case	**Cost**	**$313.9**	**$149.8**	**$226.1**
	Benefit	**$689.2**	**$317.1**	**$488.7**

For the benefits analysis, the FAA analyzed the causal factors, as determined by the NTSB, for past accidents that occurred in part 121 operations. The objective of the analysis was to determine if an accident could have been prevented or mitigated by the training provisions in the final rule. In 1988, Delta flight 1141 crashed shortly after lifting off from the runway at the Dallas-Fort Worth International Airport (DCA88MA072). In its final report, the NTSB determined that one causal factor for the accident was ''The captain and first officer's inadequate cockpit discipline which resulted in the flightcrew's attempt to take off without wing flaps and slats properly configured.''

As a result of the accident investigation, the NTSB made recommendations to the FAA that emphasized the importance of training and manual procedures regarding ''the roles of each flight crewmember in visually confirming the accomplishment of all operating checklist items,'' as well as the ''verification of flap position during stall recognition and recovery procedures.''

The FAA determined that the pilot monitoring training and operational provisions may have prevented or mitigated this accident. The pilot monitoring training will provide pilots an opportunity to practice monitoring skills in an environment that closely simulates real line operations. The operational requirements will require flightcrew members to follow air carrier procedures regarding pilot monitoring. Together, these provisions establish an active requirement for the pilot not flying the aircraft to remain engaged throughout the flight by monitoring the

pilot flying, as well as the position of the aircraft, the flight instruments, the configuration of the aircraft, etc. The provisions will ensure that the pilot monitoring is prepared to notify the pilot flying of any anomalies or to assume the flying responsibilities if necessary. If these requirements had been in place at the time of this accident, the pilot monitoring may have identified the incorrect configuration and notified the pilot flying prior to takeoff.

Therefore, the FAA initiated the historical accident interval for the benefits analysis with this accident in 1988. The FAA concluded the accident interval in 2009 with the Colgan accident because, at this time, the NTSB still has not finalized its reports on the major accidents (that may be pertinent to this training rule) that occurred in 2010 and 2011. This is why the FAA uses the same 22 year accident interval (1988–2009) for the benefits analysis in the final rule as in the SNPRM.

The FAA identified 10 additional major accidents with casual factors identified by the NTSB that are addressed by the provisions in the final rule that occurred during this 22 year accident interval. The FAA cited these accidents in the benefits analysis based on pertinent accident causal factors, regardless of whether or not there were open NTSB recommendations associated with those accidents.

The FAA notes, however, that it conducted a sensitivity analysis to explore the effect of reducing the historical accident analysis period from the 22 years to 10 years in response to comments disputing the use of a 22-year time frame. Appendix 14 of the regulatory evaluation shows that using a shorter historical accident analysis period increases the estimated benefits of the final rule by approximately 17 percent.

Who is potentially affected by this rule?

This final rulemaking will increase costs to operators of transport category airplanes operating under 14 CFR part 121 by requiring improved pilot training, as well as by requiring accompanying revisions to their training manuals and related training materials.

Assumptions

The benefit and cost analysis for the regulatory evaluation is based on the following factors/assumptions:

- The analysis is conducted in constant dollars with 2012 as the base year.
- The estimates of costs and benefits reported in this evaluation include both 2012 dollar values and present values. Benefits and costs are calculated in present values using both 3 percent and 7 percent discount rates as prescribed by OMB in Circular A–4.
- This final rule will be published in late 2013.
- This final rule will become effective in 2014, 120 days after its publication. Compliance is required on the effective date (120 days) for a few of the provisions, including for example all technical amendments, §§ 121.9 (falsification), 121.392 (identification of personnel as flight attendants), and 121.711 (communication records). Compliance with the remaining substantive provisions is required within 5 years after the effective date.
- Although some incidental costs are expected to occur prior to 2019, the primary analysis period for costs and benefits extends for 10 years, from 2019 through 2028. This period was selected because annual costs and benefits will have reached a steady state by 2019.
- Safety benefits will be realized beginning in 2019, when compliance is required with the new training provisions in the final rule.
- Past accident history from 1988 to 2009 (22 years) is an appropriate basis on which to forecast the likely future occurrence of the types of accidents that the training and other provisions of this rule will help to prevent. The full regulatory evaluation provides a detailed justification for the selection of the 22 year analysis period, as well as a sensitivity analysis that explores the effect of reducing the historical analysis period from the 22 year period to 10 years. The *Accident Population and Scoring* section in the full final rule regulatory evaluation gives more details on the use of accident history in this analysis.

Changes From the SNPRM to the Final Rule Regulatory Evaluation

Based on public comments and further agency review of the proposal, the FAA made the following changes to the regulatory evaluation for the final rule:

- Re-estimated costs and benefits to correspond directly to the provisions of this final rule. The final rule focuses on enhancements to pilot training for rare, but high-risk scenarios.
- Assumed that the final rule will affect all Advanced Qualification Program (AQP) and non-AQP trained pilots in command, second in command, check pilots, and flight instructors by adding simulator and ground school time to their current training curriculum.
- Accounted for paperwork costs documenting the required revisions to operators listed in Appendix 9 of the regulatory evaluation.
- Updated the value of averted fatalities, injuries, accident investigation and medical costs based on current DOT guidance.[28]
- Updated the hourly wages and benefits for aircraft crew members with current hourly wages from the Bureau of Labor Statistics (BLS).
- Removed airfare, hotel, and per diem travel costs from the cost estimates because the FAA believes operators will be able to complete the new final rule training requirements within their current initial, upgrade, transition, or recurrent simulator and ground school training days. The FAA conducted a sensitivity analysis on the costs of the final rule adding an additional day of travel. The results of the sensitivity analysis are shown in Appendix 10 of the regulatory evaluation. Even with the cost of an extra day of travel, the benefits of the final rule still exceed the costs.
- Conducted a new accident analysis that took into account the mitigations of other rulemakings for the same accidents in determining the probability of effectiveness for this final rule.
- Assumed that the ''Flight Simulation Training Devices Qualification Standards For Extended Envelope and Adverse Weather Event Training Tasks'' rulemaking (RIN 2120–AK08) is in place by the time compliance is required with the new pilot training requirements because amendments to FSTD qualification and evaluation standards in part 60 are needed to support the new full flight simulator training requirements in this final rule. In addition, the agency recognizes that the final rule on Pilot Certification and Qualification Requirements for Air Carrier Operations will be in place at the time that compliance is required with the pilot training requirements in this final rule.
- Included a table in Appendix 13 of the regulatory evaluation comparing the probability of effectiveness ratings of the overlapping accidents from the Flightcrew Member Duty and Rest Requirements final rule, the Pilot Certification and Qualification Requirements for Air Carrier Operations final rule and this final rule.
- Updated employment growth rates for pilots based on current FAA forecasts and actual February 2013 employment statistics for operators

[28] ''Revised Departmental Guidance 2013: Treatment of the Value of Preventing Fatalities and Injuries in Preparing Economic Analysis.'' available at *http://www.dot.gov/regulations/economic-values-used-in-analysis.*

listed in Appendix 9 of the regulatory evaluation.

• Updated the hourly simulator costs from the $550 estimate used in the SNPRM to $500 for the final rule based on updated FAA Flight Standards Service (AFS) data. This revised cost maintains consistency with analysis from the Pilot Certification and Qualification Requirements for Air Carrier Operations final rule published on July 15, 2013 (78 FR 42324).

• Conducted a sensitivity analysis on the hourly simulator rental rate using the $550 rate from the SNPRM. The agency estimated $323.1 million for the total costs using the $550 hourly rate. The total benefits, as shown in the table above, exceed the costs for the $550 hourly simulator rental rate.

• Initiated the ''Flight Simulation Training Device Qualification Standards for Extended Envelope and Adverse Weather Event Training Tasks'' rulemaking to amend 14 CFR part 60 to require the additional programming and upgrades to simulators, which will be needed to comply with extended envelope training required by the final rule. The FAA estimates that the $500 hourly simulator rental rate assumed in this analysis includes all upgrades expected to be required by the Flight Simulation Training Device rulemaking. As an alternative, the agency also conducted a sensitivity analysis using $600 for an hourly simulator rental rate. The agency estimated $332.4 million for the total costs with the $600 hourly rate. The total benefits as shown in the table above also exceed the costs for the $600 hourly simulator rental rate.

• Conducted a sensitivity analysis to explore the effect of reducing the historical analysis period from the 22 year period to 10 years in response to comments disputing the use of a 22-year time frame for accidents. Appendix 14 of the final rule regulatory evaluation shows that using the 10-year period, the estimated benefits of this final rule increase by approximately 17 percent. The full regulatory evaluation provides a detailed justification for the selection of the 22 year analysis period.

• Changed the pilot ground school distance learning [29] percentage from the 80 percent estimate used in the SNPRM to 100 percent, because the FAA allows 100 percent of ground training to be accomplished via distance learning.[30]

Benefits of This Rule

Phased-in potential benefits will accrue from the additional training requirements, and these are estimated in the table above. As prescribed by OMB in Circular A–4, we discounted the 2012 $ benefits to their present values using a seven and three percent annual rate.

The final rule will also generate qualitative benefits. The final rule addresses safety issues identified during two recent FAA ''Call to Action'' initiatives including improvement of runway safety by requiring training in critical runway safety issues, responds to seven National Transportation Safety Board (NTSB) safety recommendations, and addresses the requirements in the Airline Safety and Federal Aviation Administration Extension Act of 2010.

Costs of This Rule

The FAA estimates the range of costs to air carriers in the table above. As prescribed by OMB in Circular A–4, we discounted the 2012 $ to their present values using a seven and three percent annual rate.

Alternatives Considered

The FAA considered multiple alternatives to the final rule. Three of the alternatives that were considered would have provided relief from some of the rule's provisions to small entities, while one alternative considered accepting all of the provisions of the SNPRM. A discussion of these alternatives can be found in the final regulatory flexibility analysis.

Regulatory Flexibility Determination

The Regulatory Flexibility Act of 1980 (Pub. L. 96–354) (RFA) establishes ''as a principle of regulatory issuance that agencies shall endeavor, consistent with the objectives of the rule and of applicable statutes, to fit regulatory and informational requirements to the scale of the businesses, organizations, and governmental jurisdictions subject to regulation. To achieve this principle, agencies are required to solicit and consider flexible regulatory proposals and to explain the rationale for their actions to assure that such proposals are given serious consideration.'' The RFA covers a wide-range of small entities, including small businesses, not-for-profit organizations, and small governmental jurisdictions.

Agencies must perform a review to determine whether a rule will have a significant economic impact on a substantial number of small entities. If the agency determines that it will, the agency must prepare a regulatory flexibility analysis as described in the RFA.

The FAA believes that this final rule will result in a significant economic impact on a substantial number of small entities. The purpose of this analysis is to provide the reasoning underlying the FAA determination.

Section 604 of the Act requires agencies to prepare and make available for public comment a final regulatory flexibility analysis (FRFA) describing the impact of final rules on small entities. Section 604(a) of the Act specifies the content of a FRFA.

Each FRFA must contain:

• A statement of the need for, and objectives of, the rule;

• A statement of the significant issues raised by the public comments in response to the initial regulatory flexibility analysis, a statement of the assessment of the agency of such issues, and a statement of any changes made in the proposed rule as a result of such comments;

• The response of the agency to any comments filed by the Chief Counsel for Advocacy of the Small Business Administration in response to the proposed rule, and a detailed statement of any change made to the proposed rule in the final rule as a result of the comments;

• A description of and an estimate of the number of small entities to which the rule will apply or an explanation of why no such estimate is available;

• A description of the projected reporting, recordkeeping and other compliance requirements of the rule, including an estimate of the classes of small entities which will be subject to the requirement and the type of professional skills necessary for preparation of the report or record; and

• A description of the steps the agency has taken to minimize the significant economic impact on small entities consistent with the stated objectives of applicable statutes, including a statement of the factual, policy, and legal reasons for selecting the alternative adopted in the final rule and why each one of the other significant alternatives to the rule considered by the agency which affect the impact on small entities was rejected.

Statement of the Need for, and Objectives of, the Rule

The primary purpose and objectives of the final rule are to ensure that training and evaluation is provided for crewmembers by establishing new

[29] Distance learning allows pilots to train out of the classroom (such as at home).

[30] FAA Order 8900.1, Vol.3, Ch. 19, Sec. 5, Para. 3–1209 (July 15, 2013). The FAA notes that pilot ground school training requirements include hands-on emergency equipment training (current § 121.417(c) requires that every 24 months, pilots must perform hands-on drills on aircraft emergency equipment) that may not be accomplished via distance learning. These costs are not included in this cost analysis because those hands-on drills are currently required.

requirements for part 121 commercial air carrier training programs, as mandated by Public Law 111–216. The changes seek to make a significant contribution to the FAA's accident reduction goal by directly addressing the safety goals from two recent FAA ''Call to Action'' initiatives including improvement of runway safety by requiring training in critical runway safety issues. The requirements of the final rule also implement numerous safety recommendations from the NTSB.

Statement of the Significant Issues Raised by Public Comments

There were no significant issues raised by the public comments in response to the initial regulatory flexibility analysis.

Agency Response to Comments Filed by the Chief Counsel for Advocacy

There were no comments filed by the Chief Counsel for Advocacy of the Small Business Administration in response to the proposed rule.

Description of Projected Reporting, Recordkeeping and Other Compliance Requirements of the Rule

As described in the Paperwork Reduction Act summary in this preamble, the agency expects only minimal new training documentation, reporting and record-keeping compliance requirements to result from this final rule. Every operator (including small businesses and businesses with greater than 1500 employees) will incur a paperwork burden as described in Paperwork Reduction Act discussion in this preamble.

Costs for the labor entailed in meeting these documentation, reporting, and record-keeping requirements constitute a burden under the Paperwork Reduction Act, and these costs are accounted for in the final rule regulatory evaluation. The types of professional skills necessary for preparation of the report or record include both technical writers and flight instructors.

Under section 604 of the Act, the FAA must determine an estimate of the classes of small entities which will be subject to the requirement. This determination is typically based on small entity size and cost thresholds that determine whether an entity meets the definition of ''small,'' and these thresholds vary depending on the affected industry.

Using the size standards from the Small Business Administration for Air Transportation and Aircraft Manufacturing, the FAA defined companies as small entities if they have fewer than 1,500 employees.[31]

Small Entities Affected

This final rule will be published in 2013 and become effective in 2014. Operators affected by this final rule will be required to comply with a majority of the final rule requirements 5 years after the effective date. The FAA does not know if an operator will still be in business or will still remain a small business entity by the 2019 compliance date applicable to the majority of the provisions. Therefore, the FAA will use current U.S. operator's employment and annual revenue in order to determine the number of operators this final rule affect.

To determine the economic impact of this final rule on small-business operators the agency began by identifying the affected firms, gathering operational data, and establishing the compliance cost impact. The FAA obtained a list of U.S. operators, who are affected by the final rule, from the FAA Flight Standards Service National Vital Information Subsystem (NVIS) database.[32] Using information provided by the U.S. Department of Transportation Form 41 filings and the World Aviation Directory & Aerospace Database (WAD) the agency obtained company revenue and employment for many of the operators.

We determined that 83 operators would be affected by the final rule. Of these 83 operators, there are 49 that reported annual employment and operating revenue data. Of the 49 air carriers that reported annual employment data, 22 air carriers are below the SBA size standard of 1,500 employees for a small business. Due to the sparse amount of publicly available data on internal company financial and employment statistics for small entities, it is not feasible to identify how many of the remaining carriers that did not report employment data would also qualify as small businesses, so it is not possible to estimate the total population of small entities that are likely to be affected by this rulemaking. However, based on the publically available data, the FAA assumes that this rule will have an impact on a substantial number of small entities.

To assess the final rule's cost impact to small business operators, the FAA determined the amount of additional time this rulemaking will add to their current training activities.

The FAA uses the average hourly wage (including benefits) of flight-crew members as a basis to estimate costs for additional training time. The FAA does not expect that the additional training requirements will result in higher travel costs, because the final rule adds only a small amount of training time, which we believe can be absorbed within operators' current training schedules. In order to estimate the impact on small entities, we sum the incremental costs of this rulemaking, and use that estimate to calculate an average cost per flight crew member. We then use that average to estimate the total cost burden on carriers that we identify as meeting the above definition of small entities.

Specifically, we estimate each operator's total compliance cost by multiplying our estimate of the average cost per flight crew member by the number of flight-crew members for each of the 22 air carriers that meet the SBA size standard for a small business of 1,500 employees. In estimating the average cost per flight-crew member, we use the high cost from the range of costs estimated in the final rule, in order to provide a conservative estimate. We then measure the economic impact on small entities by dividing the estimated compliance cost for each of the 22 small entities by its annual revenue, and expressing the result as a percentage.

The FAA estimates that costs for complying with this final rule will exceed one percent of annual revenue for 2 of the sample of 22 operators identified as small entities. On the basis of these estimates, we conclude that this final rule will have a significant economic impact on a substantial number of small entities.

Agency Steps Taken To Minimize the Significant Economic Impact on Small Entities

In the following *Analysis of Alternatives* section, the FAA considered three alternatives to minimize the significant economic impact on small entities consistent with the stated objectives of applicable statutes. The *Analysis of Alternatives* section also includes statements of the factual, policy, and legal reasons for selecting the final rule and why each one of the alternatives to the rule, considered by the agency, which affect the impact on small entities, was rejected.

Analysis of Alternatives

The FAA proposed alternatives to the SNPRM for small carriers and considered the proposed alternatives as

[31] 13 CFR 121.201, Size Standards Used to Define Small Business Concerns, Sector 48–49 Transportation, Subsector 481 Air Transportation.

[32] The National Vital Information Subsystem (NVIS) is a Flight Standard Service database that contains the general information about operators, including the number of pilots.

it developed the final rule. A discussion of the final rule alternatives follows.

Alternative 1–12 month recurrent training cycle for small entities.

Currently, PICs (captains) train every 6 months and SICs (first officers) train every 12 months. The FAA considered extending the recurrent training cycle for PICs working for small entities to 12 months to coincide with existing SIC recurrent training cycles. This would result in cost savings for small entities. However, a reduction in the training frequency for PICs to a 12-month cycle would be contrary to the purpose of this rulemaking, which is to improve safety. As a consequence, FAA determined that this alternative was unacceptable.

Alternative 2—Excluding certain small entities.

In the SNPRM, the FAA considered exempting certain operators from compliance with the rule simply because they are small entities; however, small entities had experienced past accidents that the agency believes could be mitigated or prevented by this rule. Thus exempting small entities entirely form the rule would be contrary to our policy of ensuring a single high level of safety in all part 121 operations. Thus, the FAA did not find this alternative to be acceptable.

Alternative 3—Extending the final compliance date to 7 years for small entities.

Extending the final compliance date from 5 years to 7 years for small entities reduces the costs to small entities over the analysis interval. Under this alternative, the FAA expects that the projected cost of the final rule would not be significant for some of the 22 operators studied.

In the final rule, the FAA requires improvements that would reduce human error among crewmembers, particularly in situations that present special hazards. Because these requirements would address problems that are faced by all part 121 air carriers, regardless of their size, excluding certain operators simply because they are small entities would again be contrary to FAA's policy of ensuring one high level of safety in all part 121 operations. Thus, the FAA also found this alternative to be unacceptable.

Alternative 4—The SNPRM

This agency considered moving forward with a final rule including all of the provisions of the rule proposed in the SNPRM. Industry commented that the rule language was unclear and did not estimate all of the proposal's costs. Instead of modifying the SNPRM, the FAA elected to adopt a final rule that included those provisions that provide the greatest safety benefit. Thus, the FAA did not accept this alternative.

International Trade Impact Assessment

The Trade Agreements Act of 1979 (Pub. L. 96–39), as amended by the Uruguay Round Agreements Act (Pub. L. 103–465), prohibits Federal agencies from establishing standards or engaging in related activities that create unnecessary obstacles to the foreign commerce of the United States. Pursuant to these Acts, the establishment of standards is not considered an unnecessary obstacle to the foreign commerce of the United States, so long as the standard has a legitimate domestic objective, such the protection of safety, and does not operate in a manner that excludes imports that meet this objective. The statute also requires consideration of international standards and, where appropriate, that they be the basis for U.S. standards. The FAA has assessed the potential effect of this final rule and determined that the final rule ensures the safety of the American public and does not exclude foreign operators that meet this objective. As a result, this rule is not considered as creating an unnecessary obstacle to foreign commerce.

Unfunded Mandates Assessment

Title II of the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4) requires each Federal agency to prepare a written statement assessing the effects of any Federal mandate in a proposed or final agency rule that may result in an expenditure of $100 million or more (in 1995 dollars) in any one year by State, local, and tribal governments, in the aggregate, or by the private sector; such a mandate is deemed to be a ''significant regulatory action.'' The FAA currently uses an inflation-adjusted value of $143.1 million in lieu of $100 million. This final rule does not contain such a mandate; therefore, the requirements of Title II of the Act do not apply.

Paperwork Reduction Act

The Paperwork Reduction Act of 1995 (44 U.S.C. 3507(d)) requires that the FAA consider the impact of paperwork and other information collection burdens imposed on the public. According to the 1995 amendments to the Paperwork Reduction Act (5 CFR 1320.8(b)(2)(vi)), an agency may not collect or sponsor the collection of information, nor may it impose an information collection requirement unless it displays a currently valid Office of Management and Budget (OMB) control number.

This final rule will impose the following information collection requirements. As required by the Paperwork Reduction Act of 1995 (44 U.S.C. 3507(d)), the FAA has submitted these information collection amendments to OMB for its review. The Office of Management and Budget has assigned OMB Control Number 2120–0739 to this collection, and upon publication of this rule, the package will be available on reginfo.gov.

Summary: This final rule revises the training requirements for pilots in air carrier operations. The regulations enhance air carrier pilot training programs by emphasizing the development of pilots' manual handling skills and adding safety-critical tasks such as recovery from stall and upset. The final rule also requires enhanced runway safety training, training on pilot monitoring to be incorporated into existing requirements for scenario-based flight training and requires air carriers to implement remedial training programs for pilots. The FAA expects these changes to contribute to a reduction in aviation accidents.

Public comments: The requirements in the final rule were proposed in a supplemental notice of proposed rulemaking, published in the **Federal Register** on January 12, 2009, vol. 74, no. 7, pages 1280–1453, and the public was encouraged to comment.

Commenters to the proposed rule noted that the provisions specifically addressing preparation, approval and contents of crewmember and dispatcher manuals would generally result in significant time and cost to revise current manuals. Commenters also noted that proposed requirements regarding collection and retention of crewmember and dispatcher records were excessive and unnecessary. Commenters further noted that paperwork required by the proposed requirements for approval and amendment of crewmember and dispatcher training programs were burdensome for both air carriers and FAA personnel. Commenters also identified programming costs related to SNPRM provisions (e.g. new training intervals, new evaluation intervals and new designations for check personnel) and claimed that while these costs would be substantial, they were not included in the agency's cost analysis. The FAA has not adopted these proposed requirements in this final rule.

The final rule contains discrete additional training and evaluation requirements (e.g. prevention and recovery from stall, prevention and recovery of upset, recovery from bounced landing and training in manual

handling skills). The FAA did not receive any comments regarding recording or recordkeeping requirements for these proposed provisions that are being adopted in the final rule.

Purpose: This project is in direct support of the Department of Transportation's Strategic Plan—Strategic Goal—SAFETY; *i.e.,* to promote the public health and safety by working toward the elimination of transportation-related deaths and injuries. This final rule also responds to Public Law 111–216, sections 208 and 209. Under Public Law 111–216, Congress directed the FAA to conduct rulemaking to ensure that all flightcrew members receive ground training and flight training in recognizing and avoiding stalls, recovering from stalls, and recognizing and avoiding upset of an aircraft, as well as the proper techniques to recover from upset. Public Law 111–216 also directed the FAA to ensure air carriers develop remedial training programs for flightcrew members who have demonstrated performance deficiencies or experienced failures in the training environment. The FAA will use the information it collects and reviews to ensure compliance and adherence to regulations and, where necessary, to take enforcement action on violators of the regulations.

Respondents (including number of): The FAA estimates there are 83 certificate holders who would be required to provide information in accordance with the final rule. The respondents to this proposed information requirement are certificate holders using the training requirements in 14 CFR part 121.

Frequency: The FAA estimates certificate holders will have a one-time information collection, then may collect or report information occasionally thereafter.

Annual Burden Estimate:

The FAA estimates the total one time paperwork costs for the final rule will be about $8.2 million.

Final Rule Requirement	FAA Assumed Costs Start To Accrue	Number of Pages			Number Of Hours	Paper Work Person	Number Of Operators
		Training Program	Training Courseware	Operating Manual			
Fraud and falsification (§ 121.9)	120 days	0	0	0	0.0	n/a	83
Personnel identified as flight attendants (§ 121.392)	120 days	0	0	1	2.0	Tech Writer	83
Proficiency checks for PICs (§ 121.441(a)(1)(ii))	5 years and 120 days	0	0	0	0.0	n/a	83
Related aircraft differences training (§§ 121.400, 121.418, 121.434, 121.439, 121.441)	120 Days	0	0	0	0.0	n/a	83
Training equipment other than FSTDs approved under part 60 (§§ 121.403(b)(2), 121.408)	5 years and 120 days	1	0	5	40.0	Tech Writer	83
Approval of FSTDs (§ 121.407)	5 years and 120 days	0	0	0	0.0	n/a	83
Pilot monitoring (§§121.409,121.544, Appendix H)	5 years and 120 days	0	20	0	40.0	Instructor	83
		1	0	0	20.0	Tech Writer	83
Remedial training (§§ 121.415(h) and § 121.415(i))	5 years and 120 days	0	20	0	48.0	Instructor	83
		1	0	0	20.0	Tech Writer	83
Communication records for domestic and flag operations (§ 121.711)	120 days	0	0	2	2.0	Tech Writer	83
Qualifications and Training for instructors and check airmen who serve in FSTDs (§§ 121.411, 121.412, 121.413, 121.414)	4 years	0	40	0	60.0	Instructor	83
		2	0	0	40.0	Tech Writer	83
Extended envelope flight training maneuvers and procedures (§§121.407(e),121.423, 121.424, 121.427(d)(1)(i), 121.433(e)), Extended envelope ground training subjects (§§ 121.419(a)(2), 121.427), Runway safety maneuvers and procedures (Appendices E and F) and Crosswind maneuvers including wind gusts (Appendices E and F).	5 years and 120 days	0	60	0	240.0	Instructor	83
		4	0	40	240.0	Tech Writer	83
Approval of Advanced Qualification Program (§ 121.909)	120 Days	0	0	0	9.6	Instructor	22
		5	0	0	40.0	Tech Writer	22
Total					**801.6**		

International Compatibility and Cooperation

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

2. Executive Order 13609, Promoting International Regulatory Cooperation, promotes international regulatory cooperation to meet shared challenges involving health, safety, labor, security, environmental, and other issues and to reduce, eliminate, or prevent unnecessary differences in regulatory requirements. The FAA has analyzed this action under the policies and agency responsibilities of Executive Order 13609, and has determined that this action would have no effect on international regulatory cooperation.

Environmental Analysis

FAA Order 1050.1E identifies FAA actions that are categorically excluded from preparation of an environmental assessment or environmental impact statement under the National Environmental Policy Act in the absence of extraordinary circumstances. The FAA has determined this rulemaking action qualifies for the categorical exclusion identified in paragraph 312f and involves no extraordinary circumstances.

V. Executive Order Determinations

A. Executive Order 12866 and 13563

See the ''Regulatory Evaluation'' discussion in the ''Regulatory Notices and Analyses'' section elsewhere in this preamble.

B. Executive Order 13132, Federalism

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

C. Executive Order 13211, Regulations That Significantly Affect Energy Supply, Distribution, or Use

The FAA analyzed this final rule under Executive Order 13211, Actions Concerning Regulations that Significantly Affect Energy Supply, Distribution, or Use (May 18, 2001). The agency has determined that it is not a ''significant energy action'' under the executive order and it is not likely to have a significant adverse effect on the supply, distribution, or use of energy.

VI. How To Obtain Additional Information

A. Rulemaking Documents

An electronic copy of a rulemaking document may be obtained by using the Internet—

1. Search the Federal eRulemaking Portal (*http://www.regulations.gov*);

2. Visit the FAA's Regulations and Policies Web page at *http://www.faa.gov/regulations_policies/* or

3. Access the Government Printing Office's Web page at *http://www.gpo.gov/fdsys/.*

Copies may also be obtained by sending a request (identified by notice, amendment, or docket number of this rulemaking) to the Federal Aviation Administration, Office of Rulemaking, ARM–1, 800 Independence Avenue SW., Washington, DC 20591, or by calling (202) 267–9680.

B. Comments Submitted to the Docket

Comments received may be viewed by going to *http://www.regulations.gov* and following the online instructions to search the docket number for this action. Anyone is able to search the electronic form of all comments received into any of the FAA's dockets by the name of the individual submitting the comment (or signing the comment, if submitted on behalf of an association, business, labor union, etc.).

C. Small Business Regulatory Enforcement Fairness Act

The Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996 requires FAA to comply with small entity requests for information or advice about compliance with statutes and regulations within its jurisdiction. A small entity with questions regarding this document, may contact its local FAA official, or the person listed under the **FOR FURTHER INFORMATION CONTACT** heading at the beginning of the preamble. To find out more about SBREFA on the Internet, visit *http://www.faa.gov/regulations_policies/rulemaking/sbre_act/.*

List of Subjects in 14 CFR Part 121

Air carriers, Aircraft, Aviation safety, Reporting and recordkeeping requirements, Safety, Transportation.

The Amendment

For the reasons set forth in the preamble, amend part 121 of title 14 of the Code of Federal Regulations as follows:

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

■ 1. The authority for part 121 is revised to read as follows:

Authority: 49 U.S.C. 106(f), 106(g), 40113, 40119, 41706, 44101, 44701–44702, 44705, 44709–44711, 44713, 44716–44717, 44722, 46105; Pub. L. 111–216, 124 Stat. 2348 (49 U.S.C. 44701 note).

■ 2. Add § 121.9 to read as follows:

§ 121.9 Fraud and falsification.

(a) No person may make, or cause to be made, any of the following:

(1) A fraudulent or intentionally false statement in any application or any amendment thereto, or in any other record or test result required by this part.

(2) A fraudulent or intentionally false statement in, or a known omission from, any record or report that is kept, made, or used to show compliance with this part, or to exercise any privileges under this chapter.

(b) The commission by any person of any act prohibited under paragraph (a) of this section is a basis for any one or any combination of the following:

(1) A civil penalty.

(2) Suspension or revocation of any certificate held by that person that was issued under this chapter.

(3) The denial of an application for any approval under this part.

(4) The removal of any approval under this part.

■ 3. Add § 121.392 to read as follows:

§ 121.392 Personnel identified as flight attendants.

(a) Any person identified by the certificate holder as a flight attendant on an aircraft in operations under this part must be trained and qualified in accordance with subparts N and O of this part. This includes:

(1) Flight attendants provided by the certificate holder in excess of the number required by § 121.391(a); and

(2) Flight attendants provided by the certificate holder when flight attendants are not required by § 121.391(a).

(b) A qualifying flight attendant who is receiving operating experience on an aircraft in operations under subpart O of this part must be identified to passengers as a qualifying flight attendant.

■ 4. Amend § 121.400 by adding paragraphs (c)(9) through (11) to read as follows:

§ 121.400 Applicability and terms used.

* * * * *

(c) * * *

(9) *Related aircraft.* Any two or more aircraft of the same make with either the same or different type certificates that have been demonstrated and determined by the Administrator to have commonality to the extent that credit between those aircraft may be applied for flightcrew member training, checking, recent experience, operating experience, operating cycles, and line operating flight time for consolidation of knowledge and skills.

(10) *Related aircraft differences training.* The flightcrew member training required for aircraft with different type certificates that have been designated as related by the Administrator.

(11) *Base aircraft.* An aircraft identified by a certificate holder for use as a reference to compare differences with another aircraft.

■ 5. Amend § 121.403 by revising paragraph (b)(2) to read as follows:

§ 121.403 Training program: Curriculum.

* * * * *

(b) * * *

(2) A list of all the training device mockups, systems trainers, procedures trainers, or other training aids that the certificate holder will use. No later than March 12, 2019, a list of all the training equipment approved under § 121.408 as well as other training aids that the certificate holder will use.

* * * * *

■ 6. Amend § 121.407 as follows:

■ A. Revise paragraph (a) introductory text;

■ B. Revise paragraphs (a)(1), (a)(1)(i), (a)(1)(iii), (a)(2), and (a)(3); and

■ C. Add paragraph (e).

The revisions and addition read as follows:

§ 121.407 Training program: Approval of airplane simulators and other training devices.

(a) Each airplane simulator and other training device used to satisfy a training requirement of this part in an approved training program, must meet all of the following requirements:

(1) Be specifically approved by the Administrator for—

(i) Use in the certificate holder's approved training program;

(ii) * * *

(iii) The particular maneuver, procedure, or flightcrew member function involved.

(2) Maintain the performance, function, and other characteristics that are required for qualification in accordance with part 60 of this chapter or a previously qualified device, as permitted in accordance with § 60.17 of this chapter.

(3) Be modified in accordance with part 60 of this chapter to conform with any modification to the airplane being simulated that results in changes to performance, function, or other characteristics required for qualification.

* * * * *

(e) An airplane simulator approved under this section must be used instead of the airplane to satisfy the pilot flight training requirements prescribed in the extended envelope training set forth in

§ 121.423 of this part. Compliance with this paragraph is required no later than March 12, 2019.

■ 7. Add § 121.408 to read as follows:

§ 121.408 Training equipment other than flight simulation training devices.

(a) The Administrator must approve training equipment used in a training program approved under this part and that functionally replicates aircraft equipment for the certificate holder and the crewmember duty or procedure. Training equipment does not include FSTDs qualified under part 60 of this chapter.

(b) The certificate holder must demonstrate that the training equipment described in paragraph (a) of this section, used to meet the training requirements of this subpart, meets all of the following:

(1) The form, fit, function, and weight, as appropriate, of the aircraft equipment.

(2) Replicates the normal operation (and abnormal and emergency operation, if appropriate) of the aircraft equipment including the following:

(i) The required force, actions and travel of the aircraft equipment.

(ii) Variations in aircraft equipment operated by the certificate holder, if applicable.

(3) Replicates the operation of the aircraft equipment under adverse conditions, if appropriate.

(c) Training equipment must be modified to ensure that it maintains the performance and function of the aircraft type or aircraft equipment replicated.

(d) All training equipment must have a record of discrepancies. The documenting system must be readily available for review by each instructor, check airman or supervisor, prior to conducting training or checking with that equipment.

(1) Each instructor, check airman or supervisor conducting training or checking, and each person conducting an inspection of the equipment who discovers a discrepancy, including any missing, malfunctioning or inoperative components, must record a description of that discrepancy and the date that the discrepancy was identified.

(2) All corrections to discrepancies must be recorded when the corrections are made. This record must include the date of the correction.

(3) A record of a discrepancy must be maintained for at least 60 days.

(e) No person may use, allow the use of, or offer the use of training equipment with a missing, malfunctioning, or inoperative component to meet the crewmember training or checking requirements of this chapter for tasks that require the use of the correctly operating component.

(f) Compliance with this section is required no later than March 12, 2019.

■ 8. Amend § 121.409 as follows:

■ A. Remove the semicolon at the end of paragraph (b)(1) and add a period in its place;

■ B. Revise paragraph (b)(2);

■ C. Remove paragraph (b)(3); and

■ D. Redesignate paragraph (b)(4) as paragraph (b)(3).

The revisions read as follows:

§ 121.409 Training courses using airplane simulators and other training devices.

* * * * *

(b) * * *

(2) Provides training in at least the following:

(i) The procedures and maneuvers set forth in appendix F to this part; or

(ii) Line-oriented flight training (LOFT) that—

(A) Before March 12, 2019,

(1) Utilizes a complete flight crew;

(2) Includes at least the maneuvers and procedures (abnormal and emergency) that may be expected in line operations; and

(3) Is representative of the flight segment appropriate to the operations being conducted by the certificate holder.

(B) Beginning on March 12, 2019—

(*1*) Utilizes a complete flight crew;

(*2*) Includes at least the maneuvers and procedures (abnormal and emergency) that may be expected in line operations;

(*3*) Includes scenario-based or maneuver-based stall prevention training before, during or after the LOFT scenario for each pilot;

(*4*) Is representative of two flight segments appropriate to the operations being conducted by the certificate holder; and

(*5*) Provides an opportunity to demonstrate workload management and pilot monitoring skills.

* * * * *

■ 9. Amend § 121.411 by revising paragraphs (b)(1) through (3) and (6) and (c)(1) through (3) to read as follows:

§ 121.411 Qualifications: Check airmen (airplane) and check airmen (simulator).

* * * * *

(b) * * *

(1) Holds the airman certificates and ratings required to serve as a pilot in command or flight engineer, as applicable, in operations under this part;

(2) Has satisfactorily completed the appropriate training phases for the airplane, including recurrent training, that are required to serve as a pilot in command or flight engineer, as applicable, in operations under this part;

(3) Has satisfactorily completed the appropriate proficiency or flight checks that are required to serve as a pilot in command or flight engineer, as applicable, in operations under this part;

* * * * *

(6) Has satisfied the recency of experience requirements of § 121.439 of this part, as applicable; and

* * * * *

(c) * * *

(1) Holds the airman certificates and ratings, except medical certificate, required to serve as a pilot in command or a flight engineer, as applicable, in operations under this part;

(2) Has satisfactorily completed the appropriate training phases for the airplane, including recurrent training, that are required to serve as a pilot in command or flight engineer, as applicable, in operations under this part;

(3) Has satisfactorily completed the appropriate proficiency or flight checks that are required to serve as a pilot in command or flight engineer, as applicable, in operations under this part;

* * * * *

■ 10. Amend § 121.412 by revising paragraphs (b)(1) through (3) and (b)(5) and (6) and (c)(1) through (3) to read as follows:

§ 121.412 Qualifications: Flight instructors (airplane) and flight instructors (simulator).

* * * * *

(b) * * *

(1) Holds the airman certificates and rating required to serve as a pilot in command or flight engineer, as applicable, in operations under this part;

(2) Has satisfactorily completed the appropriate training phases for the airplane, including recurrent training, that are required to serve as a pilot in command or flight engineer, as applicable, in operations under this part;

(3) Has satisfactorily completed the appropriate proficiency or flight checks that are required to serve as a pilot in command or flight engineer, as applicable, in operations under this part;

* * * * *

(5) Holds at least a Class III medical certificate unless serving as a required crewmember, in which case holds a Class I or a Class II medical certificate as appropriate; and

(6) Has satisfied the recency of experience requirements of § 121.439 of this part, as applicable.

* * * * *

(c) * * *

(1) Holds the airman certificates and ratings, except medical certificate, required to serve as a pilot in command or flight engineer, as applicable, in operations under this part;

(2) Has satisfactorily completed the appropriate training phases for the airplane, including recurrent training, that are required to serve as a pilot in command or flight engineer, as applicable, in operations under this part;

(3) Has satisfactorily completed the appropriate proficiency or flight checks that are required to serve as a pilot in command or flight engineer, as applicable, in operations under this part; and

* * * * *

■ 11. Amend § 121.413 as follows:

■ A. Revise the section heading;

■ B. Revise paragraphs (a)(2), (d), (e) introductory text, (e)(4), and (g) introductory text; and

■ C. Add paragraphs (c)(7), (h), and (i).

The revisions and additions read as follows:

§ 121.413 Initial, transition and recurrent training and checking requirements: Check airmen (airplane), check airmen (simulator).

(a) * * *

(2) Within the preceding 24 calendar months that person satisfactorily conducts a check or supervises operating experience under the observation of an FAA inspector or an aircrew designated examiner employed by the operator. The observation check may be accomplished in part or in full in an airplane, in a flight simulator, or in a flight training device.

* * * * *

(c) * * *

(7) For check airmen who conduct training or checking in a flight simulator or a flight training device, the following subjects specific to the device(s) for the airplane type:

(i) Proper operation of the controls and systems;

(ii) Proper operation of environmental and fault panels;

(iii) Data and motion limitations of simulation; and

(iv) The minimum airplane simulator equipment required by this part or part 60 of this chapter, for each maneuver and procedure completed in a flight simulator or a flight training device.

(d) The transition ground training for check airmen must include the following:

(1) The approved methods, procedures, and limitations for performing the required normal, abnormal, and emergency procedures applicable to the airplane to which the check airman is transitioning.

(2) For check airmen who conduct training or checking in a flight simulator or a flight training device, the following subjects specific to the device(s) for the airplane type to which the check airman is transitioning:

(i) Proper operation of the controls and systems;

(ii) Proper operation of environmental and fault panels;

(iii) Data and motion limitations of simulation; and

(iv) The minimum airplane simulator equipment required by this part or part 60 of this chapter, for each maneuver and procedure completed in a flight simulator or a flight training device.

(e) The initial and transition flight training for check airmen (airplane) must include the following:

* * * * *

(4) For flight engineer check airmen (airplane), training to ensure competence to perform assigned duties.

* * * * *

(g) The initial and transition flight training for check airmen who conduct training or checking in a flight simulator or a flight training device must include the following:

* * * * *

(h) Recurrent ground training for check airmen who conduct training or checking in a flight simulator or a flight training device must be completed every 12 calendar months and must include the subjects required in paragraph (c)(7) of this section.

(i) Compliance with paragraphs (c)(7), (d)(2), and (h) of this section is required no later than March 12, 2019.

■ 12. Amend § 121.414 as follows:

■ A. Revise the section heading;

■ B. Revise paragraphs (a)(2), (d), (e) introductory text, (e)(4), and (g) introductory text; and

■ C. Add paragraphs (c)(8), (h), and (i).

The revisions and additions read as follows:

§ 121.414 Initial, transition and recurrent training and checking requirements: flight instructors (airplane), flight instructors (simulator).

(a) * * *

(2) Within the preceding 24 calendar months, that person satisfactorily conducts instruction under the observation of an FAA inspector, an operator check airman, or an aircrew designated examiner employed by the operator. The observation check may be accomplished in part or in full in an airplane, in a flight simulator, or in a flight training device.

* * * * *

(c) * * *

(8) For flight instructors who conduct training in a flight simulator or a flight training device, the following subjects specific to the device(s) for the airplane type:

(i) Proper operation of the controls and systems;

(ii) Proper operation of environmental and fault panels;

(iii) Data and motion limitations of simulation; and

(iv) The minimum airplane simulator equipment required by this part or part 60 of this chapter, for each maneuver and procedure completed in a flight simulator or a flight training device.

(d) The transition ground training for flight instructors must include the following:

(1) The approved methods, procedures, and limitations for performing the required normal, abnormal, and emergency procedures applicable to the airplane to which the flight instructor is transitioning.

(2) For flight instructors who conduct training in a flight simulator or a flight training device, the following subjects specific to the device(s) for the airplane type to which the flight instructor is transitioning:

(i) Proper operation of the controls and systems;

(ii) Proper operation of environmental and fault panels;

(iii) Data and motion limitations of simulation; and

(iv) The minimum airplane simulator equipment required by this part or part 60 of this chapter, for each maneuver and procedure completed in a flight simulator or a flight training device.

(e) The initial and transition flight training for flight instructors (airplane) must include the following:

* * * * *

(4) For flight engineer instructors (airplane), inflight training to ensure competence to perform assigned duties.

* * * * *

(g) The initial and transition flight training for flight instructors who conduct training in a flight simulator or a flight training device must include the following:

* * * * *

(h) Recurrent flight instructor ground training for flight instructors who conduct training in a flight simulator or a flight training device must be completed every 12 calendar months and must include the subjects required in paragraph (c)(8) of this section.

(i) Compliance with paragraphs (c)(8), (d)(2), and (h) of this section is required no later than March 12, 2019.

■ 13. Amend § 121.415 as follows:
■ A. Revise section heading;
■ B. In paragraph (a)(2), remove the reference to ''§§ 121.419 through 121.422'' and add in its place ''§§ 121.419, 121.421 and 121.422'';
■ C. In paragraph (b), remove the reference to ''121.426'' and add in its place ''121.425'';
■ D. In paragraph (d), remove the reference to ''§ 121.418'' and add in its place ''§ 121.418(a)'' and remove the word ''his'' and add in its place ''their'';
■ E. In paragraph (f), remove the reference to ''§§ 121.419 through 121.425'' and add in its place ''§§ 121.419, 121.421, 121.422, 121.424, and 121.425''; and
■ F. Add paragraphs (h), (i), and (j).

The revision and additions read as follows:

§ 121.415 Crewmember and dispatcher training program requirements.

* * * * *

(h) Each training program must include a process to provide for the regular analysis of individual pilot performance to identify pilots with performance deficiencies during training and checking and multiple failures during checking.

(i) Each training program must include methods for remedial training and tracking of pilots identified in the analysis performed in accordance with paragraph (h) of this section.

(j) Compliance with paragraphs (h) and (i) of this section is required no later than March 12, 2019.

■ 14. Amend § 121.418 as follows:
■ A. Revise section heading;
■ B. Redesignate paragraphs (a) introductory text, (a)(1), (a)(2), (a)(3) and the undesignated paragraph, as paragraphs (a)(1), (a)(1)(i), (a)(1)(ii), (a)(1)(iii), and (a)(2) respectively;
■ C. Add a subject heading to paragraph (a); and
■ D. Add paragraphs (b) and (c).

The revisions and additions read as follows:

§ 121.418 Differences training and related aircraft differences training.

(a) *Differences training.*

* * * * *

(b) *Related aircraft differences training.* (1) In order to seek approval of related aircraft differences training for flightcrew members, a certificate holder must submit a request for related aircraft designation to the Administrator, and obtain approval of that request.

(2) If the Administrator determines under paragraph (b)(1) of this section that a certificate holder is operating related aircraft, the certificate holder may submit to the Administrator a request for approval of a training program that includes related aircraft differences training.

(3) A request for approval of a training program that includes related aircraft differences training must include at least the following:

(i) Each appropriate subject required for the ground training for the related aircraft.

(ii) Each appropriate maneuver or procedure required for the flight training and crewmember emergency training for the related aircraft.

(iii) The number of programmed hours of ground training, flight training and crewmember emergency training necessary based on review of the related aircraft and the duty position.

(c) *Approved related aircraft differences training.* Approved related aircraft differences training for flightcrew members may be included in initial, transition, upgrade and recurrent training for the base aircraft. If the certificate holder's approved training program includes related aircraft differences training in accordance with paragraph (b) of this section, the training required by §§ 121.419, 121.424, 121.425, and 121.427, as applicable to flightcrew members, may be modified for the related aircraft.

■ 15. Amend § 121.419 as follows:
■ A. Revise paragraph (a)(1)(ix);
■ B. In paragraph (a)(2)(x), remove ''and'' following the semi-colon;
■ C. Redesignate paragraph (a)(2)(xi) as (a)(2)(xiii); and
■ D. Add new paragraph (a)(2)(xi) and paragraphs (a)(2)(xii) and (e).

The revisions and additions read as follows:

§ 121.419 Pilots and flight engineers: Initial, transition, and upgrade ground training.

(a) * * *

(1) * * *

(ix) Other instructions as necessary to ensure pilot and flight engineer competence.

(2) * * *

(xi) For pilots, stall prevention and recovery in clean configuration, takeoff and maneuvering configuration, and landing configuration.

(xii) For pilots, upset prevention and recovery; and

(xiii) The approved Airplane Flight Manual.

* * * * *

(e) *Compliance and pilot programmed hours.* (1) Compliance with the requirements identified in paragraphs (a)(2)(xi) and (a)(2)(xii) of this section is required no later than March 12, 2019.

(2) Beginning March 12, 2019, initial programmed hours applicable to pilots as specified in paragraphs (c) and (d) of this section must include 2 additional hours.

§ 121.420 [Removed and Reserved]

■ 16. Remove and reserve § 121.420.
■ 17. Add § 121.423 to read as follows:

§ 121.423 Pilot: Extended Envelope Training.

(a) Each certificate holder must include in its approved training program, the extended envelope training set forth in this section with respect to each airplane type for each pilot. The extended envelope training required by this section must be performed in a Level C or higher full flight simulator, approved by the Administrator in accordance with § 121.407 of this part.

(b) Extended envelope training must include the following maneuvers and procedures:

(1) Manually controlled slow flight;

(2) Manually controlled loss of reliable airspeed;

(3) Manually controlled instrument departure and arrival;

(4) Upset recovery maneuvers; and

(5) Recovery from bounced landing.

(c) Extended envelope training must include instructor-guided hands on experience of recovery from full stall and stick pusher activation, if equipped.

(d) Recurrent training: Within 24 calendar months preceding service as a pilot, each person must satisfactorily complete the extended envelope training described in paragraphs (b)(1) through (4) and (c) of this section. Within 36 calendar months preceding service as a pilot, each person must satisfactorily complete the extended envelope training described in paragraph (b)(5) of this section.

(e) Deviation from use of Level C or higher full flight simulator:

(1) A certificate holder may submit a request to the Administrator for approval of a deviation from the requirements of paragraph (a) of this section to conduct the extended envelope training using an alternative method to meet the learning objectives of this section.

(2) A request for deviation from paragraph (a) of this section must include the following information:

(i) A simulator availability assessment, including hours by specific simulator and location of the simulator, and a simulator shortfall analysis that includes the training that cannot be completed in a Level C or higher full flight simulator; and

(ii) Alternative methods for achieving the learning objectives of this section.

(3) A certificate holder may request an extension of a deviation issued under this section.

(4) Deviations or extensions to deviations will be issued for a period not to exceed 12 months.

(f) Compliance with this section is required no later than March 12, 2019. For the recurrent training required in paragraph (d) of this section, each pilot qualified to serve as second in command or pilot in command in operations under this part on March 12, 2019 must complete the recurrent extended envelope training within 12 calendar months after March 12, 2019.

■ 18. Amend § 121.424 as follows:
■ A. Revise paragraph (a);
■ B. Revise paragraph (b) introductory text;
■ C. In paragraph (b)(1), remove the word ''and'' following the semi-colon;
■ D. Redesignate paragraph (b)(2) as (b)(3);
■ E. Add new paragraph (b)(2);
■ F. In paragraph (c), remove the reference to ''paragraph (a)'' and add in its place ''paragraph (a)(1);'' and
■ G. Add paragraph (e).

The revisions and additions read as follows:

§ 121.424 Pilots: Initial, transition, and upgrade flight training.

(a) Initial, transition, and upgrade training for pilots must include the following:

(1) Flight training and practice in the maneuvers and procedures set forth in the certificate holder's approved low-altitude windshear flight training program and in appendix E to this part, as applicable; and

(2) Extended envelope training set forth in § 121.423.

(b) The training required by paragraph (a) of this section must be performed inflight except—

* * * * *

(2) That the extended envelope training required by § 121.423 must be performed in a Level C or higher full flight simulator unless the Administrator has issued to the certificate holder a deviation in accordance with § 121.423(e); and

* * * * *

(e) Compliance with paragraphs (a)(2) and (b)(2) of this section is required no later than March 12, 2019.

§ 121.426 [Removed and Reserved]

■ 19. Remove and reserve § 121.426.
■ 20. Amend § 121.427 as follows:
■ A. Revise paragraph (b)(4);
■ B. Remove paragraph (c)(2);
■ C. Redesignate paragraphs (c)(3) and (4) as paragraphs (c)(2) and (3), respectively;
■ D. Revise paragraph (d)(1);
■ E. Remove paragraph (d)(3); and
■ F. Add paragraph (e).

The revisions and addition read as follows:

§ 121.427 Recurrent training.

* * * * *

(b) * * *

(4) CRM and DRM training. For flightcrew members, CRM training or portions thereof may be accomplished during an approved simulator line operational flight training (LOFT) session. The recurrent CRM or DRM training requirements do not apply until a person has completed the applicable initial CRM or DRM training required by §§ 121.419, 121.421, or 121.422.

* * * * *

(d) Recurrent flight training for flightcrew members must include at least the following:

(1) For pilots—

(i) Extended envelope training as required by § 121.423 of this part; and

(ii) Flight training in an approved simulator in maneuvers and procedures set forth in the certificate holder's approved low-altitude windshear flight training program and flight training in maneuvers and procedures set forth in appendix F to this part, or in a flight training program approved by the Administrator, except as follows—

(A) The number of programmed inflight hours is not specified; and

(B) Satisfactory completion of a proficiency check may be substituted for recurrent flight training as permitted in § 121.433(c) and (e) of this part.

* * * * *

(e) Compliance and pilot programmed hours:

(1) Compliance with the requirements identified in paragraphs (d)(1)(i) of this section is required no later than March 12, 2019.

(2) After March 12, 2019, recurrent programmed hours applicable to pilots as specified in paragraph (c)(1) of this section must include 30 additional minutes.

§ 121.432 [Amended]

■ 21. Amend § 121.432 as follows:
■ A. Remove paragraphs (b)(2) and (3);
■ B. Redesignate paragraphs (b)(4) and (5) as paragraphs (b)(2) and (3) respectively;
■ C. Remove paragraphs (c) and (d); and
■ D. Designate the undesignated paragraph as paragraph (c).

■ 22. Amend § 121.433 as follows:
■ A. Remove ''he'' and add in its place ''the person'' each time it appears in the section; and
■ B. Revise paragraphs (d) and (e).

The revisions read as follows:

§ 121.433 Training required.

* * * * *

(d) For each airplane in which a pilot serves as pilot in command, the person must satisfactorily complete either recurrent flight training or a proficiency check within the preceding 12 calendar months. The requirement in this paragraph expires on March 12, 2019. After that date, the requirement in § 121.441(a)(1)(ii) of this part applies.

(e) Notwithstanding paragraphs (c)(2) and (d) of this section, a proficiency check as provided in § 121.441 of this part may not be substituted for the extended envelope training required by § 121.423 or training in those maneuvers and procedures set forth in a certificate holder's approved low-altitude windshear flight training program when that program is included in a recurrent flight training course as required by § 121.409(d) of this part.

■ 23. Amend § 121.434 as follows:
■ A. Add paragraph (a)(4); and,
■ B. In paragraph (b)(1), remove ''he'' and add in its place ''the person'';
■ C. Remove the last sentence of paragraph (f); and
■ D. Revise paragraph (i).

The addition and revision read as follows:

§ 121.434 Operating experience, operating cycles, and consolidation of knowledge and skills.

(a) * * *

(4) Deviation based upon designation of related aircraft in accordance with § 121.418(b).

(i) The Administrator may authorize a deviation from the operating experience, operating cycles, and line operating flight time for consolidation of knowledge and skills required by this section based upon a designation of related aircraft in accordance with § 121.418(b) of this part and a determination that the certificate holder can demonstrate an equivalent level of safety.

(ii) A request for deviation from the operating experience, operating cycles, and line operating flight time for consolidation of knowledge and skills required by this section based upon a designation of related aircraft must be submitted to the Administrator. The request must include the following:

(A) Identification of aircraft operated by the certificate holder designated as related aircraft.

(B) Hours of operating experience and number of operating cycles necessary based on review of the related aircraft, the operation, and the duty position.

(C) Consolidation hours necessary based on review of the related aircraft, the operation, and the duty position.

(iii) The administrator may, at any time, terminate a grant of deviation authority issued under this paragraph (a)(4).

* * * * *

(i) Notwithstanding the reductions in programmed hours permitted under §§ 121.405 and 121.409 of subpart N of this part, the hours of operating experience for crewmembers are not subject to reduction other than as provided in accordance with a deviation authorized under paragraph (a) of this section or as provided in paragraphs (e) and (f) of this section.

§ 121.435 [Removed and Reserved]

■ 24. Remove and reserve § 121.435.

■ 25. Amend § 121.439 by adding paragraph (f) to read as follows:

§ 121.439 Pilot qualification: Recent experience.

* * * * *

(f) Deviation authority based upon designation of related aircraft in accordance with § 121.418(b).

(1) The Administrator may authorize a deviation from the requirements of paragraph (a) of this section based upon a designation of related aircraft in accordance with § 121.418(b) of this part and a determination that the certificate holder can demonstrate an equivalent level of safety.

(2) A request for deviation from paragraph (a) of this section must be submitted to the Administrator. The request must include the following:

(i) Identification of aircraft operated by the certificate holder designated as related aircraft.

(ii) The number of takeoffs, landings, maneuvers, and procedures necessary to maintain or reestablish recency based on review of the related aircraft, the operation, and the duty position.

(3) The administrator may, at any time, terminate a grant of deviation authority issued under this paragraph (f).

■ 26. Amend § 121.441 by revising paragraph (a)(1) and adding paragraph (f) to read as follows:

§ 121.441 Proficiency checks.

(a) * * *

(1) For a pilot in command—

(i) Before March 12, 2019,

(A) A proficiency check within the preceding 12 calendar months and,

(B) In addition, within the preceding 6 calendar months, either a proficiency check or the approved simulator course of training.

(ii) Beginning on March 12, 2019,

(A) A proficiency check within the preceding 12 calendar months in the aircraft type in which the person is to serve and,

(B) In addition, within the preceding 6 calendar months, either a proficiency check or the approved simulator course of training.

* * * * *

(f) Deviation authority based upon designation of related aircraft in accordance with § 121.418(b) of this part.

(1) The Administrator may authorize a deviation from the proficiency check requirements of paragraphs (a) and (b)(1) of this section based upon a designation of related aircraft in accordance with § 121.418(b) of this part and a determination that the certificate holder can demonstrate an equivalent level of safety.

(2) A request for deviation from paragraphs (a) and (b)(1) of this section must be submitted to the Administrator. The request must include the following:

(i) Identification of aircraft operated by the certificate holder designated as related aircraft.

(ii) For recurrent proficiency checks, the frequency of the related aircraft proficiency check and the maneuvers and procedures to be included in the related aircraft proficiency check based on review of the related aircraft, the operation, and the duty position.

(iii) For qualification proficiency checks, the maneuvers and procedures to be included in the related aircraft proficiency check based on review of the related aircraft, the operation, and the duty position.

(3) The administrator may, at any time, terminate a grant of deviation authority issued under this paragraph (f).

■ 27. Add § 121.544 to read as follows:

§ 121.544 Pilot monitoring.

Each pilot who is seated at the pilot controls of the aircraft, while not flying the aircraft, must accomplish pilot monitoring duties as appropriate in accordance with the certificate holder's procedures contained in the manual required by § 121.133 of this part. Compliance with this section is required no later than March 12, 2019.

■ 28. Revise § 121.711 to read as follows:

§ 121.711 Communication records: Domestic and flag operations.

(a) Each certificate holder conducting domestic or flag operations must record each en route communication between the certificate holder and its pilots using a communication system as required by § 121.99 of this part.

(b) For purposes of this section the term en route means from the time the aircraft pushes back from the departing gate until the time the aircraft reaches the arrival gate at its destination.

(c) The record required in paragraph (a) of this section must contain at least the following information:

(1) The date and time of the contact;

(2) The flight number;

(3) Aircraft registration number;

(4) Approximate position of the aircraft during the contact;

(5) Call sign; and

(6) Narrative of the contact.

(d) The record required in paragraph (a) of this section must be kept for at least 30 days.

■ 29. Amend appendix E:

■ A. By revising the first paragraph;

■ B. In the Table entitled ''Flight Training Requirements'':

■ i. Redesignate entry I(c) as I(c)(1) and revise text of I(c)(1);

■ ii. Add new entry I(c)(2);

■ iii. Redesignate entry I(d) as I(d)(1) and revise text of (I)(d)(1);

■ iv. Add new entry I(d)(2);

■ v. Redesignate entry II(c) as II(c)(1);

■ vi. Add new entry II(c)(2);

■ vii. In entry III(e) replace the word ''runway'' with ''runaway'';

■ viii. Revise entry III(i);

■ ix. Redesignate entry IV(d) as IV(d)(1); and

■ x. Add new entry IV(d)(2).

The revisions and additions read as follows:

Appendix E to Part 121—Flight Training Requirements.

The maneuvers and procedures required by § 121.424 of this part for pilot initial, transition, and upgrade flight training are set forth in the certificate holder's approved low-altitude windshear flight training program, § 121.423 extended envelope training, and in this appendix. All required maneuvers and procedures must be performed inflight except that windshear and extended envelope training maneuvers and procedures must be performed in an airplane simulator in which the maneuvers and procedures are specifically authorized to be accomplished. Certain other maneuvers and procedures may be performed in an airplane simulator with a visual system (visual simulator), an airplane simulator without a visual system (nonvisual simulator), a training device, or a static airplane as indicated by the appropriate symbol in the respective column opposite the maneuver or procedure.

Maneuvers/Procedures	Initial Training					Transition Training					Upgrade Training				
	Airplane		Simulator			Airplane		Simulator			Airplane		Simulator		
	Inflight	Static	Visual simulator	Non-visual simulator	Training device	Inflight	Static	Visual simulator	Non-visual simulator	Training device	Inflight	Static	Visual simulator	Non-visual simulator	Training device
* * * * * * *															
I Preflight—															
* * * * * * *															
(c)(1) Before March 12, 2019, taxiing, sailing, and docking procedures in compliance with instructions issued by the appropriate Traffic Control Authority or by the person conducting the training.	B					AT					BU				
(c)(2) Taxiing. Beginning on March 12, 2019, this maneuver includes the following: (i) Taxiing, sailing, and docking procedures in compliance with instructions issued by the appropriate Traffic Control Authority or by the person conducting the training. (ii) Use of airport diagram (surface movement chart). (iii) Obtaining appropriate clearance before crossing or entering active runways. (iv) Observation of all surface movement guidance control markings and lighting.	B					AT					BU				

(d)(1) Before March 12, 2019, pre-takeoff checks that include power-plant checks.				B					AT					BU	
(d)(2) Beginning March 12, 2019, pre-takeoff procedures that include power-plant checks, receipt of takeoff clearance and confirmation of aircraft location, and FMS entry (if appropriate), for departure runway prior to crossing hold short line for takeoff.			B					AT						BU		
II Takeoffs—																
* * * * * * *																
(c)(2) Beginning March 12, 2019, crosswind takeoffs including crosswind takeoffs with gusts if practicable under the existing meteorological, airport, and traffic conditions.	B					AT					BU					
* * * * * * *																
III. Flight Maneuvers and Procedures																
* * * * * * *																

(i) Stall Prevention. For the purpose of this training the approved recovery procedure must be initiated at the first indication of an impending stall (buffet, stick shaker, aural warning). Stall prevention training must be conducted in at least the following configurations: (1) Takeoff configuration (except where the airplane uses only a zero-flap takeoff configuration). (2) Clean configuration. (3) Landing configuration. * * *				B					AT					BU	
* * * * * * *															
IV Landings and Approaches to Landings—															
* * * * * * *															
(d)(2) Beginning March 12, 2019, crosswind landing, including crosswind landings with gusts if practicable under the existing meteorological, airport, and traffic conditions.	B					AT					BU				
* * * * * * *															

■ 30. In appendix F, amend the entries in the Table as follows:

■ A. Remove the reference in entry I(b) to § 121.424(d)(2) and add in its place a reference to § 121.424(d)(1)(ii);

■ B. Redesignate entry I(c) as I(c)(1) and revise it;

■ C. Add entry I(c)(2);

■ D. Redesignate entry I(d) as I(d)(1) and hyphenate the words power-plant in I(d)(1);

■ E. Add entry I(d)(2);

■ F. Redesignate entry II(c) as II(c)(1) and revise it;

■ G. Add entry II(c)(2);

■ H. Amend entry III(c)(4) by removing the second sentence;

■ I. Revise entry IV(b) and the first floating paragraph that follows;

■ J. Amend entry V introductory text by removing the last sentence in the first paragraph;

■ K. Redesignate entry V(c) as V(c)(1); and

■ L. Add entry V(c)(2).

The revisions and additions read as follows:

Maneuvers/procedures	Required		Permitted			
	Simulated instrument conditions	Inflight	Visual simulator	Nonvisual simulator	Training device	Waiver provisions of § 121.441(d)
* * *		*	*		*	*
I Preflight—						
* * *		*	*		*	*
(c)(1) Taxiing. Before March 12, 2019, this maneuver includes taxiing (in the case of a second in command proficiency check to the extent practical from the second in command crew position), sailing, or docking procedures in compliance with instructions issued by the appropriate traffic control authority or by the person conducting the checks		B				
(c)(2) Taxiing. Beginning March 12, 2019, this maneuver includes the following: (i) Taxiing (in the case of a second in command proficiency check to the extent practical from the second in command crew position), sailing, or docking procedures in compliance with instructions issued by the appropriate traffic control authority or by the person conducting the checks. (ii) Use of airport diagram (surface movement chart). (iii) Obtaining appropriate clearance before crossing or entering active runways. (iv) Observation of all surface movement guidance control markings and lighting		B				
* * *		*	*		*	*
(d)(2) Beginning March 12, 2019, pre-takeoff procedures that include power-plant checks, receipt of takeoff clearance and confirmation of aircraft location, and FMS entry (if appropriate), for departure runway prior to crossing hold short line for takeoff			B			
II Takeoff—						
* * *		*	*		*	*
(c)(1) Crosswind. Before March 12, 2019, one crosswind takeoff, if practicable, under the existing meteorological, airport, and traffic conditions		B*				
(c)(2) Beginning March 12, 2019, one crosswind takeoff with gusts, if practicable, under the existing meteorological, airport, and traffic conditions		B*				
* * *		*	*		*	*
IV. Inflight Maneuvers						
* * *		*	*		*	*
(b) Stall Prevention. For the purpose of this maneuver the approved recovery procedure must be initiated at the first indication of an impending stall (buffet, stick shaker, aural warning). Except as provided below there must be at least three stall prevention recoveries as follows:	B			B		B*
(1) One in the takeoff configuration (except where the airplane uses only a zero-flap takeoff configuration).						
(2) One in a clean configuration.						
(3) One in a landing configuration.						
At the discretion of the person conducting the check, one stall prevention recovery must be performed in one of the above configurations while in a turn with the bank angle between 15° and 30°. Two out of the three stall prevention recoveries required by this paragraph may be waived * * *.						
* * *		*	*		*	*
V Landings and Approaches to Landings—						

Maneuvers/procedures	Required		Permitted			
	Simulated instrument conditions	Inflight	Visual simulator	Nonvisual simulator	Training device	Waiver provisions of § 121.441(d)
Notwithstanding the authorizations for combining and waiving maneuvers and for the use of a simulator, at least two actual landings (one to a full stop) must be made for all pilot-in-command and initial second-in-command proficiency checks.						
Landings and approaches to landings must include the types listed below, but more than one type may be combined where appropriate.						
* * *		*	*		*	*
(c)(2) Beginning March 12, 2019, crosswind landing with gusts, if practical under existing meteorological, airport, and traffic conditions	.....	B *	.....	.....	.....	.....
* * *		*	*		*	*

■ 31. Amend appendix H by adding a sentence to the end of paragraph (6) in the section titled Advanced Simulation Training Program; and add paragraph (5) to the section titled Level C Training and Checking Permitted to read as follows:

Appendix H to Part 121—Advanced Simulation

* * * * *

Advanced Simulation Training Program

* * * * *

6. * * * After March 12, 2019, the LOFT must provide an opportunity for the pilot to demonstrate workload management and pilot monitoring skills.

* * * * *

Level C

Training and Checking Permitted

* * * * *

5. For all pilots, the extended envelope training required by § 121.423 of this part.

Issued in Washington, DC, under the authority provided by 49 U.S.C. 106(f), 44701(a) and Secs. 208 and 209 of Public Law 111–216, 124 Stat. 2348 (49 U.S.C. 44701 note), on November 5, 2013.

Michael P. Huerta,

Administrator.

[FR Doc. 2013–26845 Filed 11–6–13; 4:15 pm]

BILLING CODE 4910–13–P