

extensive relief than previously granted. UAL believes that its experience with advanced simulation, as well as the FAA's own experience, more than adequately justifies expanding the scope of flightcrew training and checking in a Level C simulator. In support of its request, UAL points out that: (1) The same training curricula and pilot proficiency standards would apply to a Level C or Level D simulator; (2) these curricula can be implemented and proficiency demonstrated effectively in a Level C simulator; and (3) daily local FAA oversight of training and checking programs will assure that these curricula and standards remain sufficient.

UAL further believes that its request would be in the public interest since it is universally acknowledged that simulator training is superior to training in an actual aircraft and the public is served best when high quality training is conducted in the safest and most cost-effective manner.

The FAA agrees with much of UAL's rationale in its petition; however, after consideration of the supportive information, the FAA believes that UAL is not alone or unique in its request. Therefore, the FAA has determined that the appropriate response to the UAL petition for exemption is to propose a change to the existing regulations.

Discussion of the Proposal

Authorizing Additional Training and Checking in a Level C Simulator

All simulators duplicate or simulate the functions of an airplane to varying levels of accuracy. The FAA requires that, for each higher level of simulator, the simulator duplicate the performance of the airplane over larger and more critical portions of the airplane's operating envelope. This performance must be shown by documented evidence. Level D simulators must provide the highest level of flight realism. They must perform as the airplane performs over the largest portion of the airplane's operating envelope, while providing the most complete and technically accurate environment possible. Evidence of this performance must include certain sophisticated aerodynamic modeling that allows more complete replication of the performance of the airplane.

Level C simulators are designed to operate over the same portion of the airplane's operating envelope as Level D simulators, and do so under a relatively sophisticated performance verification process. Level C simulators, however, are not required to have sophisticated aerodynamic modeling factors. Nor do

they undergo the degree of performance verification that Level D simulators do. However, based on 13 years of experience using Level C simulators and on the rigorous qualification process and performance standards required for Level C simulators, the FAA has determined that they may now be used for initial qualification and upgrade training and checking for SIC. Because of performance differences between Level C and Level D simulators, however, the pilots qualified using Level C simulators should meet certain prerequisite levels of experience. They should also be required to have supervised post qualification operational experience.

Prior Aeronautical Experience

In Appendix H to part 121, the FAA proposes to add a new paragraph to the section entitled "Level C, Training and Checking Permitted." It would permit SIC applicants to obtain initial and upgrade training and certification checks in Level C simulators if certain preconditions are met. The rule would require that the applicant meet the prior aeronautical experience requirements for an ATP certificate and airplane rating under § 61.155, before beginning training in a Level C simulator and before being checked under § 61.157 in a Level C simulator for an ATP certificate or rating.

In addition, these SIC initial and upgrade applicants must fulfill special operational experience requirements under proposed new provisions in § 121.434(c)(2). Under proposed § 121.434(c)(2)(ii), the SIC would have to obtain line operations experience at the SIC duty position, supervised by a check pilot. These pilots will not have the option, available to other pilots under § 121.434(c)(2)(i), to fulfill operating experience requirements by simply observing another pilot perform SIC duties. In addition, as part of this initial operating experience, these pilots would have to perform a minimum of four takeoffs and four landings also under the supervision of a check pilot.

The proposed amendment to § 121.434(f) would not allow pilots trained in a Level C simulator to substitute takeoffs or landings for required operating experience. The proposed rule would continue to allow other SIC pilots to reduce by 50 percent the hours of required operating experience by the substitution of one additional takeoff and landing for each hour of flight.

Revising Appendix H to authorize expanded use of Level C simulators for additional training and checking would provide an equivalent or higher level of

safety. Additionally, by not doing this training and checking in flight in the actual aircraft, these authorized programs would provide benefits in safety, energy conservation, and efficiency.

Modifying Employment Requirement

The FAA is proposing to remove the requirement in Appendix H (in paragraph 3 of the section entitled "Advanced Simulation Training Program") that each instructor and check airman have been employed for at least 1 year by the certificate holder applying for approval of the program. The FAA's intention, in originally requiring a minimum period of 1-year of employment with the operator, was to ensure suitable experience levels for individuals selected to be instructors and check airmen. The most sophisticated simulator can be of little value without an experienced, well-trained instructor or check airman to operate it. However, the agency has concluded that this goal can be achieved by 1 year of experience serving as an instructor or check airman with any part 121 operator. The FAA believes that this amount of instructor experience, in addition to the training prerequisites for these individuals in Appendix H, is an adequate level of preparation for an instructor or check airman in a Level C simulator. Modifying the employment requirement in this way will not decrease safety. However, it should be noted that, instructors and check airmen may participate in more than one operator's approved training program; each operator must provide training for each instructor and check airman in its training program. Thus, an instructor or check airman who instructs for more than one operator must receive training in each operator's program.

Similarly, the FAA is proposing to revise the section entitled "Phase II, Training and Checking Permitted" in Appendix H to provide that pilots seeking to upgrade to pilot in command (PIC) do not have to have obtained the prerequisite SIC experience "with the operator," nor have served or be serving as SIC "with that operator." Again, the FAA believes that the level of experience required by an approved training program, in addition to the training prerequisites for these individuals in Appendix H and elsewhere under the Federal Aviation Regulations, establishes an adequate level of preparation regardless of employment with any specific operator.