

A Little History on AQP



*Sam Tomanio (CLT)
Training Committee*

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In 1975, The Federal Aviation Administration began to examine two issues in the Code of Federal Regulations, Part 121, Pilot Training and Checking. The first issue involved the hardware requirement for simulation. The second interrelated issue involved the redesign of pilot training programs to: effectively deal with the increasingly complex human factors issues; and, increase the training value derived from the use of advanced simulation. The FAA developed The Advanced Simulation Plan, delineated in CFR Part 121, appendix H. Along with the implementation of The Advanced Simulation Plan, the FAA continued to pursue other approaches that would redesign training programs to utilize the benefits of advanced simulation. In this way, training could deal with many complex human factors issues, and hopefully decrease the number of human factors related accidents and incidents.

On August 27, 1987, at a meeting held in Kansas City, Federal Aviation Administrator T. Allan McArtor addressed the Chief Pilots and high level executives of many air carriers. The purpose of the meeting was to discuss the human factor issues implicated in the increase of airline accidents and decrease in flight crew performance. As a result of this meeting, a Joint Government Industry Task Force on flight crew performance was created. The task force was comprised of representatives from major air carriers and air carrier associations, flight crewmember associations, commuter air carriers and regional airline associations, and government associations. On June 8, 1988, the recommendations of this Joint Task Force were presented to the FAA Administrator. The recommendations included:

- a. Require all Indoctrination, Qualification, and Continuing Qualification training to be accomplished through a certificate holder's training program.
- b. Provide for approval of Indoctrination, Qualification, and Continuing Qualification training programs based on course content and training aids, rather than using specific programmed hours.
- c. Require Crew Resource Management Training, and encourage greater use of Line Oriented Flight Training.
- d. Establish a National Air Carrier Training Program office, which provides training program oversight at the national level.
- e. Provide for a Special Federal Aviation Regulation (SFAR) and Advisory Circular to permit development of innovative training programs (FAA,1990b).

In response to the recommendations from the Joint Task Force and the National Transportation Safety Board, the FAA, on October 2, 1990, published Special Federal Aviation Regulation 58 (SFAR 58) to initiate The Advanced Qualification Program. The FAA also published Advisory Circular (AC 120-54) on AQP. This AC describes an acceptable method by which the provisions of the SFAR can be achieved. With the development of the Advanced Qualification Program concept, air carrier training could begin to utilize the advances in simulator technology, computer automation, and Crew Resource Management (CRM).

Over 60 percent of the accidents in the airline industry are attributed to human error. All air carrier training programs seek to decrease

the rate of human factors related accidents by providing effective training that will take individual and crew performance to a point above current performance standards. Developing innovative training and qualification programs that incorporate the most recent advances in training methods and techniques can accomplish this goal. AQP is considered the current paradigm for such training in the air carrier industry.

The Advanced Qualification Program is a flexible training, qualification, and evaluation program that permits each individual operator to design its program based on the specific needs and requirements of that operator. The single most distinguishing feature of AQP is proficiency based training, referred to as the "train to proficiency" concept.

Developing and implementing an Advanced Qualification Program provides an air carrier with an alternate method of training, evaluating, certifying, and otherwise ensuring the competency of flight crewmembers, flight attendants, aircraft dispatchers, instructors, evaluators, and other operations personnel. Previously, the primary method for such training was based on the evaluation requirements of FAR Parts 121 and 135.

Instructional Systems Development (ISD) is the major methodology used in the AQP development process. The ISD process is a systems approach to training that has been used in most large organizations since the 1970s. The ISD process requires a task analysis of all course material to eliminate unnecessary course content. Task analysis is the method or procedure used to reduce a unit of work to its base components. The ISD process includes the identification and integration of cognitive and technical skills into the development of AQP training modules.

The goal of an air carrier's AQP is to develop and implement proficiency based qualification and training. This systematically developed proficiency base must be empirically validated, and then maintained. AQP encourages innovation in the methods and technology that are used during instruction and evaluation. It also stresses efficient management of training systems. The FAA's intent in developing and using SFAR 58 is to achieve the highest possible standards of individual and crew performance, without undue increases in the cost to maintain training resources.

The Advanced Qualification Program mandates the incorporation of Crew Resource Man-

agement, along with total crew training and evaluation. AQP is proficiency-based training that employs innovative training and qualification concepts. Often AQP will build upon an existing FAR 121 or 135 training program.

The transition from a traditional training program into the Advanced Qualification Program has five phases.

- **Phase I: Initial Application**
- **Phase II: Curriculum Development**
- **Phase III: Training System Implementation**
- **Phase IV: Initial Operations**
- **Phase V: Continuing Operations**

The goal of the Initial Application Phase is to document in some detail the airlines' intent to develop an Advanced Qualification Program. The Application Cover Letter describes the airline's intent, how the program will be developed, and how it will be administered and maintained.

Phase II is the most complicated step in the process. Qualification under the AQP program will be based on individual and crew performance, expressed as Terminal Proficiency Objectives (TPO). Each task will be developed with the skill, knowledge, attitude, and ability characteristics that clearly define and completely describe the maneuver. The airline determines through the task analysis what the proficiency objectives will be, and how they will be taught.

During Phase III, Training System Implementation, detailed lesson plans are finalized, and the airline goes through a dry run of the program.

In Phase IV, Initial Operations, the airline implements the first full training cycle of all AQP curriculums (which was the focus of this specific study). This includes Indoctrination, Qualification, and Continuing Qualification for pilots, flight attendants, instructors, and evaluators. A full cycle will require 26 months to complete.

During the final phase of AQP, Continuing Operations, the airline continues to operate. This phase requires continuation of the AQP Maintenance Plan, as well as continued documentation of the data requirements for all curricula.

AQP Implementation

Once an airline receives approval of their AQP program from the FAA, it becomes the

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training standard for that airline. When the AQP is approved and operational, the program is empirically validated using performance data generated by the carriers’ Proficiency Evaluators during the Line Operational Simulation (LOS). The performance data must be submitted monthly to the FAA for evaluation. The data collection serves to validate AQP concepts and provide a means to improve the program.

AQP’s primary benefit for the airline industry is the potential for reduction of human factors based accidents. With the train to proficiency concept, and the emphasis on crew training and CRM integration, the objective of AQP is to provide effective training and evaluation that will enhance professional qualifications to a level above the present standards contained in FAR parts 121 and 135.

Training under AQP can promote safer operations, review and enforce CRM principles, influence attitudes towards CRM, and modify certain behaviors through feedback and exposure to CRM.

Next month, I will talk about how US Airways pilots can better prepare for their training under AQP. I will also offer some tips on CRM and Situational Awareness.

In closing, I want to remind all of you that the Training Committee is here to help you with any questions or problems you may have during your training experience. You can find us all in the gray pages of *US AIRWAVES*. Please call us before a small issue becomes a big one.

Fly safe!

