The View from Washington

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The Paperwork of the Repair Station Training Program

After meeting with hundreds of affected repair stations regarding the new training program requirements, I have to say nothing concerns them more than the additional administrative burden of this new requirement.

For AEA member shops, the training itself isn't all that concerning. Between the training provided by the Association at the regional meetings, AEA's annual convention, AEA's CD web-based training, and the training provided by our training partners, there are hundreds of hours of quality training available to AEA member's shops at an affordable cost at convenient times throughout the year.

But what is concerning is the establishment of the training program itself and the paperwork it will take to maintain that program.

This month, as we continue our journey through this new requirement, we will look at the training program requirements backwards by starting with the records we will need to keep and building a compliant program from that.

First, some basics:

From AC 145-10:

1. The employee training program approved by the FAA must include initial and recurrent training requirements.

2. The training program must ensure each employee assigned to a maintenance (including inspection), preventive maintenance, and alteration task is capable of performing the work.

From HBAW 05-03:

The purpose of the training program is for the repair station:

1. To comply with the regulatory requirements of § 145.163;

2. To provide the training necessary for employees to perform their job functions safely, and correctly; and

3. To familiarize employees with the repair stations manual, quality systems and procedures.

As most agree, the purpose of the training program is simple, direct and logical. The depth of the required training program is limited to the five elements above. Additional training is fine, but the basic training program should meet these five elements.

It is also important to note that a repair station's training sources, training methods, curriculum, training courses, etc. is not subject to FAA approval.

The FAA Principal Inspector only determines that the elements of a repair station training program are met, which ensures the repair station trains to meet its capabilities and customer specific requirements. (HBAW 05-03)

This is the reason why the AEA has provided the members with the basic training program manual. Do not submit your company procedures manual! It contains much more depth than the rule, AC or FAA Order requires. If you choose to submit an extensive company training procedure manual, once submitted and approved, you are bound to each step of your procedures manual.

So, let's take a look at the "end product" that is, the training records. What information does the repair station need to collect?

In Flight Standards Handbook Bulletin for Airworthiness (HBAW) 05-03 Section 11 (c) (8) titled: Training Documenting, the FAA states that:

"(a) The repair station must document, in a format acceptable to the FAA, the individual employee training records set forth in the manual approved by the FAA under Part 145, §145.163(a). The capability of each employee depends on training, knowledge and experience. Consequently, the determination by the repair station that an employee is able to perform the maintenance, preventive maintenance or alteration assignment requires an analysis of the factors that contribute to the employee's capability. The data to accomplish this analysis should be found in the employee's training records if the principles of this chapter are followed when the training program is developed.

(b) The repair station may retain its training records electronically or in hard copy. In either case, the repair station should standardize the format and content for the training records based on individual job assignments. However, each employee's records should contain at least:

i. The employee's name and job position;

ii Training requirements as determined by the needs assessment, including requirements for indoctrination, initial, and other training required by areas and course titles;

iii. FAA certificates applicable to the qualifications (i.e., supervisors, RII personnel and persons approving articles for return to service must be certificated under 14 CFR Part 65) excluding those repair station personnel located outside the United States and its territories (see paragraph 13 of this section);

iv. Other certifications, diplomas and degrees;

v. Authorizations and qualifications (if not covered by 14 CFR Part 65 certificates);

vi. Proof of training course completion, if determined applicable to capabilities; and

vii. List of accomplished training, to include enough information to determine whether it is applicable to the employee's capability to perform assigned tasks:

Course title or description

Course objective

Date completed

Test results

Total hours of training

Location of training

Name of instructor and/or instructor qualifications

Signature of employee

viii. Other documentation relevant to determining capability to perform tasks associated with assigned duties, such as past employment, written, oral and practical tests results, etc.

(c) All records that are required by the training program to determine whether an employee is capable of performing assigned tasks as well as those that document training conducted by the repair station should be considered those required by Part 145, § 145.163(a). Therefore, these records should be detailed in the training program and retained for a minimum of two years. The repair station is encouraged to have procedures to regularly review all training records to ensure they comply with the requirements set forth in the training program manual."

So let's begin our analysis by looking at paragraph (c). "All records that are required by the training program to determine whether an employee is capable of performing assigned tasks as well as those that document training conducted by the repair station should be considered those required by Part 145, §145.163(a)."

Therefore to show compliance with 14 CFR 145.163, that is, to determine that the repair station employees are capable of performing the work, and can perform their job functions safely, and correctly, the Principal Inspector will utilize your training records.

The requirement that "an employee is capable of performing their assigned task" is not new. That basic requirement has existed in Part 65 for years. 14 CFR 65.81, General Privileges and Limitations states that a certificated mechanic may perform the maintenance, preventive maintenance or alteration of an aircraft or appliance, or a part thereof, for which he is rated.

Section 65.81 continues by stating that the certificated mechanic may not supervise the maintenance, preventive maintenance, or alteration of, or approve and return to service, any aircraft or appliance, or part thereof, for which he is rated unless he has satisfactorily performed the work concerned at an earlier date. And that if the mechanic has not so performed that work at an earlier date, he may show his ability to do it by performing it to the satisfaction of the Administrator or under the direct supervision of a certificated and appropriately rated mechanic, or a certificated repairman, who has had previous experience in the specific operation concerned.

So, if the basic qualification requirements were in Part 65 all along, why the new requirements in Part 145? Simply put, since the inception of Part 65, Subpart D in 1962, the aircraft maintenance industry has complied with the requirements of Section 65.81 using the honor system. In today's repair station world of air carrier maintenance, complex systems, and modern technology, and the new FAA's philosophy of Quality Assurance of the repair station processes, the honor system of old just doesn't measure up.

Getting back to the training records, let's review the first two elements of paragraph (b); the other six elements are

pretty much self explanatory.

The two areas the rest of this article will focus on are:

i. The employee's name and job position; and,

ii. Training requirements as determined by the needs assessment, including requirements for indoctrination, initial and other training required by areas and course titles;

These two requirements are mutually inclusive; you cannot perform the training needs assessment required of paragraph ii unless you have the job position required of paragraph i.

For most AEA members shops the challenge is not the maintenance of the training program, but rather the initial set up.

The first step here is to define job positions. Every person in your repair station is assigned a position, either formally or informally.

And for every job position, there should be a job description; and for every job description there should be a skills and experience qualifications defined.

In the avionics repair stations, the skills and experience qualifications will overlap many job descriptions. In addition, many job positions will share similar (if not identical) job descriptions.

To perform a training needs assessment you must perform a gap analysis between the job and the individual assigned to that job. But you only have to perform this analysis when an employee is initially assigned the job or when something in the job changes such as new test equipment or a change in the maintenance manuals.

You have half of what is needed for the gap analysis: the job position skills and experience qualifications. Now you need the employee's skills, experience and training.

Remember the honor system is dead, so you will need documented evidence of skills, experience and training. The

most logical method of capturing skills and experience information is via a technician's maintenance logbook.

Since the requirements of Section 65.81 have not changed, any documentation of previous experience (prior to the implementation of your approved training program) will meet the requirements for performing a gap analysis. That is, if the technician is qualified to work on a particular system today, by documenting their experience, they will be qualified to work on that system after you implement your training program.

Add to the technician's maintenance logbook a file of all of the training they have accomplished and you have the employee's skills, experience and training qualifications.

Now you can perform the gap analysis: compare the requirements of the job (the skills and experience qualifications) to the employee's skills, experience, and training and see if it is a match. If it is, then the employee is capable of performing the assigned task. If not, then determine what training is needed before they can be assigned that task. The training may be nothing more than simple OJT and supervision, or it may be formal in-classroom training. The repair station makes that determination.

To keep from having to do daily training needs assessments, I recommend documenting the qualifications of each technician so that for every task, those technicians who are qualified to perform that task is readily identified. When a new assessment is made, add that technician to the qualified tasks list.

For repair stations with little turnover, the maintenance of the training program should be minimal. The key to minimizing the initial organization of the training program and the initial qualifications of the repair station work force is to aggressively document as much skills, experience and training before you implement your training program.

Remember, any gap between the job's qualifications and the employee's skills, experience and training must be filled with documented training once your training program has been approved. ❑

Regulatory Update

United States

Enhanced Airworthiness Program for Airplane Systems/Fuel Tank Safety (EAPAS/FTS)

The Federal Aviation Administration (FAA) has published an extensive proposal titled "Enhanced Airworthiness Program for Airplane Systems/Fuel Tank Safety (EAPAS/FTS)" that affects wiring systems in Part 25 aircraft.

The intent of this proposal is to help ensure the continued safety of commercial airplanes by improving the design, installation, and maintenance of their electrical wiring systems as well as by aligning those requirements as closely as possible with the requirements for fuel tank system safety.

This proposed rulemaking consists of regulatory changes affecting wiring systems and fuel tank systems in transport category airplanes. First, it proposes to organize and clarify design requirements for wire systems by moving existing regulatory references to wiring into a single section of the regulations specifically for wiring and adding new certification rules. It also proposes to require holders of type certificates for certain transport category airplanes to conduct analyses of their airplanes and make necessary changes to existing Instructions for Continued Airworthiness (ICA) to improve maintenance procedures for wire systems.

It would require operators to incorporate those ICAs for wiring into their maintenance or inspection programs. And finally, this proposed rulemaking would clarify requirements of certain existing rules for operators to incorporate ICAs for fuel tank systems into their maintenance or inspection programs.

In addition to the regulatory change, the FAA also proposes these 12 Advisory Circulars on wiring, wiring system safety and training.

1. Proposed Advisory Circular 120-YY, "Aircraft Electrical Wiring Interconnection Systems Training Program"

2. Proposed Advisory Circular 25-XX, Subpart I, "Continued Airworthiness and Safety Improvements"

3. Proposed Advisory Circular 25.1357-1X, "Circuit Protective Devices"

4. Proposed Advisory Circular 25.899-1, "Electrical Bonding and Protection against Static Electricity"

5. Proposed Advisory Circular 25.1365-1X, "Electrical Appliances, Motors, and Transformers"

6. Proposed Advisory Circular 25.1353-1, "Electrical Equipment and Installations"

7. Proposed Advisory Circular 25.1362-1X, "Electrical Supplies for Emergency Conditions"

8. Proposed Advisory Circular 25.869-1, "Fire Protection Systems"

9. Proposed Advisory Circular 25.1360-1X, "Protection Against Injury"

10. Proposed Advisory Circular 25-YY, "Development of Standard Wiring Practices Documentation"

11. Proposed Advisory Circular 25.17XX, "Certification of Electrical Wiring Interconnection Systems on Transport Category Airplanes"

12. Proposed Advisory Circular 120-XX, "Program to Enhance Transport Category Airplane Electrical Wiring Interconnect System Maintenance"

Comments on the proposed rule and ACs must be submitted before February 3, 2006.

Mode S Transponder Requirements in the National Airspace System

In the October 7, 2005, Federal Register the FAA announced their policy concerning current exemptions from the Mode S transponder equipment requirements under Title 14 of the Code of Federal Regulations Sec. 121.345(c) and 135.143(c). Additionally, this notice of policy seeks comments from persons currently holding an exemption from the above regulations on a proposed date for which they must comply with the equipment requirements.

The FAA proposes that effective March 1, 2007, if a transponder needs to be permanently replaced it must be replaced with a Mode S transponder. This does not mean that effective March 1, 2007, operators are required to install Mode S transponders. If they have an operable and appropriate Mode C or Mode A transponder in the aircraft, operators are not required to install a Mode S transponder.

The current regulation only requires the replacement of a Mode A or C transponder with Mode S when the existing transponder can no longer be repaired.

In addition, the FAA notes that if an operator was issued an exemption before March 1, 2007, allowing them to install a Mode C transponder on their aircraft, they may use that transponder until it no longer can be repaired and must be replaced with a Mode S. Therefore, if an operator holds an exemption, any Mode A or C transponder that is installed on or before March 1, 2007, may remain in their aircraft and may continue to be repaired after March 1, 2007. When that Mode A or C transponder can no longer be repaired, it must be replaced with a Mode S transponder.

After March 1, 2007, an operator will not receive an exemption to allow the installation of a Mode A or C transponder to replace a Mode A or C transponder that cannot be repaired.

Final Rule: Establishment of Organization Designation Authorization Program

In the October 13, 2005 Federal Register, the FAA published an amendment to the regulations establishing the Organization Designation Authorization (ODA) Program. The ODA Program expands the scope of approved tasks available to organizational designees; increases the number of organizations eligible for organizational designee authorizations; and establishes a more comprehensive, systems-based approach to managing designated organizations. This final rule also sets phase out dates for the current organizational designee programs, the participants in which will be transitioned into the ODA program.

The FAA is adopting the ODA program as a means to provide more effective certification services to its customers. This final rule adopts the regulatory basis of the ODA program.

Companion FAA orders, similar to the draft Order made available for review, will describe the specifics of the program and provide guidance for FAA personnel and for organizations to which we grant an ODA. These orders will also provide information to FAA personnel on how to qualify, appoint and oversee organizations in the ODA program.

As aviation industry needs continue to expand at a rate exceeding that of FAA resources, the need for the ODA program has become more apparent. According to a 1993 report by the General Accounting Office (GAO/RCED-93-155), the FAA's certification work has increased five-fold over the last 50 years. The ODA program is a consolidation and improvement of the piecemeal organizational delegations that have developed on an "as needed" basis over the last half century.

As the FAA's dependence on designees has increased, so has the need to oversee designated organizations using a single, flexible set of procedures and a systems approach to management. Using their experience with both individual and organizational designees, they have designed the ODA program with these criteria in mind.

This rule provides that existing Designated Alteration Station (DAS), Delegation Option Authorization (DOA) and Special Federal Aviation Regulation 36 (SFAR 36) authorization programs will be phased out over three years beginning November 14, 2006. Additionally, Organizational Designated Airworthiness Representatives (ODARs) will no longer be appointed under Part 183 Subpart A, and will have to apply for an ODA within the three-year phase out period. The FAA's priority during the phase out period will be the transition of existing organizations to ODA.

As noted in the NPRM, the FAA expects that a significant number of indi-

Frequently Asked Questions

The following information is from AC 20-109A -
SERVICE DIFFICULTY PROGRAM (GENERAL AVIATION.

TOPIC:

Improper Avionics Installations

QUESTION: Who should I report improper avionics installations to?

ANSWER: I routinely receive questions about avionics being installed by non-qualified individuals. If an avionics shop is aware of an improper installation, they should take it seriously and not just repair the installation and ignore the source. It is important that we take improper installations seriously as a compromise to safety.

Therefore, reporting an improper installation is simple; (1) document your findings; (2) notify your local FAA Airworthiness Safety Inspector of your findings; and, (3) submit a Service Difficulty Report.

The Service Difficulty Program is an information system designed to provide assistance to aircraft owners, operators, maintenance organizations, manufacturers, and the Federal Aviation Administration (FAA) in identifying aircraft problems encountered during service.

The Service Difficulty Program provides for the collection, organization, analysis, and dissemination of aircraft service information to improve service reliability of aeronautical products.

The primary sources of this information are the aircraft maintenance facilities, owners, and operators. General aviation aircraft service difficulty information is normally submitted to the FAA by use of FAA Form 8010-4. However, information will be accepted in any form or format when FAA Form 8010-4 is not readily available for use.

The Service Difficulty Report is the FAA's primary source of identifying systemic problems in the maintenance area. Since improper installation and maintenance of avionics systems is not routinely reported, from the FAA's perspective, there is no history of a problem. It is the responsibility of the government-certified repair station to alert the FAA when an incident happens.

Note: AEA offers these Frequently Asked Questions (FAQs) in order to foster greater understanding of the Federal Aviation Regulations and the rules that govern our industry. AEA strives to make them as accurate as possible at the time they are written, but rules change so you should verify any information you receive from an AEA FAQ before you rely on it. AEA DISCLAIMS ANY WARRANTY FOR THE ACCURACY OF THE INFORMATION PROVIDED. This information is NOT meant to serve as legal advice – if you have particular legal questions, then these should be directed to an attorney.

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vidual designees who work for larger organizations will become members of an ODA Unit and give up their individual designee status. The FAA may allow an ODA Unit staff member to remain a designee provided that there is a sufficient amount of designee work outside of his ODA activity to warrant continuation of the designee authority. The FAA applies this same philosophy to existing designees that are staff members for DAS, DOA, or SFAR 36 organizations.

The FAA notes that they do not expect that the ODA program will significantly reduce the number of consultant DERs, and the need for consultant DERs will remain dependent on their level of activity.

Further information on these regulatory issues can be found on AEA's website: www.aea.net

Canada

Applicability of Safety Management Systems Regulations to AMOs

Transport Canada Civil Aviation (TCCA) has implemented regulations for the establishment of Safety Management Systems in certain AMOs. These regulations apply specifically to only those AMOs holding "aircraft" ratings issued under CAR 573.02 and defined in STD 573.02. CAR Subpart 7 "Safety Management Systems Requirements," Section 107.01 states that the Subpart only applies to the holder of an approved AMO certificate issued under 573.02 authorizing the holder to perform maintenance on an aircraft operated under Subpart 5 of Part VII (i.e. 705 airline operations). An exemption was published by TCCA on June 13, 2005 allowing AMOs affected by the SMS regulations to incorporate a phased-in implementation of the SMS requirements through to September 30, 2008.

It should be noted that the "Aircraft" rating authorizes the performance of work, other than specialized maintenance, on aircraft. Other AMO categories are issued to authorize the performance of specialized maintenance. AMOs holding specialized maintenance ratings, e.g., "Avionics" or "Instrument" ratings as defined in STD 573.02 are not required to implement a SMS at this time. NPAs for the adoption of SMS into all AMOs are still under review at CARAC.

Additional Guidance for Reciprocal Acceptance of Repair Design Approvals Between the FAA and TCCA

TCCA has published Issue No. 02 of Staff Instruction 513-002. This issue reflects the issuance of FAA Order 8110.53, which describes the FAA's procedures for the implementation of the Repair Design Approval Memorandum of Understanding.

Issue No. 02 of SI 513-002 may be viewed at: http://www.tc.gc. ca/CivilAviation/certification/guidance/513/513-002.htm

TCCA Issues Policy on Wire Flammability

In lieu of the previously planned Advisory Circular on Wire Flammability, TCCA has published a "FAQ" on their Aircraft Certification website. The FAQ policy states that: "MIL 22759 wiring as identified in FAA AC 43.13-1B is acceptable for installation on aircraft where compliance with FAR/AWM sections 23/523.1359, 25/525.869, 27/527.1365 and 29/529.1359 is required."

The FAQ may be viewed at:

http://www.tc.gc.ca/CivilAviation/ certification/engineering/avionics/ FAQ/Wiring/faq1.htm

Europe

EASA

Opinion 5/2005 on the amendment of Commission Regulation EC1702/2003 and 2042/2003 was issued on September 6, 2005. The Opinion proposes an amendment of the regulations to postpone the benefit of the unlimited duration approval system for two years.

Opinion 6/2005 on the amendment of Commission Regulation EC 2042/2003 was issued on October 7, 2005. The Opinion contains proposals to correct several errors and incon-

sistencies in the regulation issued in September 2003. The Opinion is to suggest the European Commission to amend Annexes I to IV of the mentioned regulation.

JAA

NPA 26-14 Final Draft: Various Occupant Survivability requirements, was issued. The NPA is adopted and will be included in the regulation during the next update.

JAR 26 Amendment 2 was released.

EUROCAE/RTCA

A Final Draft version of the VDL Mode 4 MOPS document ED-108A of EUROCAE is available on their website at http://www.eurocae.org/.

A Final Draft version of ED-88A MOPS for Multi Mode Airborne Receiver (MMR) is also available on the EUROCAE website. ❏