



The View from Washington

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The Association works on a number of different issues at any given time. Sometimes it's something as time consuming as the Part 145 rewrite, or the EASA transition to bring individual country-specific aviation regulations into a standardized European-wide set of aviation regulations. And sometimes it's as simple as answering a few questions from your customers about air operations in foreign countries.

Aviation is, and has been, a global industry almost since its inception, but the distance that general aviation and business aviation aircraft fly today seems to be putting a new face on this global industry.

At the end of 2003, many of your customers were faced with the FAA's mandate to equip turbine powered aircraft with ELTs. The FAA encouraged the use of 406 MHz ELTs but they didn't mandate it. Because of the shortage of ELTs by year's end and the somewhat higher initial cost of the 406 MHz ELT, a significant number of turbine operators elected to install the cheaper 121.5/243 MHz alternative.

Now, enter the global marketplace.

FAA standards are only applicable for flight within the United States territorial airspace. If your customer is flying internationally, they are bound by: 1) the airspace operating rules of the country they are flying over, and 2) in order to get there, the trans-oceanic requirements of the International Civil Aviation Organization (ICAO).

This month, I'll highlight two of the more common international organizations your customers come in contact with: ICAO for international flight and

EUROCONTROL for flights throughout Europe.

With its roots dating back to shortly after the Wright Brother's first flight, the first international air laws were established in 1910 at a Paris aviation conference organized by the French and attended by 18 European States. The next major step towards establishing international aviation standards came immediately after World War I with the creation of the International Commission for Air Navigation (ICAN). ICAN was established to monitor developments in civil aviation and to propose measures to keep individual countries abreast of developments in civil aviation.

ICAN stood as the international commission that was charged with the oversight of international aviation rules and regulations until 1944, when 55 individual authorities attended the International Civil Aviation Conference in Chicago. The result of the Chicago Conference was the establishment of the Provisional International Civil Aviation Organization to be followed in April of 1947, with the permanent International Civil Aviation Organization (ICAO).

The library of ICAO contains the basic international standards for the design, certification and operations of aircraft and the qualifications of individual aviation professionals. Most individual country aviation standards conform to the basic international standards. While the Federal Aviation Regulations have some slight deviations from ICAO, generally, they, too, follow the ICAO standards.

One area where the U.S. standard differs slightly is in the avionics required for flight operations. These standards are catalogued in a three-part ICAO Annex 6 which addresses flight preparation and in-flight procedures; performance operating limitations; airplane instruments and equipment; airplane communication and navigation equipment; airplane maintenance; flight crew; lights to be displayed in the air and for ground operations; flight recorders; and the carriage and use of oxygen.

Annex 6, Part 1 is the standards for air operations for international commercial air transport for airplanes; Part 2 specifically addresses the operation criteria for international general aviation airplanes; and, Part 3 includes the operating rules for helicopters.

One requirement where ICAO and the FARs differ slightly is the requirement for ELTs. Last January when the FAA mandated the installation of ELTs in turbojet powered aircraft they encouraged the use of 406 MHz ELTs, but they didn't mandate it. As of January 2005, ICAO mandates the use of 406 MHz ELTs.

More information on the International Civil Aviation Organization can be found on their website at: www.ICAO.org.

Eurocontrol is the European Organization for the Safety of Air Navigation. Their primary responsibility is to develop a seamless, pan-European Air Traffic Management system. While the FAA is faced with the challenge of adjusting the air traffic system in the United States as commercial air transportation continues to

grow, Eurocontrol is tasked with balancing the forecast growth in air traffic with a high level of safety, reducing costs and respecting the environment.

Eurocontrol develops, coordinates and plans for the implementation of European air traffic management strategies and their associated action plans. They do this through a collaborative effort that brings together the individual national authorities, air navigation service providers, airspace users, and other members of the aviation community.

To help understand how Eurocontrol operates, I posed the following question: "At what altitude does Eurocontrol manage the airspace?" And as an example, "In a small aircraft flying in Europe, when is the airspace managed by the individual country and when is it managed

by Eurocontrol?"

They responded with the following: "Eurocontrol manages from its only control center based at Maastricht (The Netherlands) the upper airspace of Belgium, Luxemburg, the Netherlands and part of Germany (north) above FL 245, all the rest of European airspace is managed by individual states."

As an outcrop of managing airspace, the operating equipment requirements of Air Traffic Management are brought together under the umbrella of Eurocontrol. The criteria for RVSM, communication equipment (8.33 kHz channel spacing), area navigation (B-NAV), and surveillance equipment for flight in most controlled airspace is published by Eurocontrol.

Specific avionics requirements for

flight in European airspace can be found at Eurocontrol's website at: <http://www.eurocontrol.int/eatmp/avionics/>.

Unfortunately, for flight in Europe it's not as simple as just complying with Eurocontrol. While this is fine for IFR flight at the higher altitudes flight at lower altitudes, may require your customer to comply with the individual country's Air Traffic Management equipment requirements.

To assist you in helping your customers prepare for flight in Europe, AEA's Government Affairs team has an expert on European regulations on staff. Feel free to e-mail your questions to ricp@aea.net and I will forward your questions to our team members.

Regulatory Update

United States

Advisory Circular 25.1353-1, Electrical Equipment and Installations

The FAA has announced the availability of two revised Advisory Circulars (AC) which affect Transport Category aircraft wiring installations. Both AC address wiring that is incidental to the basic installation.

AC 25.1353-1 provides methods acceptable to the Administrator for showing compliance with the revised airworthiness standards for electrical equipment and installation on transport category airplanes. The guidance provided in the AC supplements the engineering and operational judgment that must form the basis of any compliance findings relative to electrical installation and nickel cadmium installation to minimize the hazards to an airplane.

AC 25.869-1 provides methods acceptable to the Administrator for showing compliance with revised airworthiness standards for fire protection of electrical system components on transport category airplanes. The guidance provided in the AC supplements the engineering and operational judgment that must form the basis of any compliance findings relative to electrical system fire and smoke protection to minimize the hazards to an airplane.

The AC can be downloaded from the Internet at the link titled <http://www.airweb.faa.gov/rgl>. Click on "Advisory Circular;" then click on "by number;" then "next" and scroll down to the appropriate AC.

A paper copy may be obtained by contacting Stephen Slotte, Airplane and Flightcrew Interface Branch ANM-111, Transport Airplane Directorate, Aircraft Certification

Service, FAA, 1601 Lind Avenue SW., Renton,

Washington 98055-4056.

Canada

Transport Canada amends proposed regulations for equipage of TAWS.

At the CARAC Technical Committee Part VI meeting of December 9-10, 2003, the committee decided to accept NPA 2003-302 for installation of TAWS on certain aeroplanes operated under CAR 605 (general aviation operations). Previously, TCCA had withdrawn the proposal for equipage of aeroplanes operated under CAR 604 with TAWS. TAWS will now only be required on certain aeroplanes operated under CARs 605, 703, 704 and 705.

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Transport Canada amends proposed regulations for equipage of ACAS.

At the CARAC Technical Committee Part VI meeting of December 9-10, 2003, the committee decided to withdraw NPA 2003-301 for installation of ACAS on certain aeroplanes operated under CAR 605 (general aviation operations).

Previously, TCCA had withdrawn the proposal for equipage of aeroplanes operated under CAR 604 with ACAS. ACAS will now only be required on aeroplanes operated under CARs 702, 703, 704 and 705.

NavCanada confirms implementation of RVSM in Southern Domestic Airspace.

NavCanada has confirmed that Southern Domestic RVSM

(SDRVSM) implementation will occur on January 20, 2005, concurrent with the implementation of DRVSM in United States Domestic airspace and Mexican Domestic airspace (MRVSM). SDRVSM will expand RVSM airspace from the current area of 57 degrees N latitude to the North Pole, to the complete Southern Domestic Airspace from FL290 to FL 410 inclusive. This expansion will

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Frequently Asked Questions

TOPIC: Repair Station maintenance of air carrier aircraft.

The following question and answer is extracted from the FAA's Flight Standards Service, Aircraft Maintenance Division (AFS-300) Policy, Information, and Guidance page.

QUESTION:

Must a repair station comply with 14 CFR sections 145.59(a) and 145.61 when working on an air carrier's aircraft even if the air carrier's CAMP does not require inspections for certain items?

ANSWER:

No, it does not.

Analysis: Through a plain language reading of the regulations and other related information, it is clear that 14 CFR section 145.2 (section 145.205 in the revised part 145) compels a part 145 repair station to comply with selected sections of subpart L of part 121 as well as the air carrier maintenance program and manual when accomplishing any maintenance, preventive maintenance, or alterations on air carrier airplanes. Further, through sections 145.2 and 121.379(a) or 135.437(a), 14 CFR sections 121.379(a) and 135.437(a) an air carrier may authorize a certificated repair station, a non-certificated entity, or a certificated mechanic to accomplish maintenance, preventive maintenance, or alterations on its airplane as long as it is accomplished in accordance with the air carrier's manual and air carrier maintenance program.

Through these regulations, a certificated repair station is compelled to use the procedural, recordkeeping, performance and approval for return-to-service standards of part 121 or 135 and an air carrier's maintenance manual instead of the provisions of section 145.59(a), 145.61, and 145.45(f) (sections 145.213 and 145.221 in the revised part 145) as well as the rest of part 145 and the repair station's inspection procedures manual.

14 CFR sections 145.59(a) and 145.59(b) (sections 145.157 and 145.213 in the revised part 145) are consistent with sections 43.3(e) and 43.7(c) respectively. Along with section 145.57 (sections 145.109 and 145.201 in the revised part 145), these regulations document the certificated repair station's requirement to accomplish all work on non-air carrier airplanes in accordance with the procedural, recordkeeping, performance and approval for return-to-service standards of part 43 and part 145.

Moreover, there are two types of maintenance records described in 14 CFR part 43.

14 CFR section 145.61 (section 145.219 in the revised part 145) is consistent with the maintenance record requirements of section 43.9(a), while section

43.9(b) is consistent with the air carrier maintenance record requirements of sections 121.369(c) and 121.380(a)(1) and (c)(1). A certificated repair station is required to make and retain section 43.9(a) maintenance records, not the section 43.9(b) records. The responsibility for retaining section 43.9(a) maintenance records is the certificated repair station's under section 145.61. A certificated air carrier, a certificated repair station working under section 145.2, or any air carrier maintenance provider, is required to generate the section 43.9(b) maintenance records in accordance with the requirements of part 121 or 135 and the air carrier's manual and program. The responsibility for retaining these section 43.9(b) air carrier maintenance records in accordance with the maintenance record retention requirements of sections 121.380(c) or 135.439(b) is the air carrier's, not the repair station's. However, if a part 145 repair station desires to retain air carrier maintenance records generated by its work on an air carrier airplane, there are no regulations that would preclude them from doing so.

14 CFR section 121.379(b) and 135.437(b) enable the air carrier to approve for return to service any airplane,

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result in RVSM being applied throughout the Canadian Domestic Airspace.

The Canadian, U.S. and Mexican RVSM programs, when concurrently implemented, will see all North American airspace from FL 290 to FL 410 as exclusionary RVSM airspace, i.e. all aircraft operating within these FLs must be equipped and approved for RVSM operations.

Full details may be seen on the Service Projects—RVSM menu item on the NavCanada website at: www.navcanada.com

A summary of TCCA's upcoming TAWS and ACAS regulations and applicable RVSM guidance materials may be seen at the AEA Canada link under "Government & Industry Affairs" at AEA's Resource One website: www.aea.net/R1

Safety Management Symposium Proceedings

The 17th Annual FAA/CAA/Transport Canada Safety Management in Aviation Maintenance Symposium was held September 2003. This symposium, hosted by Transport Canada, looked at the safety management system approach and provided participants with the required tools to address organizational failures in

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airframe, airplane engine, propeller or appliance after maintenance, preventive maintenance, and alterations that are performed under the provisions of section 121.379(a) or 135.437(a). These sections, as well as sections 121.709 and 135.443, do not enable any person, other than an air carrier, to approve an air carrier airplane for return to service.

14 CFR sections 121.709(b)(3) and 135.443(b)(3) outline personnel requirements for making a log entry or issuing an air carrier airworthiness release under parts 121 or 135. These regulations require a repairman, or certificated airframe and powerplant mechanic that is authorized by the air carrier to make a log entry or issue an airworthiness release for the air carrier. These regulations do not contain provisions for a certificated repair station to make an air carrier log entry or airworthiness release under sections 121.709 or 135.443.

14 CFR section 43.7 outlines requirements for making an approval for return to service under part 145. Section 145.51(b) [section 145.201(a)(3) in the revised part 145] contains the specific provision. This section does not contain a provision enabling a certificated repair station to make an air carrier log entry or airworthiness release under either section 121.709 or section 135.443.

Moreover, consistent with this discus-

sion, the inspection function of an air carrier is considered to be regulated to a higher standard than that afforded under part 43 or part 145. Under an air carrier manual and maintenance program these higher standards are systemic and are collectively contained in the management personnel requirements of section 119.65, the manual requirements of sections 121.135, 121.369, 135.23 and 135.427, the maintenance authority provisions of sections 121.379 and 135.437, the maintenance organization requirements of sections 121.365(a) and 135.423, the competent personnel requirements of sections 121.105, 121.123, 121.367(b) and 135.425(b), the training requirements of sections 121.375 and 135.433, the certificate requirements of sections 121.378, 121.709, 135.435 and 135.433, the quality assurance function of sections 121.373(a) and 135.431, and the record keeping system requirements of sections 43.9(b), 121.369(c) and 121.380.

When an air carrier uses a contract maintenance provider, including a certificated repair station, to provide all or part of its airplane maintenance, that maintenance provider's organization, whatever its size, becomes, in effect, an extension of the air carrier's maintenance organization. However, the air carrier remains responsible for all of the maintenance performed by that maintenance provider. The air carrier must direct or supervise all work, and since all work must be performed in accordance with the air carrier manual and

maintenance program, the air carrier must also provide the maintenance provider with appropriate material from the maintenance manual for that work.

The policy and procedures segment of the air carrier's manual should accommodate maintenance providers through assignment of duties, responsibilities and authorities, and delineation of procedures to administer, control and direct contracted work. The FAA expects the air carrier to determine the maintenance provider's personnel competence, the adequacy of equipment and facilities, and the capability to do the work before the work commences.

The FAA also expects the air carrier, through 14 CFR sections 121.373 and 135.431, to monitor all of its maintenance providers, including certificated repair stations, to ensure compliance with its Continuous Airworthiness Maintenance Program as well as the procedural, recordkeeping, performance, and approval for return-to-service standards of part 121 or 135, as appropriate.

Additional information on air carrier maintenance providers may be found in Chapter 8 of Advisory Circular 120-16D, Air Carrier Maintenance Programs, and HBAW 96-05C, Authorization To Make Arrangements With Other Organizations To Perform Substantial Maintenance, found in FAA Order 8300.10, Airworthiness Inspector's Handbook, Appendix 3.

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order to remain successful. Proceedings of the Symposium are now available on CD. Please contact Krissi MacDonald, symposium coordinator, for a copy of the Symposium Proceedings, TP14191B, at (613) 952-4375 or at macdonk@tc.gc.ca

Europe

EUROCONTROL: Precision Area Navigation (P-RNAV)

Over the past few years, an increasing number of RNAV Terminal Airspace procedures have been introduced at various locations across the ECAC States. These procedures have largely been designed and implemented on an individual national basis, and it has been identified, above all for flight safety reasons, that it is necessary to reduce the variety to the extent practicable.

Although an ECAC wide mandate for the carriage of P-RNAV is not foreseen, in line with ECAC some European States have started to progressively introduce P-RNAV and will implement P-RNAV procedures as early as November 2004 in their major terminal airspace and in April 2005 for non-major terminal airspaces.

Conventional Terminal area procedures will continue to be provided. However, Basic-RNAV (B-RNAV) will be limited to RNAV procedures above MSA that are designed according to en route principles.

Commercial aircraft operators will need to comply with JAA TGL10 and be approved under the terms of their AOC for such operations. General aviation operators will need to satisfy TGL10 and be authorized for such operations in airspace where required by the relevant AIP.

This requires aircraft conformance

to a track-keeping accuracy of RNP 1 ($\pm 1\text{NM}$) for at least 95 percent of flight time, together with advanced functionality, high integrity navigation databases (EUROCAE ED-76/RTCA DO-200A). P-RNAV capability can be achieved using inputs from DME/DME or GNSS and/or INS.

(E,J)TSO-C129a satisfies the positioning accuracy requirement and no further evidence or demonstration is required. However, the equipment standard by itself is not sufficient to show compliance with other criteria of TGL10, such as required functions (TGL 10 Table 7.1) and integration with flight deck displays. Similarly, compliance with the other standards contributes to the evidence, but this must be supplemented by a review of the system against the criteria of TGL10.

For further information on individual issued AICs or on the whole issue, consult the AEA European Avionics Equipment Requirement Document on the Resource One side of the AEA website under "Government and Industry Affairs."

EUROCAE (European Organisation for Civil Aviation Equipment)

Working Group 13 (WG-13) "Navigation Performance" has completed and published ED-75B "MASPS Required Navigation Performance for Area Navigation," jointly with RTCA SC-181.

This document contains requirements for navigation systems operating in an RNP environment. It provides guidance for the development of airspace and operational procedures. It supersedes ED-75A. The principal change is RNP RNAV less than 0.3 NM for possible precision approach operations. □