



INTERNATIONAL NEWS AND REGULATORY UPDATES

FROM R I C P E R I
VICE PRESIDENT OF GOVERNMENT & INDUSTRY AFFAIRS FOR AEA

The Aircraft Electronics Association's international membership continues to grow. Currently, the AEA represents avionics businesses in more than 35 countries throughout the world. To better serve the needs of the AEA's international membership, the "International News and Regulatory Updates" section of Avionics News offers a greater focus on international regulatory activity, international industry news, and an international "Frequently Asked Questions" column to help promote standardization. If you have comments about this section, send e-mails to avionicsnews@aea.net.

Why Canada Members Should Attend the AEA Convention

BY JOHN CARR
CANADIAN REGULATORY CONSULTANT FOR AEA

So, you're the owner, manager, avionics technician or AME of a Canadian aviation maintenance organization and you've just endured a long, harsh Canadian winter — and economic times are harsh as well. You might be experiencing a downturn in business and reading all of the negative economic fore-

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casts from the "Dr. Dooms" of this world.

So, why on earth should you pony up your precious Canuck bucks to attend the upcoming AEA international convention? Well, it just might be one of the best investments you can

make in tough times like these.

Just think about it for a moment or two. You might operate in a relatively isolated region of the country where opportunities to meet fellow industry professionals are extremely limited. If you operate in or near a major Canadian city, you might meet fellow industry members within your local area from time to time. In both cases, when will you have the opportunity to talk face-to-face with avionics manufacturers from around the world or see their new products? What business opportunities might be unrealized because you are not aware of the latest product developments?

Let's not forget, knowledge means business, and business should mean profits. Knowledge can exist in many forms: best practices, technical knowledge, product awareness, or knowledge of the latest airworthiness standards and policies applicable to your business.

Think about some of the ways you can improve your knowledge and business by attending the 52nd annual AEA International Convention & Trade Show from April 1-4, in Dallas, Texas.

First, as a Canadian businessperson, you can meet many other Canadians engaged in your line of business at the AEA convention. The convention is truly international in scope and attendance, and the number of Canadians in attendance will be second only to Americans. There is no better opportunity to network with your Canadian counterparts than at this event.

You will have four full days of training, meetings and presentations, plus the exhibit hall, where you can discuss common issues with your peers, either in formal meetings or informally on the trade show floor or over a beverage or two. Your AEA staff will be on hand to assist you in meeting fellow Canadians.

Training is essential to a successful business, and you can take advantage of various training sessions during the convention. There are sessions presented by AEA staff and consultants on regulatory, commercial and legal matters. In addition, several avionics manufacturers present many technical sessions to assist your staff in understanding the capabilities of the latest equipment and the installation aspects. And take a look at the FastTrak sessions planned during the AEA convention where you will learn how to improve the efficiency of your business.

Your staff will obtain AEA accreditation for these training sessions to support the training requirements of the regulatory authorities.

In today's global economy, the AEA membership is affected by international agreements. Therefore, leadership from four important regulatory authorities — the United States, Europe, Canada and Mexico — have been invited to the AEA Regulatory Leadership Panel. The panel also will focus on installation of next-generation avionics systems and how the AEA and the FAA can partner to improve the instability of NextGen technologies. This will impact business in Canada as these technologies are adopted worldwide.

During the AEA convention's regulatory forums, you will have the benefit of hearing from the FAA on its latest avionics rulemaking initiatives — as Transport Canada

adopts most FAA rulemaking, you can apply this knowledge to your business.

Then, you can attend the AEA Canada Regulatory Round Table with Barry Aylward, vice chairman of the AEA board of directors and Canadian business owner, and the AEA staff, who will discuss commercial and regulatory issues that might be affecting your business and the business of others in Canada. Transport Canada staff also will be in attendance and provide valuable input. Any questions unable to be answered during this meeting will be researched by AEA staff and answers provided to members.

Product awareness is a valuable business tool, and you need to offer your customers the "latest and greatest" if they are looking for an avionics upgrade or modification. During the AEA convention, avionics manufacturers and service providers will make many new product announcements. You also will have

the opportunity to view these new products and discuss their technical attributes with knowledgeable staff inside the AEA Exhibit Hall. You can compare products, meet distributors, and perhaps take advantage of this venue to discuss Canadian dealership arrangements for your business.

There simply is no better opportunity to further your knowledge of the advances in avionics technologies than during this annual event.

Can you afford not to be at the AEA convention? The geography and demographics of Canada make it extremely difficult to stay up-to-date regarding all that is new in the avionics industry, unless you are able to address these at one time, in one place. The annual AEA International Convention & Trade Show is that time and place.

To register for the convention or for more information, visit www.aea.net/convention.

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Avionics Excellence Awaits

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UNITED STATES News & Regulatory Updates

FAA Publishes Guidelines for Design Approval of Data-Link Systems

Advisory Circular 20-140A, "Guidelines for Design Approval of Aircraft Data-Link Communications Systems," provides an acceptable means of compliance for type-design approval of aircraft with a data-link system installed.

The guidance in this advisory circular would be used to gain approval for type certificates and supplemental type certificates involving aircraft data-link systems. It will facilitate standardization of these approvals among the aircraft certification offices in their assessment of aircraft data-link systems for design approval.

This AC was developed in consideration of the International Civil Aviation Organization's annexes and guidance material, RTCA documents and European Organization for Civil Aviation Equipment documents. It is based on published safety and performance standards and interoperability standards for aircraft data-link systems in different types of operating environments.

A copy of the draft AC can be found at www.faa.gov/aircraft/draft_docs/media/Draft-AC-20-140A-12Jan-PubCom.doc. Comments regarding the AC are due by March 18, and can be e-mailed to: moin.abulhosn@faa.gov.

FAA Developing New TSO for Un-Augmented GPS

The FAA's Avionics Systems Branch of the Aircraft Engineering Division is in the process of developing a new technical standard order for L1 C/A code un-augmented GPS.

DO-316 is available for final comment and review through the RTCA. This standard is based on DO-229D, minus the SBAS requirements for new GPS equipment not augmented by ground or space-based systems. This standard and future TSOs will replace DO-208/TSO-C129a.

Comments were due Feb. 6; however, if you are impacted by this proposal and have important information that should be considered, e-mail your comments to kevin.bridges@faa.gov.

Guidance Covers Approval for Night Vision Imaging Systems

In December 2008, the FAA issued Change 42 to FAA Order 8900.1, which contained Volume 4, Chapter 7, "Rotorcraft Authorizations and Limitations," Section 4, "Night Vision Imaging Systems."

The information outlined will be used by principal operations inspectors, principal maintenance inspectors and principal avionics inspectors when evaluating Title 14 of the Code of Federal Regulations, Part 135 operator's request for use of night vision goggles (NVG).

The following guidance covers night vision imaging systems (NVIS) approval:

- RTCA has developed and published the MOPS for NVGs in RTCA/DO-275. The technical standard order, TSO-C164 for NVIS, was published Sept. 30, 2004.
- The approval for NVIS installation can only be accomplished through the type certificate, amended type certificate or supplemental type certification process.
- The FAA must determine an appliance can perform its intended function after installation and its operation does not adversely affect the operation of the aircraft and its installed equipment.
- Flight deck lighting changes to support NVG use, or any approvals related to NVGs, must comply with Volume 4,

Chapter 9, Section 1, "Perform Field Approvals of Major Repairs and Major Alterations," Figures 4-66 through 4-68.

This policy can be found at <http://fsims.faa.gov/PICDetail.aspx?docId=D4047AB6D7E82C8586257443005DE327>.

FREQUENTLY ASKED QUESTIONS

United States

Changed Products Rule

The following information is from the Federal Aviation Regulations.

QUESTION:

My principal maintenance inspector says every alteration must comply with FAR 21.101. As such, he never allows me to use the original certification basis of the aircraft for alterations. This is contrary to what Ric Peri taught in the alterations class. What is the requirement?

ANSWER:

This question really asks two questions: What is a type design, and what is a change to the type design?

- What is a type design?

The type design is the engineering definition of a particular product, and it includes the drawings, specifications, dimensions, materials, processes, airworthiness limitations and any other data used to describe the product's design or to determine the airworthiness, noise characteristics, fuel venting or exhaust emissions (where applicable).

- What is a change to the type design?

Any change to a product that is different from the original drawings, specifications, dimensions, materials,

processes, airworthiness limitations or other data used to describe the product design or used to determine the airworthiness, noise characteristics, fuel venting or exhaust emissions of the product.

CANADA News & Regulatory Updates

Transport Canada Adopts Form One Authorized Release Certificate Format

With amendments to CAR STD 561, Appendix A, and CAR STD 571, Appendix J, Transport Canada Civil Aviation has issued a Form One authorized release certificate format to replace the old Form 24-0078 for release of newly manufactured and maintained aeronautical products.

The new Form One is based on a TCCA/FAA/EASA agreement on harmonization of authorized release certificates for maintenance and manufacturing release. The TCCA Form One is similar to the current EASA Form One.

The existing Form 24-0078 can be used for at least another year; however, TCCA recommends use of Form One for export of products. Contact your local TCCA M&M office for the new Form One format.

The amended CAR STD 561, Appen-

dix A, and CAR STD 571, Appendix J, can be viewed at:

- www.tc.gc.ca/CivilAviation/Reg-serv/Affairs/cars/Part5/Standards/561/a561sa.htm
- www.tc.gc.ca/CivilAviation/Reg-serv/Affairs/cars/Part5/Standards/a571sj.htm

Transport Canada Issues Guidance for Airworthiness of ADS-B Installations

TCCA has issued AC 700-009 to provide advice and guidance in the form of airworthiness considerations as well as advice and guidance for operational approval for aviation owners and operators who intend to benefit from the automatic dependent surveillance-broadcast (ADS-B) system.

Aircraft models fitted with equipment that meets the airworthiness considerations in this document will have a statement included in the aircraft flight manual referring to the ADS-B as being approved. An operational specification will be issued to the air operator along with an amended page to the air operator certificate when the air operator meets the guidance for operational approval in the AC.

According to TCCA, ADS-B is not being mandated in Canada in the near term. TCCA acknowledges ADS-B technology will supplement the current ground-based radar surveillance system and could eventually replace it to some extent; however, the intent of not man-

dating the ADS-B system is to allow owners and operators to volunteer their participation in a surveillance system where NAV Canada will offer ADS-B.

Air operators or private operators who want to benefit from the advantages of ADS-B surveillance will be able to do so by meeting specific aircraft ADS-B considerations as presented in the AC.

An installation approval issued under CAR Part 511 or Part 513 will be required if the applicable aircraft equipment to enable ADS-B surveillance needs to be installed.

TCCA recognizes EASA AMC 20-24 as the standard for ADS-B performance in non-radar areas. It establishes the interoperability requirements permitting air traffic services to be provided. Currently, there are several hundred aircraft operating in Canada transmitting extended squitter messages from Mode S transponders.

Many of the installations meet some of the requirements in EASA AMC 20-24. Those meeting all of the mandatory requirements may have an approved AFM that contains a statement of compliance to EASA AMC 20-24. Aircraft models that do not have the EASA AMC 20-24 compliance statement are not eligible to receive ADS-B services from NAV Canada in the Hudson Bay area or from air navigation service providers in areas of Europe and the Atlantic Ocean.

AC 700-009 does more than recog-

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nize EASA AMC 20-24 as guidance for TCCA ADS-B approval. It presents new guidance applicable to the airworthiness certification of Mode S transponders capable of extended squitter messages. It also clarifies the obligations of an installation approval holder or an operator of an aircraft in respect to an unsafe condition resulting from a failure to meet interoperability requirements.

AC 700-009 can be viewed at www.tc.gc.ca/civilaviation/IMSdoc/ACs/700/700-009.htm.

FREQUENTLY ASKED QUESTIONS

International: Canada

ELT Rotorcraft Installations

The following information is from the Transport Canada Civil Aviation website.

QUESTION:

If the installation instructions of an emergency locator transmitter permit an installed orientation on rotorcraft that is different from the AWM (CAR STD) 551 requirements, would this be acceptable?

ANSWER:

AWM 551.104(f)(2)(ii) requires: "When installed in a helicopter, the ELT shall be mounted with its sensitive axis pointing approximately 45 degrees downward from the normal forward direction of flight."

The 45-degree orientation requirement reflects what was consid-

ered the "best conditions" to ensure optimum ELT performance under the complex dynamic conditions of rotorcraft crash scenarios. In most cases, helicopter crashes tend to involve a predominantly vertical load component.

When the ELT is installed as specified in the Canadian Airworthiness Standard, AWM 551.104(f)(2)(ii), it is expected the ELT will function properly in likely rotorcraft accident scenarios.

Nevertheless, ELT technologies have evolved, and the Canadian AWM 551.104(f)(2)(ii) requirement is not always applicable to all ELT installations. For example, some ELTs have their internal G-switch mounted at a 45-degree angle from the ELT longitudinal axis, while other ELTs have a full spherical sensing G-switch and are specifically designed for installation in helicopters. These will sense a crash force in any direction.

In the past few years, TCCA has accepted ELT installations not complying with the orientation angle as specified in the AWM 551.104(f)(2)(ii). In these cases, the installer has been requested to follow the guidance of the ELT installation manual. In some cases, this alternate method of compliance has been documented in a specific project's issue paper or as a "note" on the approved installation drawings.

New helicopter installations:

a) For an ELT designed in accordance with the older TSO-C91 or RSS 147 standards, compliance with AWM 551.104(f)(2)(ii) is required. Compliance also can be shown if the ELT has been designed specifically for rotorcraft (such as the G-switch already has been oriented properly

to 45 degrees) and the equipment is installed in accordance with the manufacturer instructions.

b) For ELTs meeting requirements of the FAA's TSO C91a, TSO C126 or later accepted standards and designed for installation in rotorcraft, TCCA will accept compliance with AWM 551.104(f)(2)(ii) if the ELT manufacturer has provided sufficient instructions regarding the ELT orientation for rotorcraft installation. This equivalent means of compliance would be based on conformity of the installation with the manufacturer's recommendations.

However, if the manufacturer does not provide sufficient installation instructions regarding the ELT orientation in a helicopter, the AWM 551.104(f)(2)(ii) requirement must be met.

Until such time as AWM 551.104 is revised, applicants can record the deviation from the AWM 551.104(f)(2)(ii) requirement by referring to the TCCA position using any method discussed and agreed upon with the responsible certification engineer. A "note" in the compliance report or the approved installation drawings, certification memo or issue paper may be acceptable.

EUROPE News & Regulatory Updates

European Commission Issues New Fees and Charges

The European Commission has issued a revised Fees and Charges regulation EC 1356/2008, which entered

into force Jan. 1, 2009. As part of this regulation, the fees were increased and minor changes to the regulation were introduced.

EUROCAE/RTCA Develop Revised TCAS II MOPS

Following extensive Eurocontrol input and pressure, a revised TCAS II minimum operational performance standards (MOPS) document has been developed jointly by the RTCA and EUROCAE.

During a joint session in March 2008, the RTCA and EUROCAE agreed on the final version of the TCAS II MOPS, known as TCAS II (ACAS) Version 7.1. RTCA approved the MOPS in June (document DO-185B); EUROCAE approved them in September (document ED-143).

The MOPS were revised following Eurocontrol's identification of two safety issues in the existing TCAS logic — one relating to the performance of the RA-reversal logic, and the other involving incorrect responses to adjust vertical speed RAs). The results of a study indicated implementation of TCAS II version 7.1 in aircraft fleets is urgently required.

EUROCAE shares these views, which were the subject of its letter to EASA in April 2008. Eurocontrol briefed EASA in detail on the issue and the safety implications in October 2008. Following this meeting, EASA published an action plan for the implementation of TCAS II version 7.1.

According to Eurocontrol, prompt action by regulators is required to mandate forward-fit and retrofit of TCAS II version 7.1 in European airspace as rapidly as possible. However, the implementation schedule (both forward-fit and retrofit) has not yet been established. TCAS II version 7.1 is backward compatible with TCAS II version 7.0.

SOUTH PACIFIC News & Regulatory Updates

Australia Names New CEO for Civil Aviation Safety Authority

The Honorable Anthony Albanese MP, Australia's minister for infrastructure, transport, regional development and local government, announced the appointment of John McCormick as the new director of aviation safety and CEO of the Civil Aviation Safety Authority (CASA).

McCormick takes the position March 1, replacing Bruce Byron AM who completed a term of more than five years last month.

McCormick has more than 20 years of senior experience in the industry, including a decade with the Royal Australian Air Force, followed by service with Qantas and Cathay Pacific airlines.

Albanese also announced the government intends to put in place a small, independent board for CASA in July 2009.

In related news, the Australian government provided a framework for the industry's future development with the release of the "Aviation Green Paper," the next stage in the development of the Australia's first long-term aviation strategy or White Paper. □