



# INTERNATIONAL NEWS AND REGULATORY UPDATES

F R O M 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](mailto:avionicsnews@aea.net).*

## The Goal: A Single European Sky

B Y F R A N Z R E D A K  
AEA EUROPEAN REGULATORY CONSULTANT



Contrary to the United States, Europe does not have a single sky, one in which air navigation is managed at the European level. This would mean air route networks would be based on the traffic flows, rather than the national borders of the member states.

European airspace is among the busiest in the world, with more than 33,000 flights on busy days, and there is very high airport density, which makes air traffic control even more complex. The air traffic has more than doubled in the past two decades.

While technologies have improved, the air traffic management (ATM) services and their supporting systems are not fully integrated and are based on technologies already running at maximum. According to projections, Europe will again see a doubling in demand for air transport by 2020; so, the technological gap between ATM and other industrial fields (IT, telecommu-

nications, etc.) might become impossible to bridge in the future. The ATM will need improved technology to help communicate, coordinate and share information among themselves and with aircraft, as well as more accurate information on the position and trajectory of the aircraft.

The Single European Sky ATM Research (SESAR) is an ambitious initiative launched by the European Commission and Eurocontrol to reform the architecture of European air traffic management. SESAR is aimed to develop a new-generation air traffic management system, which will ensure the safety and fluidity of air transport during the next 30 years.

The SESAR key performance targets for 2020 are:

- Decrease ATM costs by 50 percent.
- Enable a threefold increase in capacity.
- Reduce the environmental impact per flight by 10 percent.

- Improve safety by a factor of 10.

SESAR is composed of three phases:

- The Definition Phase (2004-2008), which delivered the ATM master plan. It was developed by a representative group of ATM stakeholders. The plan, based on future aviation requirements, identified the actions, from research to implementation, needed to achieve SESAR goals.

- The Development Phase (2008-2013), which will produce the required new generation of technological systems, components and operational procedures as defined in the SESAR ATM Master Plan and Work Programme.

- The Deployment Phase (2014-2020), which will see the large-scale production and implementation of the new air traffic management infrastructure, composed of fully harmonized and interoperable components, guaranteeing high-performance air transport activities in Europe.

### Who Benefits Directly From SESAR?

• **Airspace Users (civil and military):** Civilian airspace users include scheduled airlines, charter companies, cargo and air freight service providers, the business and leisure aviation sectors, and all forms of non-military air travel, from hot air balloons to police helicopters and hobby pilots.

The military, in the form of the air forces of the EU's member states, also are users with an interest in SESAR technology developments. So, you could say everyone who is trying to save time, money and improve safety is interested.

SESAR technology will help them run more reliable and punctual services, even in the face of rising demands on air transport capacity. Improved ATM will bring several benefits, such as 10 percent lower environmental impact, 50 percent lower infrastructure costs and increased safety through better information sharing.

• **Airport Operators:** SESAR aims to triple the maximum capacity of civilian airports in Europe. Currently, flight paths often follow set air corridors, which make the route longer than necessary. On arrival at the destination, the aircraft often must circle in a holding pattern or descend in stages while they are waiting for a landing slot. All of these factors increase fuel consumption, which leads to pollution and greenhouse gas emissions.

The ATM technology developed through the research and development program will contribute to more direct flight paths and smoother, more rapid descents, reducing noise and other environmental impacts.

• **Air Navigation Service Providers:** SESAR's core objectives are to develop the air traffic management technology needed to manage this increasing demand with reduced costs and environmental impact. The goal is to

provide a better quality of the service at a lower unit cost.

• **Passengers and the General Public:** Through improved ATM, passengers will benefit through shorter and safer journeys, lower costs and improved safety. As more people want or need to travel by air, it will take technological advancements to enable the infrastructure to handle higher demand while keeping air travel both comfortable and affordable.

The general public, whether or not they use air transport, also will gain from a more competitive European air industry, less noise around airports, and more efficient and convenient travel.

• **Suppliers and Manufacturers:** The competitiveness of European industry depends on the innovation and technological advancement. The European aerospace industry, whether manufacturing aircraft, parts or equipment for the management of air traffic, is committed to pursue this through research and development.

By developing the technologies necessary to allow airports, airspace users and air navigation service providers to handle the sometimes conflicting factors of demand, costs and the environment, suppliers can ensure a sustainable market for their products.

### A Hot (Volcano) Topic

The ash plume from the Icelandic volcano, Eyafjalljökull, has caused panic and the closure of European air traffic, and it revived the Single European Sky debate. Several previous volcanic ash clouds in Europe and elsewhere never led to continental flight bans.

The initial groundings were based on computer models, made by Britain's Meteorological Office, without having real measurements of the cloud or any agreed upon limits. Eurocontrol issued the no-fly order, but it was put in

place by the individual member states' air traffic management centers and authorities in charge.

After some time of paralyzation and under the pressure of the aviation industry, individual authorities began investigating the real extent, the concentration and the hazard of the ash cloud in their airspace. Using specially equipped aircraft, they flew near the ash cloud and took samples and measurements. Individual reports were used to support the lift or the extension of the no-fly order. The industry, however, is worried about the different criteria the individual states used to support their decision. Why was Eurocontrol not asked to undertake test flights to make measurements on a European level?

Global problems need global solutions. Everything would have gone much better had the nations given up their air space sovereignty, as the commission has long demanded, and given it to an EU authority. The Single European Sky would have made it easier to coordinate such a scenario, without freezing 95 percent of the air traffic.

On May 4, 2010, EU transport ministers hosted a meeting in Brussels, with SES and the ash crisis as major topics. The ministers have agreed to accelerate the implementation of the Single European Sky by giving the project the "highest political priority."

"This is going to continue to happen. It might be next week; it might be in 20 years," said Siim Kallas, vice president of the European Commission, responsible for transport. "But it will happen again, and volcanoes do not obey rules. So, we need to be faster and more flexible in our response.

"Major elements of the Single European Sky package will be in place by end-2010, including a crisis cell."

*Updates begin on following page*

## UNITED STATES News & Regulatory Updates

### FAA Cancels Loran C Navigation Systems TSOs

In April, the Federal Aviation Administration announced the notice of the cancellation of Loran C navigation system technical standard orders and the revocation of Loran C navigation system TSO authorizations.

This notice announces the cancellation of TSO C-60, "Airborne Area Navigation Equipment Using Loran-C Inputs" and all subsequent revisions. The effect of the cancelled TSOs will result in the revocation of all TSO authorizations issued for the production of those navigational systems.

These actions are necessary because the Loran C navigation system ceased operation on Feb. 8, 2010. The comments period closed on June 1, 2010.

### Changes Made to the FAA's Oversight of Repair Stations

In March, the FAA published Change 88 to FAA Order 8900.1, with direct impact on the surveillance of repair stations. In particular, there are changes to the FAA's oversight of a repair station's recordkeeping system, as well as the inspection and oversight of their facilities.

The following revised texts are from FAA Order 8900.1, Volume 6, Chapter 9, "Part 145 Inspections:"

Section 3: Inspect a Repair Station's Record System

- Review Required Records and

Retention: The records must be in English and retained for no less than two years. The repair station must provide a copy of the maintenance release to the owner/operator. If the repair station chooses to use FAA Form 81303 as a maintenance release, the records must include a copy of the completed form. The RSM procedures should describe who would review the records for accuracy and completeness before approval for return-to-service. The records retained by the repair station, required by §145.219, need only to demonstrate compliance with the requirements of Part 43. Whatever record system is used by the repair station, it must clearly state on both the record given to the owner/operator and the record retained by the repair station that the aircraft, engine, propeller or article is approved for return-to-service. Verify the records comply with Part 43 as follows:

1) Part 43, §43.9, describes the content, form and disposition of maintenance, preventive maintenance and alteration records. The content must include a description of the maintenance performed, the date the repair station completes the maintenance, and the name of the person performing the maintenance. It also must include the signature or stamp (if a stamp system is used by a repair station), certificate number and type of certificate of the person approving the maintenance for return-to-service.

2) Section 43.10 describes the disposition of life-limited aircraft parts. Verify procedures that govern the temporary removal of parts from type-certificated products, establish controls for parts permanently removed from type-certificated products, and the transfer of life-limited

parts are in place and adhered to.

3) Section 43.11 describes the content, form and disposition of maintenance records for inspections performed under 14 CFR, Parts 91, 125 and 135, §135.411(a) (1) and §135.419. Verify the entry of record entries in the appropriate aircraft maintenance record reflecting the type inspection performed (100-hour, annual, progressive, Approved Aircraft Inspection Program) and the similarly worded approval for return-to-service statement.

4) The repair station should retain a record of all major repairs and alterations completed as part of any maintenance record retention system as required by the regulation:

a) The repair station may use the customer's work order or FAA Form 337, "Major Repair and Alteration (Airframe, Powerplant, Propeller or Appliance)," to record a major repair made in accordance with an FAA-approved manual or other approved data.

b) The repair station must use FAA Form 337 to record major alterations. Verify the completion and routing of FAA Form 337 in accordance with the requirements in Part 43, Appendix B.

Note: Document major repairs and alterations for air carriers in accordance with the air carrier's manual. Prepare and process repair station major repairs/alterations requiring a field approval in accordance with AC 43-210.

5) If the repair station performs maintenance in accordance with DER-approved technical data, verify a copy of FAA Form 81103, "Statement of Compliance with the Federal Aviation Regulations," is with the records package.

Section 5: Inspect a Part 145 Re-

pair Station's Housing and Facilities

- 6-1728B: Line Maintenance Authorization Locations. Repair stations with line maintenance authorization locations, except for the provisions of Title 14 CFR, Part 145, §145.205(d) that provide relief from §145.103(b), must also meet these requirements.

- 6-1731 C: Determine Adequacy of Environmental Conditions. Ventilation, lighting and control of temperature, humidity and other climatic conditions must be sufficient to ensure that personnel perform maintenance, preventive maintenance or alterations to the required standards. In addition to reasonable heating, air conditioning and lighting requirements, verify the following maintenance environmental conditions:

- 1) Instrument shop environmental conditions are in accordance with the manufacturer's standards.

- 2) Composite layout and clean rooms are environmentally and operationally controlled in accordance with the original equipment manufacturer or other FAA-approved repair process.

- 3) Storage areas include proper storage conditions for flammables, sealants, chemicals, tires, tooling, etc.

- 4) Lighting is adequate for the type of processes performed in each area.

- 5) While physically inspecting the repair station, verify that the facility diagram(s) and description in the RSM are accurate. This includes any facilities used for spray painting, avionics, engine or airframe repair, or any other work with special requirements. Pay close attention to specific information detailed in the manual, such as the type of heating, lighting, equipment location, electrical and compressed air outlets.

*Updates continued on following page*

## FREQUENTLY ASKED QUESTIONS

### United States

### Repair Station Manuals

*The following information is from 14 CFR, Part 145, and Advisory Circular 149-9.*

#### QUESTION:

Does the FAA need to approve my repair station manual and quality control manual?

#### ANSWER:

Technically no, but maybe.

It is really a two-part answer:

First, from a purely regulatory perspective, the answer is, "No."

- 14 CFR, 145.207, "Repair Station Manual:" A certificated repair station must prepare and follow a repair station manual "acceptable to the FAA."

- 14 CFR, 145.211, "Quality Control System:" A certificated repair station must establish and maintain a quality control system "acceptable to the FAA" that ensures the airworthiness of the articles on which the repair station or any of its contractors performs maintenance, preventive maintenance or alterations.

AC 145-9, Change 1, Paragraph 4.a, defines "acceptable" as "data that meets the requirements of the applicable regulations."

So, from a regulatory stand point, the manuals are "acceptable" to the FAA when the data within the manual meets the applicable regulations.

When your inspector determines your manual is not "acceptable to the FAA," you should always ask, "How does the data within the manual not meet the requirement of the regulations?"

What do your manuals require? If they require the FAA to review and "accept" the manuals before you adopt the revisions, you must follow those procedures until such time as you change your manuals.

Merriam-Webster Dictionary defines "accepted" as "generally approved." So, if you allow your inspector to "accept" your manual, by default you are allowing your inspector (and each subsequent inspector) to "approve" your manuals, which far exceeds the basic requirements of 14 CFR, Part 145.

In this case, you are in a much worse situation to challenge the reasons your inspector won't approve your manual. It could be because of their personal bias, their background or their personal opinion. If your repair station manual empowers your inspector to approve your manual before you can implement revisions, you must live with the results until you can revise your manual to the regulatory requirements of 14 CFR, Part 145.



## CANADA News & Regulatory Updates

### Transport Canada Updates AEA Members on Issues

During this year's AEA International Convention & Trade Show, the following updates on regulatory issues were presented at the Canadian members' round table:

- **Undocumented Avionics Parts:** Transport Canada Civil Aviation officials said a draft exemption will be submitted to the Regulatory Affairs department for a legal review; the exemption is expected to be signed by mid-2010. All avionics, instrument and component AMOs are recommended for exemption from CAR STD 573.02(11). Drafting NPAs to support this exemption and changes to the current Appendix H process will begin later in 2010, and they will take into account the capability of the appropriately rated AMO and the ICAs associated with the part.

- **Supplemental ICAs:** TCCA is expected to issue an advisory circular to replace the current MSI 53, which will reflect the new FAA policy on Supplemental ICAs to be defined in a revision to Order 8110.54. It is hoped the new FAA and TCCA policies will reduce the burden to STC applicants for supplemental ICAs on simple avionics modifications. TCCA said the AC is expected to be published this quarter.

- **TCCA/EASA Bilateral Agreement:** TCCA provided the AEA with more details concerning the upcoming TCCA/EASA Bilateral Agreement on civil aviation safety. The agreement will provide the possibility for acceptance without review or issuance of a corresponding approval document, subject to specified conditions for ap-

pliances and parts, such as TSOs; replacement parts, such as part design approvals; and repairs, such as repair design approvals. The agreement will provide for the validation of a type certificate or STC application to be subject to a level of review and the issuance of a corresponding approval document. As of March 2010, the treaty has not been published.

### Transport Canada Discontinues LSTC Process

TCCA has promulgated a new Canadian Aviation Regulation, CAR 521, to replace the existing CAR/STD 511 and 513 for the type-certification processes applicable to aircraft, appliances, parts and modifications. CAR 521 reflects the structure of both the FAA FAR 21 and EASA IR 21. CAR 521 also replaces CAR 591, "Service Difficulty Reporting." CAR 521 was published Nov. 1, 2009, as an amendment; the in-force date was Dec. 1, 2009.

Of specific interest to the AEA's Canadian members is that the current LSTC process will be discontinued. Applications for STCs on single aircraft or a specific fleet of aircraft will be defined as "Serial No." STCs. The current reduced application fee for an LSTC will be applicable to such "Serial No." STCs. There are no changes to the types of data (approved, specified or accepted) applicable to major or minor modifications.

Currently, the proposed guidance materials for CAR 521 (ACs, SIs) have not been published. In the interim, TCCA has advised that existing CAR 511, 513 and 591 guidance documents should be used.

### TCCA Proposes Mandatory Installations of 406 MHz ELTs

As a result of the withdrawal of Cospas/Sarsat monitoring of 121.5 MHz emergency locator transmitters, which was effective Feb. 1, 2009, TCCA had proposed the mandatory installation of

406 MHz ELTs, or an alternate means of compliance, onto Canadian-registered aircraft and foreign-registered aircraft operating in Canadian airspace.

TCCA has advised the AEA that the minister of transport has decided TCCA should pursue further consultation with industry on the 406 MHz ELT regulation because it did not include any viable alternatives to 406 MHz ELTs, although it did include language indicating an alternative method of compliance was possible.

As a result of the ongoing delay in regulating carriage of 406 MHz ELTs on Canadian-registered aircraft, TCCA has issued a new exemption to extend the period of relief to specifically identified persons from the avionics specialized maintenance rules when they install and certify a maintenance release for the installation of TSO C126 406 MHz ELTs in an aircraft. The new exemption extends the period of relief to March 31, 2011.

### Questions Remain Regarding Maintenance Procedures Equivalency

A question was raised recently regarding the interpretation of CAR 571.02(1)(b) for equivalency of maintenance procedures. CAR 571.02 states:

- 1) Subject to subsection, a person who performs maintenance or elementary work on an aeronautical product shall use the most recent methods, techniques, practices, parts, materials, tools, equipment and test apparatuses that are:

- a) specified for the aeronautical product in the most recent maintenance manual or instructions for continued airworthiness developed by the manufacturer of that aeronautical product;

- b) equivalent to those specified by the manufacturer of that aeronautical product in the most recent maintenance manual or instructions for continued airworthiness; or

- c) in accordance with recognized in-

dustry practices at the time the maintenance or elementary work is performed.

TCCA has not published specific guidance for interpretation of “equivalent” methods or equipment, but it is the responsibility of the AMO to demonstrate equivalency. If the method or the equipment is not identical to those of the equipment manufacturer, the AMO must be able to demonstrate the test equipment functions adequately, reproduce those of the OEM test equipment and, if necessary, re-write the maintenance instructions to provide specific instructions for use of the replacement test equipment. The use of equivalent methods or test equipment should be documented on the work order.

## EUROPE

### News & Regulatory Updates

#### EASA Issues Bulletin on Consequences of Volcanic Ash

The European Aviation Safety Agency has reacted to the volcanic ash contamination impacting the air transport industry in Europe. Initiated by the eruption of the Icelandic volcano Eyafjalljökull, air transport came to a temporary halt for many days.

EASA consequently issued a safety information bulletin, SIB 2010-17, which provides information on the long-term consequences on the airworthiness on turbine-powered aircraft flying in a low-contamination volcanic ash environment. The fact that these contaminations can influence engine performance is of interest to AEA members, who should highlight to their customers that these particles can influence air-data systems. A few recommendations for daily inspections in absence of Instructions for Continued Airworthi-

ness provided by the TC holder are part of this document, which was issued in April.

The document also refers to ICAO Document 9691, “Manual on Volcanic Ash, Radioactive Material and Toxic Chemical Clouds,” which is the only guideline currently available to manage the impact of such a contamination. ICAO has begun working on a revision or amendment to this document to set global standards for the concentration of volcanic ash that could affect flight safety.

#### EASA Provides New Acceptable Means of Compliance

EASA’s newly released decision, ED 2010/002/R, provides acceptable means of compliance and guidance material to the Commission Regulation EC 2042/2003 (Part M, 66, 145 and 147) and an amendment recently issued as EC 0127/2010 by the European Commission. The acceptable means of compliance and guidance material refer mainly to following changes:

- New EASA Form 1
- Requirements for electric wiring interconnect systems
- Permit to fly
- Various editorial changes

Worth mentioning are the following changes:

- A slight change in the approval class ratings for Part 145 organizations and the related ATA 2200 chapter reference.
- CDCCL tasks (fuel tank safety related) must be identified on the work cards or worksheets, or precise reference must be provided.
- Certificate of Release to Service may be acceptable in an abbreviated format in the flight and maintenance log.
- Various small amendments to the acceptable means of compliance and guidance material to cover new EWIS maintenance and documentation requirements. □

## FREQUENTLY ASKED QUESTIONS

International: Europe

### Determination of Change to GA Aircraft

*The following information is from an EASA FAQ, February 2009*

#### QUESTION:

As EASA adjusts its fees and charges, it becomes even more important to rate avionics changes correctly so as to not require a higher level of certitude than EASA requires. How does EASA rate an antenna installation on general aviation aircraft?

#### ANSWER:

EASA considers any antenna installation in a pressurized vessel or the installation of a large antenna on an unpressurized vessel to be considered a major change requiring an STC.

*Note: The AEA offers “Frequently Asked Questions” to foster greater understanding of the aviation regulations and the rules governing the industry. The AEA strives to ensure FAQs are as accurate as possible at the time of publication; however, rules change. Therefore information received from an AEA FAQ should be verified before being relied upon. This information is not meant to serve as legal advice. If you have particular legal questions, they should be directed to an attorney. The AEA disclaims any warranty for the accuracy of the information provided.*