



The View from Prague

B Y R I C P E R I
VICE PRESIDENT, AEA GOVERNMENT & INDUSTRY AFFAIRS

International Discussions Focus on Safety Management Systems

No, this month's column isn't a review of the dynamic skyline of Prague, Czech Republic, nor its unbelievable spires and churches, nor its historic castles. This month's AEA government affairs column is a highlight of international discussions that began in Prague and ended in Cologne, Germany, during June.

The European Union/U.S. International Aviation Safety Conference is a long-standing annual meeting of regulatory authorities and the regulated communities. Originally a "harmonization" effort between the Federal Aviation Administration and the Joint Aviation Authorities, the meeting has grown over the years, and now civil aviation authorities from around the world come together once a year for this meeting to discuss all aspects of aviation safety.

Along with the obvious attendance of the FAA and EASA, the civil aviation authorities of Canada, Australia and New Zealand all attended in force this year, as well as representatives of most European Union members and civil aviation authorities of the Pacific Rim countries.

What was the message? The national authorities' responsibilities are outpacing their resources. In essence, they have more work than they have staff to support.

So, what does this mean to industry? More empowerment, more outsourcing, and less face-to-face interaction with local authorities — in three

words: safety management systems (SMS).

Each representative who spoke in a session I attended, at some time during their presentations, mentioned their efforts of moving their industries toward SMS. Every authority committed to meeting the International Civil Aviation Organization's mandate to require SMS by January 2009.

Many of the airlines and major maintenance and repair organizations also spoke of the advantages of consolidated oversight — the ability to consolidate multiple government audits into a single combined audit, which saves industry time, money and effort.

Only two of the authorities, the FAA and Transport Canada, spoke on their efforts to institute the provisions of SMS and a quality system internally before they complete the regulatory rollout to industry.

It was refreshing to hear Transport Canada representatives speak of their challenges in implementing their internal management program: the integrated management system (IMS). They shared many of the challenges they have had to overcome. Perhaps, they have experienced enough internally to listen to industry when it says, "One size does not fit all."

I only wish the FAA would implement more of an accountability program to go along with its attempt at quality. Although the FAA's efforts to implement quality through its ISO 9000 certification are commendable,

it has done little to help standardization in the field offices. The printed policies are better, but issues still are being resolved with a non-standard, personal-opinion phone call.

When the FAA leadership learns of inconsistent implementation of policies, it has no internal mechanism for evaluation or accountability. Rather than taking inconsistent applications of policy in the field as an opportunity to improve the FAA's internal processes, it goes on a witch-hunt to burn the heretic at the stake. It isn't the field inspector who should be hunted down and chastised, but rather the policies, orders, guidance and phone calls leading to inconsistent behavior that should be investigated, addressed and improved.

The manufacturing industries implemented quality systems because the "customer complaint form" didn't work. By the time the form was filled out, the business already had lost its customer.

Because the FAA essentially is a sole-source utility, it can't lose its customers; however, it can lose the goodwill FAA headquarters is working so hard to build. Maybe when the FAA starts mandating SMS late next year, it also will implement its own program of continuous improvement where an inconsistent phone call can be enough to generate an improvement to the process rather than waiting for its customer to fill out a complaint form.

ASTM Light-Sport Aircraft Standards

Following the EU/U.S. International Aviation Safety Conference, I attended three days of meetings on the development of American Society for Testing and Materials (ASTM) consensus standards for light-sport aircraft. There were a number of issues important to AEA members discussed at this meeting.

First, a little background: There are two categories of light-sport aircraft: experimental light-sport aircraft (E-LSA) and special light-sport aircraft (S-LSA). An S-LSA is controlled solely by the aircraft, engine or accessory manufacturer.

There are certified and non-certified engines and accessories used in S-LSAs; some engines and nearly all avionics are certified. Certified engines and accessories must be maintained as any other certified piece of aviation equipment following the Federal Aviation Regulations. The non-certified engine and accessories follow the ASTM standards for light-sport aircraft.

For any alteration to an S-LSA, including avionics, the alterations are at the discretion of the aircraft manufacturer, and any alteration data must come from either the maintenance manual or approved by the OEM. There is no FAA approval for avionics installations in S-LSA.

14 CFR Section 91.327(b)(5), which applies to aircraft having a special airworthiness certificate in the light-sport category, states, "No person may operate an aircraft that has a special airworthiness certificate in the light-sport category unless each alteration accomplished after the aircraft's date of manufacture meets the applicable and current consensus standard and has been authorized by either the manufacturer or a person acceptable to the FAA."

What this means is, the alteration

must conform to ASTM design and certification standards for light-sport aircraft, not to FAA Advisory Circular 43-13. And, because the FAA has not yet transferred any aircraft airworthiness authority to a "responsible person," there are no "persons acceptable to the FAA" to approve an alteration except for the manufacturer.

You do not use an FAA Form 337 to document alterations on light-sport aircraft — period. Let me repeat: You do not record major repairs or major alterations on an FAA Form 337. This form is not used at all for light-sport aircraft.

14 CFR Section 43.1 prescribes the rules governing the maintenance, preventive maintenance, rebuilding and alteration of any aircraft having a U.S. airworthiness certificate and any airframe, aircraft engines, propellers, appliances and component parts of an aircraft. However, subparagraph (d) contains specific exemptions for light-sport aircraft.

In 14 CFR Section 43.1(d), the FAA specifically excepts light-sport aircraft and any accessory not produced under some form of FAA approval from the repair or alteration form specified in sections 43.5(b) and 43.9(d) for products not produced under an FAA approval. It also exempts LSAs from the recording requirements of Part 43 Appendix B for major repairs and major alterations.

In addition, the listing of major alterations and major repairs listed in Part 43 Appendix A is not applicable to products not produced under an FAA approval. Therefore, to determine if an alteration is major or minor, you must refer to the aircraft and/or accessory maintenance manual or contact the aircraft or accessory manufacturer.

If all of this sounds more restrictive than a normal aircraft, it is. Light-sport aircraft are quite unique, and the rules to work on them are just as unique. Make certain you know the

rules before you begin to install any avionics (including portable avionics) in a light-sport aircraft.

During its regional meetings this fall, the AEA will offer a maintenance training program on light-sport aircraft.

EASA Safety Standards Consultative Committee

The last stop on this two-week meeting schedule was the European Aviation Safety Agency's Safety Standards Consultative Committee (SSCC) meeting in Cologne on June 14.

EASA's SSCC hosted its subcommittee meeting preceding the full SSCC meeting. As a participant on the engineering and maintenance subcommittee, I work on the maintenance and technician/engineer certification rules. All indications point to a very busy summer for the AEA.

When EASA first published its regulations during the transition from individual national authorities to a European-wide authority, it virtually adopted the recommendations of the Joint Aviation Authorities and applied them across the board to all European maintenance organizations as its new implementing rules.

The AEA was quite successful in evaluating the proposal and generating comments to EASA on this expedited process. We were very successful, and EASA delayed the implementation to re-evaluate its proposal, generate GA-specific regulations and implement them by Sept. 28, 2008.

Well, that time is now. EASA has published an entire suite of proposed regulations for general aviation maintenance.

We will be evaluating EASA's new proposal, comparing it to how you work, how your business operates, and how your technicians are certified to see if the new proposal fits. And, together, we will generate our comments.

Frequently Asked Questions

The following information is from the Federal Aviation Regulations.

TOPIC:

Intended Function

QUESTION:

Does an installed piece of avionics equipment need to be fully functional? Does this include all of the equipment to which it is interfaced? Does this have any affect on the declaration of major or minor alterations?

ANSWER:

In simple words: Yes, Yes, and No.

YES: The installed equipment must function properly. 14 CFR Section 23.1301(d) specifically requires: "Each item of installed equipment must function properly when installed."

As the person altering the aircraft, it isn't a far stretch to realize you not only are responsible for the equipment you are installing, but also the affect of your installation on any of the existing equipment. 14 CFR Section 43.13(b) requires: "Each person maintaining or altering, or performing preventive maintenance, shall do that work in such a manner and use materials of such a quality, that the condition of the aircraft, airframe, aircraft engine, propeller or appliance worked on will be at least equal to its original or properly altered condition (with regard to aerodynamic function, structural strength, resistance to vibration and deterioration, and other qualities affecting airworthiness)."

To verify the "intended function" of any previously installed equipment has not been altered, the installer might need to refer to the installation manual of the previously installed equipment and perform the post-installation checks just as if that equipment was being installed for the first time. For example, an installation manual for a new-generation integrated GPS/nav/com will include post-installation checks for the radio, but not necessarily for your specific EHSIs or autopilot. You might need to refer to the installation manual for the specific EHSI for the post-installation checks necessary to ensure the proper functioning of this equipment.

NO: The requirement for proper functioning of all installed equipment is not linked to the degree of the alteration. All alterations must function properly regardless if they are a minor alteration or a major alteration. The requirement for post-installation checks to ensure all of the equipment still functions properly are not limited to major alterations; they should be performed for every avionics installation, including all minor alterations. This is especially true for the interfaces of the current-generation digital equipment.

Note: The AEA offers "Frequently Asked Questions" to foster greater understanding of the Federal Aviation Administration regulations and the rules governing our 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.

VIEW FROM WASHINGTON

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Whether you reside in Europe, the Americas, Australia or the South Pacific, maintenance organizations and technicians no longer can sit idly by and trust their authorities to properly manage their involvement in your business. They all are changing how they operate.

For us, now is the time to recommend process improvements for face-to-face involvement with our authority. For others, it is time to recommend process improvements in their business models. And for others, it is time for accountability.

But, most importantly, now is the time for us to be involved. □

Regulatory Update

United States

Draft Final Rule Published on Regulation of Radium-226

The Nuclear Regulatory Commission (NRC) has published a draft final rule regulating certain materials in legacy instruments.

The rule now before the Commission for review will implement provisions of the Energy Policy Act of 2005, which gave NRC regulatory jurisdiction over discrete sources of radium-226, material made radioactive in a particle accelerator, and other radioactive material the Commission determines could pose a threat to public health and safety or the common defense and security.

Currently, these materials are regulated by the states. They will continue to be regulated by the 34 “agreement states” that regulate radioactive materials under formal agreements with the NRC.

The complete draft final rule is accessible from the NRC at www.nrc.gov/reading-rm/doc-collections/news/2007/07-052.html.

FAA Partially Reinstates Policy on Use of Supplemental GPS

The Federal Aviation Administration has revised AC 90-100A and the FAA Aeronautical Information Manual (AIM).

It has been reported through some aviation media that GPSs might not meet the “new” requirements for IFR flight. This was incorrect. There is confusion regarding RNAV-approved systems as described in AC 90-100A and a March change to the FAA’s AIM affecting the use of GPS in lieu of an ADF and/or DME.

AC 90-100A is a revision to AC 90-100 originally published in 2005. The revisions to AC 90-100 are intended to

harmonize the U.S. RNAV performance criteria with that of the International Civil Aviation Organization (ICAO) recommendations. AC 90-100A has little effect on light general aviation aircraft.

The aircraft/RNAV systems approved in AC 90-100A, “Compliant Systems,” dated May, 8, 2007, fundamentally is the same as the compliant systems listed in AC 90-100, “Compliant Systems,” dated March 6, 2007.

The basic criteria for VFR and IFR use of GPS as a supplemental means of navigation as described in the “Aeronautical Information Manual” basically are unchanged.

The primary issue seems to be the apparent loss of the use of GPS in lieu of ADF and/or DME. In the FAA’s AIM prior to March 2007, paragraph 1-1-19 f addressed the “Use of GPS in lieu of ADF and DME.” Change 2 to the AIM, which went into effect March 15, 2007, deleted paragraph 1-1-19 f.

Although paragraph 1-1-19 f was deleted, which provided use and limitation information, AIM Table 1-1-6 still authorizes GPS in lieu of ADF and/or DME for GPS equipment approved (by TSO) for IFR en route and terminal, IFR oceanic/remote, or IFR en route, terminal, and approach.

In a memo to the Aircraft Owners and Pilots Association, the FAA has partially reinstated the policy on the use of supplemental GPS in lieu of ADF and DME.

FAA Issues Safety Alert for Operators of Garmin–Avidyne Interface

In its “Safety Alert for Operators 07004,” dated May, 18, 2007, the FAA determined Garmin GPS/WAAS Models GNS and GPS 400W and 500W series units may not be compatible with Avidyne EXP5000 primary

flight displays.

This “Safety Alert for Operators” informs aircraft owners, operators and FAA-certificated entities of functional incompatibilities between Avidyne EXP5000 primary flight displays and newly installed Garmin GPS/WAAS navigators or Garmin 400/500 series units upgraded to Garmin 400W and 500W series units (referred to in this SAFO as “Garmin GPS/WAAS navigators”).

On May 4, 2007, Avidyne issued a mandatory service bulletin detailing information about known operational incompatibilities between Garmin GPS/WAAS navigators and Avidyne PFDs. The service bulletin identifies operational limitations, addresses functional incompatibilities, and advises against new or upgraded installations of Garmin GPS/WAAS navigators when integrated with Avidyne PFDs.

The FAA SAFO can be viewed at www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/safo/all_safos/media/2007/safo07004.pdf.

The Avidyne mandatory service bulletin is available at www.avidyne.com/techpubs.shtm.

The AEA encourages any shop engaged in Garmin GNS 400W/500W series installations interfaced with Avidyne EXP5000 systems to review the FAA’s SAFO 07004 and Avidyne’s service bulletin. In addition, AEA members should distribute the FAA SAFO to their affected customers.

Note: When performing any installation, the AEA encourages every member to ensure the equipment being installed meets its intended function after the installation is complete. This includes full functionality of any interfaced equipment, and might require operational checks

REGULATORY UPDATE

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Canada

Transport Canada Issues

TCAS Regulations

TCCA issued TCAS regulations for aircraft operated under CARs 702 (aerial work), 703 (air taxi), 704 (commuter) and 705 (airline), with an in-force date of July 1, 2007. The regulations are applicable to all newly manufactured airplanes as of the in-force date.

Operators with airplanes manufactured before July 1, 2007, will have two years to comply with the regulations.

CAR 702.46, aerial work airplanes:

- Turbine-powered land airplanes greater than 15,000 kg/33,069 lb. MTOW operating outside RVSM airspace must be fitted with TCAS II (TSO-C119a or C119b) and a Mode S transponder.

- Turbine-powered land airplanes greater than 15,000 kg/33,069 lb. MTOW operating within RVSM airspace must be fitted with TCAS II (TSO-C119b) and a Mode S transponder.

CAR 703.70, air taxi:

- All airplanes greater than 5,700 kg/12,566 lb. MTOW operating outside RVSM airspace must be fitted with, at least, TCAS I (TSO-C118).

- All airplanes greater than 5,700 kg/12,566 lb. MTOW operating within RVSM airspace must be fitted with TCAS II (TSO-C119b) and a Mode S transponder.

CAR 704.71, commuter:

- Turbine-powered airplanes greater than 5,700 kg/12,566 lb. MTOW and less than 15,000 kg/33,069 lb. MTOW operating outside RVSM airspace must be fitted with, at least, TCAS I (TSO-C118).

- All non-turbine powered airplanes greater than 5,700 kg/12,566 lb. MTOW operating outside RVSM

airspace must be fitted with, at least, TCAS I (TSO-C118).

- Turbine-powered airplanes greater than 15,000 kg/33,069 lb. MTOW operating outside RVSM airspace must be fitted with TCAS II (TSO-C119a or C119b) and a Mode S transponder.

- All airplanes operating within RVSM airspace must be fitted with TCAS II (TSO-C119b) and a Mode S transponder.

CAR 705.83, airline:

- All turbine-powered airplanes operating outside RVSM airspace must be fitted with TCAS II (TSO-C119a or C119b) and a Mode S transponder.

- All non-turbine airplanes operating outside RVSM airspace must be fitted with, at least, TCAS I (TSO-C118).

- All airplanes operating within RVSM airspace must be fitted with TCAS II (TSO-C119b) and a Mode S transponder.

Mode S transponder equipment must meet FAA TSO-C112.

Europe

EASA

New Fees Detailed in Regulation Adopted by European Commission

New fees are detailed in the "Fees and Charges Regulation" (EC No 593/2007), which was adopted by the European Commission on May 31, 2007, and published June 1, 2007, in the EU official journal.

The new European Commission Regulation, EC No 593/2007, dated May 31, 2007, on the fees and charges can be viewed at www.easa.eu.int/doc/Regulation/1_14020070601en00030020.pdf.

A set of new frequently asked questions has been issued as well.

Maintenance NPAs Issues by EASA

The long-awaited suite of proposed maintenance regulations have been issued by the European Aviation Safety

Agency:

- NPA-2007-06, "Permit to Fly Privilege for Continuing Airworthiness Management Organizations and Approved Maintenance Organizations."

- NPA-2007-07, "Privileges B1 and B2 AML and Type and Group Ratings and Type Training."

- NPA-2007-08, "Revised Part-M Requirements for Aircraft Not Used in Commercial Air Transport and Pilot Owner Maintenance."

- NPA-2007-09, Part 145 Single and Multiple Releases."

The NPAs can be viewed at www.easa.eu.int/home/rm_npa_en.html.

The AEA is actively collecting information and comments on these NPAs. If you have not responded to the AEA Regulatory Update, please do so at your earliest convenience. Comments are due no later than September 28, 2007.

Changes to European Technical Standard Orders Addressed

TOR 21.027 addresses changes to a European technical standard order (ETSO) article. Currently, changes and repairs to ETSO articles designed by a person who is not the holder of the relevant ETSO authorization can be approved as a change or repair to the product in which they are installed. Such a change or repair approval becomes invalid as soon as the article is installed in another product.

This current process is considered too restrictive when applied to minor changes or repairs. The purpose for the NPA estimated for the third quarter of 2007 is to revise EC 1702/2003 accordingly. A final decision is expected late in 2008.

ATS in Non-Radar Areas May Be Enhanced

NPA 2007-05 was issued in June to amend the AMC-20 document with another acceptable means of com-

pliance in regards to “Certification Considerations for the Enhanced ATS in Non-Radar Areas Using ADS-B Surveillance (ADS-B-NRA)” applications.

The document is designated as AMC 20-24. The text of this AMC is based on position paper 039 revision 8, issued by the JAA CNS/ATM steering group and endorsed by the JAA operations sectorial team. It was adapted to EASA regulatory context by the Agency.

With respect to en-route areas affected, the effect is minor in Europe. Relatively few areas in Europe as a whole are appropriate for this application. The areas are low- to medium-traffic density areas mainly on the periphery. However, seen in a global context, surveillance may be enhanced in many areas that would never be provided with radar surveillance because of the relatively high costs of radar vs. ADS-B (such as the Australian continent).

European Commission

Design Organization Charges Based on Complexity

The European Commission has adopted new revised “fees and charges” for the services provided by EASA to the industry. EC 593/2007 entered into force June 1, 2007. EC 488/2005 and the related amendment EC 779/2006 previously in place were repealed.

The current regulation structures the individual design changes and repairs based on the complexity using “simple,” “standard” and “complex” as definition. Design organization charges now are based on the complexity of the change and the approval scope.

The European Commission has adopted a regulation regarding new working methods of EASA for conducting standardization inspections of member states’ aviation authorities. EC 736/2006 defines the way EASA standardization teams shall perform stan-

dardization inspections in each field regulated by the implementation rules of EC 1592/2002.

Australia

CASA Issues Its First Standard, CAO 100.66

While Civil Aviation Safety Authority is still sifting through the substantial amount of comments made by AEA members and the general aviation community, it has issued its first standard: Civil Aviation Order (CAO) 100.66.

The new CAO offers the option for Australian aircraft maintenance personnel to obtain licenses and ratings based on the European Aviation Safety Agency categories A, B1 and B2, and aircraft ratings.

Although CASA has not completed the disposition of all these comments, it said, “Eventually, these licenses and approvals will come under CASR Parts 66 and 147 respectively. This CAO is intended to provide access to the new license categories in advance of that legislation.”

There is no requirement to transfer to the new license categories. These new licenses are available in parallel with the current license structure. They are simply being made available for those organizations or individuals who can benefit from them.

CASA claims little impact on general aviation “non-airline” operations. The main beneficiaries of the new license structure are large organizations operating regular public transport. General aviation operations have significantly different requirements that may not be met by CAO 100.66. There is no requirement for these operators or their employees to move to the EASA-style licenses.

The CASA industry team working on the development of these regulations recognizes significant work still needs to be done to meet the needs of

general aviation operators. CASA is in the process of initiating a new joint CASA/industry team specifically to address the requirements of the general aviation and aerial work sectors.

The AEA is a participant on this joint CASA/industry team. A review of the latest on the proposed B-3 license, along with an update on the review of public comment and the status of the maintenance NPRM, will be given during the annual AEA South Pacific meeting from Aug. 27-28, in Canberra, Australia.

An update on the progress of the maintenance regulations is available from CASA at www.casa.gov.au/newrules/maint/download/CAO_flier.pdf. □