



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.

B Y B R U C E B A X T E R
SOUTH PACIFIC REGULATORY CONSULTANT FOR AEA



AEA Participates in South Pacific Initiatives

I sincerely hope that all AEA members had a safe and enjoyable Christmas and New Year and that 2011 will be better than the last. The 2010 year was busy in the South Pacific region with the AEA participating in many behind-the-scenes initiatives.

The General Aviation Revitalization Forum

The aviation industry is truly a global entity. It appears that whatever happens in the United States or Europe has an effect on the South Pacific Region and, in most instances, we are happy to continue along these lines. The truth of the matter is that the region is somewhat unique in some areas that influence the way we conduct business in the broader sense.

While considering our uniqueness we should look at the Trans-Tasman Arrangement. Following is an extract from that arrangement: "*The Trans-Tasman Mutual Recognition Arrangement (TTMRA) is a*

non-treaty agreement between the Australian Government, State and Territory Governments and the Government of New Zealand, under the Trans-Tasman Mutual Recognition Act 1997.

The purpose of the TTMRA is to implement mutual recognition principles relating to the sale of goods and the registration of occupations. These principles, with a few exceptions, state that: A good that may be legally sold in Australia may be sold in New Zealand, and a good that may be legally sold in New Zealand may be sold in Australia. This is regardless of differences in standards or other sale-related regulatory requirements between Australia and New Zealand; and a person registered to practice an occupation in Australia is entitled to practice an equivalent occupation in New Zealand, and vice versa, without the need for further testing or examination."

This brings me to the point of the preamble. New Zealand (and New Guinea)

have successfully introduced a new regulatory system that is extremely ICAO compliant and accepted in more countries in the world than the existing or proposed Australian system. The New Zealand system is based on the FAA regulations with the necessary changes to promote improvement. While we continue down the track of creating a non-general aviation set of rules, Australia's Civil Aviation Safety Agency is introducing new regulations that are in direct contravention of the TTMRA in the areas of licensing and acceptance of aeronautical products or services.

This is only one of the things that is affecting the growth and sustainability of our diminishing GA market; many other factors have been identified and a GA Revitalization Committee (GARC) has been tasked with identifying the problems and proposing solutions.

On behalf of the AEA South Pacific members, I attended the inaugural

meeting and was selected to be part of the six-member committee. Since then I have attended a number of GARC meetings and I must admit they have been an eye opener.

For years we have blamed and bashed CASA for every problem in the industry. After all, they are the rule makers and the regulators, so, of course, it must be their fault that the GA industry is in poor shape. In fact, CASA is only one part of the problem, albeit a large part, and the GARC has now focussed on addressing all the problems.

The problems we identified are:

► **GOVERNMENT POLICY**

- Lack of coherent whole of government policy – the White paper is deficient for GA – eight pages out of 238
- Lack of ‘aviation champion’ department in government structures
- Civil Aviation Act is deficient in relation to ICAO template
- Lack of international acceptance of the current Australian systems
- Inappropriate Damage from Aircraft Act
- Commonwealth aviation structures and consultation is dysfunctional
- Misaligned tax system
- Inequitable education policy in aviation
- Lack of best practice management systems within CASA
- Excessive compliance costs with current alcohol- and drug-testing regime
- Excessive security costs with current ASIC and other requirements
- Excessive CASA costs leading to excessive cost-recovery through an aviation fuel tax

► **REGULATORY REFORM**

- CASA Regulatory Structure — CASA Classification of Ops
- ICAO Compliance / nonacceptance of Australian qualifications and aircraft
- Proposed maintenance regulations are a direct threat to the viability of GA
- Lack of innovative and low-cost regulatory measures that deliver safe outcomes

► **SKILLS**

- Lack of policies regarding the education/skill set needed for:
 - Pilots
 - LAMEs
 - Airport management
 - Support staff

► **INFRASTRUCTURE AND TECHNOLOGY**

- Lack of plan for satellite augmentation system consistent with other countries. (For example, SBAS in U.S. funded through whole of government approach.)
 - Increasing costs of access to airports
 - Lack of protection of airports for GA
 - Lack of consistent best practice applied to airport management
 - Lack of resources available to local government for maintenance of airports

► **INDUSTRY PROMOTION**

- Attracting people to the career
- Potential impact on regional Australia

This is a huge amount of data to process and resolve and I will, from time to time, be asking AEA South Pacific members for input into this complex task. Our aim is to bring these issues and proposed resolutions to the attention of government and politicians and make the outcomes a parliamentary process, thereby letting the weight of government reshape CASA and our industry.

ASTRA Surveillance Technology Working Group

Between the GA Revitalization Committee duties, the AEA also has represented members at the ASTRA Surveillance Technology Working Group (STWG).

The ASTRA STWG has been tasked with the following:

- Provide advice to Aviation Industry Group (AIG) and the Aviation Policy Group (APG) through council
- Develop the industry position and advise AIG/APG on further extension

of surveillance capability by location and preferred technology

- To reduce risk of collision in the vicinity of GAAP and nontowered aerodromes
- Monitor and support Mode S radar deployment
- Monitor outcome of GAAP review

► **ASTRA’S IMPORTANCE**

- Industry, not government
- Independent chair
- Advises APG (agency heads)
- Driven by operational requirements including safety
- Outcomes, not regulations
- Cooperative and professional style
- Technically competent working groups
- GA’s opportunity to engage rest of industry

► **SUMMARY**

This reflects the evolving work of the Surveillance Technology Working Group of ASTRA for an aviation industry vision for surveillance technology.

STWG members generally agree that new surveillance technologies offer the potential for future air-to-air applications and the evolution of air traffic services (ATS), bringing safety, efficiency and environmental benefits by 2020.

In broad terms, the STWG vision is for surveillance technology to ultimately deliver these benefits for all aviation stakeholders. However, because of the investment required by aircraft operators, the STWG recommends a tiered framework, with progressively increasing aircraft requirements by airspace class, as demanded by the STWG endorsed Operational Requirement and Risk Management Framework.

Be assured that the AEA will continue to assist and improve your industry and influence outcomes where possible for the benefit of our members.

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Last Word

One more thing: The 2011 AEA International Convention and Trade Show will be March 22-25 in Reno, Nev.

Those of you who have never attended an AEA Convention and Trade Show, you should definitely make the effort. There is no other place where

you can establish personal relationships with your existing and new suppliers, other avionics shops, and see firsthand the up-and-coming new equipment your customers will be asking you about. This is the opportunity to get the drop on your competitors, not to mention the vast amount of training available.

Look around at the more successful shops and I bet you will find that they are regular AEA convention attendees.

We do have that dedicated few South Pacific members who are represented every year, but wouldn't it be great if we had 30 or more South Pacific members turn up? That would rock the socks off the Yanks. Book now and I will see you there.

If any member requires more information regarding anything in this article or further details regarding the convention, please feel free to contact me at bbaxter@bigpond.net.au.

UNITED STATES News & Regulatory Updates

Field Approval Guidance

The Federal Aviation Administration has made a few major changes to its Order 8900.1 regarding field approvals. Of immediate importance is the expanding definition of "approved data."

The FAA now recognizes Advisory Circular (AC) 43.13-2 for FAA-approved major alterations on non-pressurized areas of aircraft 12,500 pounds gross weight or less only when the user determines it is appropriate to the product being repaired; directly applicable to the alteration being made; and not contrary to the airframe, engine, propeller, product, or appliance manufacturer's data.

The agency now recognizes service and repair data provided by small airplane manufacturers. The FAA explains that while the data, in most cases, was not specifically approved, the data has provided for continued airworthiness of the product. According to the Order: "Service experience in using this data when performing major repairs to non-pressurized airplanes that are 12,500 pounds or less maximum certificated takeoff weight, and were originally TC'd before Jan. 1, 1980, has proven to be very reliable if followed and not deviated from. Follow-on TC'd of

the same model airplane, or a derivative thereof (may be assigned a later TC date), is considered to meet this criteria. When the data is used in this manner, the manufacturer's data (with page, paragraph, etc.) must be referred to in block 8 of FAA Form 337."

Pilot License Photos & User Fees

The FAA has published a notice of proposed rulemaking (NPRM) that would require a person to carry a pilot certificate with photo to exercise the privileges of the pilot certificate. This proposal responds to section 4022 of the Intelligence Reform and Terrorism Prevention Act (IRTPA). The FAA previously required all pilots to obtain a plastic certificate (except temporary certificates and student pilot certificates). This proposal furthers the fulfillment of IRTPA by requiring a photo of the pilot to be on all pilot certificates. The FAA also proposes to require student pilots to obtain a plastic certificate with photo. Student pilot certificates would have the same duration as other pilot certificates. Additionally, because of the new photo requirements, this proposal modifies the application process and the fee structure for pilot certificates.

Comments should be submitted no later than Feb. 17, 2011.

As always, the current rulemaking proposals from the FAA, EASA, TCCA, and CASA can be viewed on www.aea.net.

FREQUENTLY ASKED QUESTIONS

United States

Scope of Part 145.

The following information is from the FAA Chief Counsel Interpretation Memorandum dated Aug. 24, 2010.

QUESTION:

How does one interpret the memorandum regarding policy interpretation of 14 CFR Parts 43 and 145 for FAA certificated repair stations working on foreign-registered aircraft?

ANSWER:

The memorandum was in response to a request for policy interpretation on the issue of FAA-certificated repair stations approving for return to service articles on which they performed maintenance when those articles are intended to be installed on foreign-registered aircraft not operating under 14 CFR Parts 121 or 135.

While there is a lengthy explanation of the answer which I have

paraphrased below, in general the FAA's Chief Counsel has determined that nothing in the Part 145 applicability section was even remotely intended to address maintenance or alterations of aircraft and parts of those aircraft not within the FAA's jurisdiction.

The FAA cites a Dec. 17, 2003 interpretation issued by the Regulations Division (AGC-200) of the FAA's Office of the Chief Counsel, which clearly stated that "a repair station that performs maintenance on a foreign-registered aircraft and returns the aircraft to service "using" its FAA repair station certificate number does not bring itself within the enforcement jurisdiction of the FAA for that maintenance."

Excerpts from the Chief Counsel Memo:

In the interest of maintaining aviation safety in the United States, the Congress has given the FAA oversight responsibility for the airworthiness and operation of U.S.-registered aircraft and the operation of foreign-registered aircraft operating to, from or within the United States.

To assist the FAA in carrying out these responsibilities, the agency has regulations it administers and enforces in areas such as aircraft certification, maintenance, and operation. Relevant here are the agency's regulations, found in

14 CFR Part 43, for maintaining U.S.-registered aircraft and foreign-registered aircraft if they are operated in common carriage or carriage of mail by U.S. air carriers under the provisions of 14 CFR Parts 121 and 135.1 This includes the airframe, engines, propellers, appliances, and component parts of such aircraft.

Section 43.3 provides for several categories of persons who may perform maintenance on those aircraft and aircraft parts. Among those authorized are holders of repair station certificates, as provided in 14 CFR Part 145.

Repair stations are entities provided for by the FAA in Part 43 to facilitate the accomplishment of maintenance on aircraft and parts of those aircraft in accordance with Part 43.

The applicability paragraph of Part 145 provides that the part contains the rules that a repair station must follow when it performs maintenance on aircraft (and parts of aircraft) to which Part 43 applies. Therefore, the repair station rules are circumscribed by the maintenance rules in Part 43, which, by its own terms, is limited to aircraft having U.S. airworthiness certificates and foreign-registered aircraft used in common carriage (or the carriage of mail) by U.S. air carriers.

CANADA **News & Regulatory Updates**

Transport Canada SMS Information Session Presentations

A TCCA Safety Management Systems information session was held Nov. 24-25, 2010. The intent of this two-day session was to provide information on the implementation of TCCA's safety management systems (SMS) regulations through an overview of the regulations, exemptions and implementation phases as well as the opportunity to exchange information and best practices amongst industry participants.

Presentations made at this session may be viewed online at www.tc.gc.ca/eng/civilaviation/standards/sms-info-menu-638.htm.

Transport Canada Updates Surveillance Procedures

TCCA has revised Staff Instruction (SI) SUR-001 to Issue 4 to update the status of the Inspection and Audit Manual (IAM) and to clarify when TCCA inspectors can use audit checklists and other surveillance activities. In addition, the scoring criteria have been revised, and several references to scoring have been amended and are now expressed as "being in conformance," "not being in conformance" or "exceeding the basic conformance level." The information in this staff instruction supersedes the audit procedures detailed in TP 8606 - Inspection & Audit Manual (IAM), however, the audit checklists referenced in the IAM are still available to be used as an inspection tool, as part of the sampling activity during an assessment, a pro-

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gram validation inspection (PVI) or a process inspection, or when a compliance audit is deemed necessary.

Although this Staff Instruction is for the use of TCCA inspectors conducting Program Validation Inspections (PVI) and audits, AMOs are advised to review the procedures to be used by TCCA in order to be fa-

miliar with the process prior to being audited. SI SUR-001 Issue 4 may be viewed at www.tc.gc.ca/eng/civilaviation/opssvs/managementservices-referencecentre-documents-sur-sur-001-1027.htm.

FREQUENTLY ASKED QUESTIONS

CANADA

Transport Canada Acceptance of FAA Field Approvals

The following information is from the FAA/Transport Canada Bilateral Air Safety Agreement (BASA), Maintenance Implementation Procedures (MIP).

QUESTION:

Can a FAA-approved Repair Station execute a Field Approval on a Canadian Registered Aircraft, and if not, does Transport Canada require an STC?

ANSWER:

Transport Canada Civil Aviation (TCCA) does not have a Field Approval system. In accordance with the Special Conditions identified in the BASA MIP, only TCCA-approved, specified or acceptable parts or components as applicable may be used to perform maintenance, preventive maintenance, or alterations to Canadian aeronautical products. Major modifications on Canadian-registered aircraft must be performed in accordance with "Approved" or "Specified" data. Therefore, a major alteration approved under the FAA Field Approval system cannot be installed on a Canadian-registered aircraft.

"Approved" data includes Type Certificates, Supplemental Type Certificates, and Repair Design Approvals issued by TCCA.

"Specified" data is information contained in authoritative documents which, although not approved, have

been specified as appropriate for the purpose of major modifications and major repairs.

If the intended major modification cannot be performed in accordance with Specified data acceptable to TCCA, and there is no existing TCCA Approved data, then the aircraft owner/operator would have to obtain a TCCA STC for the modification. The FAA Repair Station may prepare the engineering data and documents to support the STC application, but a TCCA-approved Design Approval Representative (DAR) or Design Approval Organization (DAO) must be engaged to submit the data and STC application to TCCA.

The above requirements should not be confused with the situation where an aircraft imported to Canada from the U.S. has already had major alterations installed in accordance with the Field Approval process. As explained in TCCA Advisory Circular AC 513-003, major repairs and alterations installed on an aircraft exported from the U.S., regardless of the state of design of the aircraft, that include data approved by the FAA using the field approval process may be accepted by TCCA when substantiated via an appropriately executed FAA Form 8110-3, FAA Form 8100-9, FAA Form 337, (block 3) or logbook entry. The only exception to this is that, in the case of FAA Field Approvals from the State of Alaska, a type design examination shall be conducted and a Canadian design approval issued via the STC process detailed in CAR 521.

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.

EUROPE News & Regulatory Updates

EASA

Nearly a year after the first consolidated version of Part M was made available by EASA on its website; they have released the first issue of Part 145 in a consolidated version free of charge for those who want to download the electronic version of the regulation and the applicable AMC material.

The document contains the latest amendments as per EC 962/2010 and Director Decision 2010/006/R.

The EASA Part 21 Design Organization Approval (DOA) Implementation workshop held in November of last year brought a few new topics and also highlighted a number of known issues in the area of design and certification. To name a few, we want to highlight the area of environmental protection which is part of the Part 21 regulation from the start, but was never recognized as an applicable regulation within the world of avionics. In fact, one topic in this area being the noise may be well within the area of our applications such as installation of large antennas or other external modifications.

As such, the agency has highlighted the importance and the need to evaluate any change regarding the noise and engine emission requirements. The applicable regulations are EASA CS-36 (noise) and CS-34 (engine emission) and some ICAO documents referred in there.

An NPA 2010-13 was also released in parallel to provide guidance for the classification of changes to a type design in the light of Environmental protection requirements. Comments can be provided through February 2011.

Other topics discussed in individual presentations are:

- Electric Wiring Interconnecting Systems (EWIS)
- Certification Verification Engineer (CVE) Qualification
- Highlights in the regulation changes since the last workshop in 2009
- Use of approved data
- Certification of Night Vision Imaging Systems on aircraft and related certification guidance
- The new Operation Suitability Data, previously released as NPA 2009-01 and before identified as the Operation Suitability Certificate
- EASA Internal Occurrence Reporting System IORS, and
- DOA privileges

All the presentations of the workshop are available and can be downloaded from the EASA events Web site.

In an effort of EASA to reduce the gap in number of ETSOs versus TSOs, they have amended and released changes to the current list of ETSOs with the Executive Director Decision ED 2010/010-R. The changes include a transfer of one particular ETSO from the Index 2 list (not technically similar to the TSO) to Index 1 List (technically similar). This is ETSO-C112c detailing the standards for airborne Mode S transponders.

A number of other ETSOs have been revised or have been replaced by new TSO numbers. This includes the following:

- C123b Cockpit Voice Recorder Systems
- C124b Flight Data Recorder Systems
- C139 Audio Systems and equipment
- C155 Recorder independent Power Supply
- C190 Active Airborne Global Navigation Satellite System (GNSS) Antenna
- 2C169a VHF COMM Equipment

The Comment Response Document CRD 2008-07 Part II contains all the comments, responses and the resulting text of the proposed new certification specification for Light Sport Aircraft (CS-LSA). The new CS-LSA is based on a number of ASTM standards at a specified revision as documented in Subpart A of CS-LSA. The structure of the ASTM standard F2245 at revision 09 is used as the basis for this CS-LSA, including the numbering system.

Changes introduced by this Comment Response are the extension of the scope to aircraft with retractable landing gear and variable pitch propeller. However, the new certification standard does not include technical standards for banner towing or night VFR which will be part of a separate rulemaking task and will then be implemented consistently within CS-LSA and CS-VLA. The new CS-LSA could be issued as early as first quarter 2011. □

Implementation of SMS in Canada

BY JOHN CARR, AEA CANADA REGULATORY CONSULTANT

Part VII: *Risk Management*

This is the seventh in a series of articles that will focus on the implementation of Safety Management Systems (SMS) in Canadian AMOs, to meet the upcoming Transport Canada regulatory requirements for SMS. This series, which commenced in the August 2010 issue of *Avionics News*, has explained how a comprehensive quality management system designed to meet CAR 573.09 “Quality Assurance Program” requirements, will form a sound basis for the future SMS program. TCCA’s requirement for a gap analysis also was discussed and sample gap analyses for development of a safety management plan and the documentation elements of SMS are being provided.

This article will continue with illustration of the sample gap analysis, to address the risk management elements of the safety oversight component of the Safety Management System. Where these SMS elements may be satisfied by the AMO’s existing quality assurance program this will be noted.

Sample Gap Analysis Form (573 AMOs)

Safety Management System Requirements	Response (Yes/No)	If yes, state where the requirement is addressed. If no, record SMS processes that need further development.	
		Small AMO (1-10 persons) ¹	Large AMO (>10) ²

Component 3, Safety Oversight – Element 3.4, Risk Management (CAR 107, CAR/STD 573.16³)

Risk management is a proactive activity that looks at the risks associated with identified hazards and assists in selecting actions to maintain an appropriate level of safety when faced with these hazards.

Once hazards have been identified, through either occurrence/hazard reporting or a safety assessment, the risk management process begins. Risk management is an evaluation of the potential for injury or loss due to a hazard and the management of that probability. This concept includes both the likelihood of a loss and the magnitude.

The basic elements of a risk management process are:

- 1. Risk Analysis*
- 2. Risk Assessment*
- 3. Risk Control*
- 4. Monitoring*

Risk Analysis encompasses risk identification and risk estimation. Once a hazard has been identified, the risks associated with the hazard must be identified and the amount of risk estimated.

Risk Assessment takes the work completed during the risk analysis and goes one step further by conducting a risk evaluation. Here the probability and severity of the hazard are assessed to determine the level of risk. Diagram 7 shows one example of a risk assessment matrix. In this diagram, the matrix defines a method to determine the level of risk.

Risk Control addresses any risks identified during the evaluation process that require an action to be taken to reduce the risks to an acceptable level. It is here that a corrective action plan is developed.

Monitoring is essential to ensure that once the corrective action plan is in place, it is effective in addressing the stated issues or hazards.

Is there a structured process for the assessment of risk associated with identified hazards, expressed in terms of severity, level of exposure and probability of occurrence?	No	<p>All AMOs: The ability to identify hazards and assess risk associated with hazards is an important component of my/our continuous safety improvement process. If it is determined that a risk assessment is required, I (1-person AMO), or the person responsible for safety (multi- person AMO) will conduct and document the process by completing the Risk Management Worksheet 4.</p> <p>The risk-management process is as follows: the hazard or occurrence is identified; the associated risks are determined; the probability or severity risk rating is determined; risk control strategies, including timelines, are developed and a revised risk rating is determined; risk control strategies are implemented; implemented risk controls are assessed; when the process has been completed, the SMS file is updated with a narrative of the results; and the completed forms are stored in a secure location.</p>
Are there criteria for evaluating risk and the tolerable level of risk the organization is willing to accept?	No	
Does the organization have risk control strategies that include corrective/ preventive action plans to prevent recurrence of reported occurrences and deficiencies?	No	
Does the organization have a process for evaluating the effectiveness of the corrective/preventive measures that have been developed?	No	
Are corrective/preventive actions, including timelines, documented?	No	

The SMS safety oversight elements of risk management would be additions to the AMO's existing quality management system, however both systems have a common goal of managing operational risks, and risk management will therefore be an extension of the AMO's existing quality management system.

AC107-001 Sec. 7.4 contains guidance for implementation of the risk management elements that may be used by AMOs of all size and complexity as appropriate. Diagram 7 (Risk Analysis Matrix) and Diagram 8 (Risk Assessment Matrix) define methods to determine the level of risk and subsequent action.

The next article in this series will look at the training, awareness and competence elements of the safety oversight system. □

¹ Not all SMS elements will be required for small AMOs. AC107-002 addresses alleviations for AMOs with 1-person and 2-10 persons.

² AC107-001 addresses requirements for large AMOs.

³ CAR 573.16 will address SMS requirements for "573" AMOs. It has not yet been published. Requirements are taken from the NPAs for CAR 573.16 and STD 573.16.

⁴ A sample Risk Management Worksheet will be available on the AEA web site at the conclusion of this series of articles on the implementation of SMS.