INTERNATIONAL NEWS AND REGULATORY UPDATES

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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.*

SMS: Sadly Misguided Strategy or Systematic Management Scapegoat?

Safety management systems (SMS) has been such a hot topic of discussion recently that it has — much like "human factors" — taken on a life of its own and now carries with it some negative stigmas.

Aviation human factors began as "cockpit resource management." Cockpit resource management training has contributed significantly toward the prevention of "pilot error" accidents.

According to Wikipedia, "cockpit resource management (CRM) training originated from a NASA workshop in 1979 that focused on improving air safety. The NASA research presented at this meeting found that the primary cause of the majority of aviation accidents was human error, and that the main problems were failures of interpersonal communication, leadership, and decision making in the cockpit."

Similar to CRM, "maintenance resource management" (MRM) training began by emphasizing interpersonal communications as well as situational awareness, problem-solving, decision-making and teamwork. We often refer to this MRM approach as "maintenance human factors training."

While maintenance accidents have been reduced because of the awareness of human factors, which affect a mechanic's ability to focus on the assigned tasks, has it been presented in the most cost-effective manner? It has taken nearly a decade for maintenance human factors to acquire its own personality and break away from the "Type A" interpersonal-communications-driven approach of CRM.

Like human factors, the concept of SMS is not bad; it is the implementation and regulated requirements in question. The AEA uses many of the principles of SMS when developing communications and training forums. The discrete selection of SMS principles is a good business decision; however, the arbitrary redundant mandate of SMS principles is bad government.

Like maintenance human factors, SMS is taking the lessons learned from the benefits of implementing a safety management system in one environment (a multi-tiered flight operations centric organization) and blindly mandating those processes to another (a structured, regulated and single-process centric line of business).

THE DISCRETE SELECTION OF SAFETY MANAGEMENT SYSTEMS PRINCIPLES IS A GOOD BUSINESS DECISION; HOWEVER, THE ARBITRARY REDUNDANT MANDATE OF SMS PRINCIPLES IS BAD GOVERNMENT.

Some of the civil aviation authorities are using the concept of SMS as a means to correct their pet management issues, which they cannot address through normal, legal rulemaking. Rather than improving their "safety programs," as mandated by the International Civil Aviation Organization (ICAO), they seem fixated on finding a management scapegoat.

This is like taking the management rules of a long-haul trucking company and applying it to a drive to the local

grocery store. It might result in fewer accidents, but at what cost?

While each National Authority discusses its implementation of SMS, they are focused on raising the bar on their pet issues without any significant concern for the economic impact on the industry.

What might be getting lost in the local process is the fact the standard for SMS is actually an ICAO "recommendation."

Let's take a look at the foundation. Here are some quotes from the ICAO Safety Management Manual:

• "The term 'safety management' conveys the notion that managing safety is a managerial process that must be considered at the same level and along the same lines as any other managerial processes."

• "In order to reinforce the notion of safety management being a managerial process, the proposal includes a provision for an organization to establish lines of safety accountability throughout the organization, as well as at the senior management level."

• The term 'safety management,' as used by ICAO, includes two key concepts: First, the concept of a safety programme, which States implement. Second, the concept of safety management systems, which are implemented by aircraft operators, maintenance organizations, air traffic services providers and aerodrome operators."

This is an extremely important description of the concept of safety management. It requires a "partnership" between the regulator and the regulated. Each State's proposal should clearly show how this partnership will work, as well as the responsibilities of both the regulator and the regulated in this safety-management partnership.

So far, the proposals hitting the streets are examples of how the Civil Aviation Authority will regulate by mandating "regulations plus." The op-

erator must comply with the current regulations; however, based on extensive audits, the operator must raise the bar and implement tighter regulations if the national standard doesn't absolutely address all hazards.

This rulemaking requires a viable proposal that passes a cost-benefit evaluation. SMS requires regulations without the benefit of a cost-benefit analysis. This is not the intent of SMS.

According to ICAO, "The acceptable level of safety shall be established by the State(s) concerned. A State's safety programme embraces those regulations and directives for the conduct of safe operations from the perspective of aircraft operators and those providing air traffic services."

If there is a discrepancy in a regulation, it is the responsibility of the State to implement whatever rulemaking is appropriate to address the shortfall — within reason, of course; it is not the responsibility of the regulated to assume a high level of certitude to make up for the State's lack of legal rulemaking.

In establishing States' requirements for the management of safety, ICAO differentiates between safety programs and safety management systems as such:

• A safety program is an integrated set of regulations and activities aimed at improving safety.

• A safety management system is an organized approach to managing safety, including the necessary organizational structures, accountabilities, policies and procedures.

This is very interesting: According to ICAO, it is the state's responsibility to develop a "set of regulations and activities aimed at improving safety."

Isn't this what the FAA, TCCA, EASA, CASA and every other developed country's NAA do? It seems to me, this already is in place.

It is the business' responsibility to have an "organized approach to managing safety, including the necessary organizational structures, accountabilities, policies and procedures." This looks very familiar!

An organized approach to "managing safety," such as a repair station manual (exposition) detailing how the repair station (AMO) will comply with the requisite safety regulations established by the "safety program."

What about the organizational structure? An AMO has an accountable manager, director of maintenance, chief inspector and a structure of quality inspectors. In addition, the AMO manual contains a thoroughly defined quality system, a required audit process and a feedback loop.

This sure seems like a pretty thorough "organizational structure" already is in place.

Each AMO has an accountable manager who is "accountable" for the performance, or lack of performance, of the AMO. I think this should meet the "accountability" requirement.

What about policies and procedures? Isn't this contained in the AMO manuals?

It seems to me, for the independent maintenance organizations, we can declare victory. Between the partnership of the regulators and their regulations and the repair stations and their required organizational structures, we have met the intent of the ICAO SMS recommendation.

Should maintenance be included as an organizational function of an air carrier whether or not it is an in-house maintenance program or outsourced to a third party? Absolutely.

Should SMS be added to the regulatory burden of independent maintenance organizations? Clearly, our regulations already mandate SMS.

UNITED STATES
News & Regulatory Updates

FAA Amends Organization Designation Authorization Procedures

On Sept. 18, the Federal Aviation Administration issued a notice of availability announcing the issuance and availability of Change 1 to FAA Order 8100.15, "Organization Designation Authorization Procedures."

This order establishes the procedures, guidance and limitations of FAA authority to grant ODA authority to an organization under the Organization Designation Authorization program.

Change 1 clarifies that ODA administrators must attend ODA applicant training before appointment and a delegation workshop every 24 months.

Change 1 also requires Organization Management Team members and their managers to attend FAA academy training as currently required in Order 8000.93, and requires OMT leads to attend a delegation workshop at least every 24 months.

FAA Revises Air Carrier Maintenance Programs Advisory Circular

On Sept. 26, the FAA issued a notice of availability announcing the issuance and availability of revised Advisory Circular 120-16E, "Air Carrier Maintenance Programs."

This advisory circular is an update of AC 120-16D, which was issued in 2003. It describes the scope, content and functions of air carrier aircraft maintenance programs. It also explains the background of these programs and the FAA's regulatory requirements. Each of the 10 elements of air carrier maintenance programs also is described and explained.

This AC can be read or downloaded from the Internet at http://rgl.faa.gov under the "Advisory Circular" hyperlink.

FAA Issues Revised Designee Management Handbook

On Sept. 29, the FAA issues Change 4 to FAA Order 8100.8C, "Designee Management Handbook."

This order establishes the FAA procedures to be used by the Aircraft Certification Service and Flight Standards Service for managing the FAA's representatives of the Administrator (designee) program.

This change incorporates changes necessary to comply with FAA Order VS1100.2, "Managing AVS Delegation Programs," and it updates documentation requirements for FAA Form 8130-14, "Designee Management Report."

The change also adds implementation instructions for compliance with designee recurrent training attendance requirements and designee file management.

FREQUENTLY ASKED QUESTIONS
United States

Aircraft Cleaning

The following information is from the Federal Aviation Regulations.

QUESTION:

After finishing an avionics installation, we clean and wash the customer's aircraft. Is cleaning an aircraft maintenance or preventative maintenance? What ratings does the repair station need to return the aircraft to service after washing this aircraft?

ANSWER:

According to the FAA, "The regulations do not consider the physically cleaning of an aircraft as maintenance or preventative maintenance." Although, if it were a required task in an approved corrosion prevention program, it would need to be considered a maintenance task, rather than just cosmetic.

The FAA further states, "However, when preparing the aircraft for cleaning requires removal of components or protection of components, that may fall under the definition of maintenance or preventative maintenance." The FAA considers the reapplication of lubrication compounds and preservatives to aircraft components maintenance and/or preventative maintenance.

14 CFR 145.201 allows for a certificated repair station to perform maintenance or preventive maintenance on any article for which it is rated and within the limitations in its operations specifications. Or, the repair station may arrange for another person to perform the maintenance or preventive maintenance of any article for which the certificated repair station is rated. If that person is not certificated under Part 145, the certificated repair station must ensure that the non-certificated person follows a quality control system equivalent to the system followed by the certificated repair station.

While the physical act of washing the aircraft might not be considered maintenance, the preparation and post-wash activities almost always are considered maintenance.

14 CFR 43.13 adds two specific issues to consider:

• First, each person performing maintenance or preventive maintenance shall use the methods, techniques and practices prescribed in the current manufacturer's maintenance manual, or the Instructions for Continued Airworthiness, or other methods, techniques and practices acceptable to the Administrator.

• The second issue with applicability to aircraft washing is the requirement for each person maintaining or performing preventive maintenance to use materials of such a quality that the condition of the aircraft and airframe will be at least equal to its original condition.

Buried in this requirement is the need to know what cleaning solvents the manufacturer calls for to be used to wash the aircraft. If an alternative solvent is needed, you need to refer to AC 43-205, "Guidance for Selecting Chemical Agents and Processes for De-painting and General Cleaning of Aircraft and Aviation Products," for a substitute.

Aircraft structures are uniquely susceptible to corrosion and hydrogen embrittlement; as a result, the manufacturer specifies particular aircraft cleaning solvents.

As for the second part of the question: What type of rating would a repair station need for aircraft washing? This depends on the aircraft.

Generally speaking, if washing the aircraft requires any tools other than soap and a brush, such as a screwdriver, wrench, grease gun, barrier tape, etc., it is a maintenance function and, therefore, would require the appropriate limited airframe rating.

Most avionics shops hold a limited airframe rating for the installation and maintenance of radios and instruments. However, I have not seen an avionics specialty shop with an airframe rating to include landing gear doors, cowl flaps or lubrication, which are all required for properly washing most modern aircraft.

Your local FAA office should be able to add aircraft washing and pre- and post-maintenance to your ops specs.

CANADA
News & Regulatory Updates

Transport Canada Will Not File a Difference with SMS Implementation

At the annual 2008 U.S./Europe International Aviation Safety Conference, Transport Canada said Canada is one of two countries that will not be filing a difference with the ICAO mandate for the establishment of safety management systems (SMS) by January 2009, essentially confirming its commitment for implementing SMS.

The international bodies have been struggling with how to assure operators will need to only "certify" their SMS programs once, rather than having each and every ICAO member state approve the operators' SMS programs.

Transport Canada's vision is for SMS to be implemented in all regulated civil aviation organizations by 2010. However, SMS implementation depends on the date regulations come into force, then it will be phased in over three years. As we know, the SMS regulations for approved maintenance organizations supporting commercial air service (705) came into force May 31, 2005.

According to the published implementation schedule, the SMS regulations for general aviation AMOs (573) was forecast to be published in the "Gazette I" last month; Gazette II is forecast to follow in four months later, in March 2009, with the rule being brought into force.

It is especially important to follow *Avionics News* and the AEA's "Canada Regulatory Updates" to track the progress on this implementation of the Canadian "unique" SMS standard. At this time, there is no assurance this premature standard will meet the amended international standards of ICAO as requested by the European Aviation Safety Agency, the FAA and other world aviation authorities.

New Booklet for Aviation Personnel to Enhance Security

Transport Canada announced the implementation of a new format for air traffic controller licences as well as flight crew licences and permits. The new aviation document booklet will enhance security in the airline industry.

This new, secure licence format for pilots and air traffic controllers will help avoid fraudulent use of Canadian aviation licences — and it represents the government of Canada's ongoing commitment to establishing preventative measures to improve aviation safety and security. The new booklet will ensure positive identification of the owner and present all necessary credentials in one document.

The aviation document booklet will look similar to a Canadian passport and will be valid for five years. It will consolidate all Canadian pilot and air traffic controller licensing documents into a single format, which includes the holder's photograph and signature as well as security features for positive authentica-

tion. The booklet will be issued to all current and new licence holders, and it will conform to international standards.

Transport Canada will begin issuing the new booklets to holders of new licences and permits shortly. Currently, valid documents will be replaced, starting with licences for commercial and airline pilots and air traffic controllers. All other licences and permits will be replaced by 2010. Current document holders will be required to submit an application form, including a photograph and signature.

The changes to the format of licences and permits do not affect the privileges of pilots and air traffic controllers. Age, medical, knowledge, experience and skill requirements will remain the same.

The application form is available on Transport Canada's website at www.tc.gc.ca/civilaviation/general/personnel/changes.htm.

EUROPE
News & Regulatory Updates

EASA Issues Revised Certification Standards for Large Aircraft

On Sept. 5, the European Aviation Safety Agency (EASA) issued a revised certification standard for large aircraft CS-25, Amendment 5.

The new CS-25 contains the consolidated outcome to NPA 2007-01 in regards to the "Aeroplane Electrical Wiring Interconnection System" (EWIS) requirements. It will be applicable to new aircraft types for which the application for type certification is filed after the date of the CS-25 amendment and for large aeroplanes with a type certificate after Jan. 1, 1958, with a maximum type-certificated passenger capacity of 30 or more, or a maximum payload capacity of 3402 kg (7,500 pounds) or more.

This new amendment will require type certificate holders of new and certain existing large aeroplane types applicable to the new requirement to develop new Instructions for Continued Airworthiness in accordance with the newly created CS-25, Subpart H, and the amended Appendix H. This EWIS requirement also applies to all new applications for major changes to a type certificate and new applications for supplemental type certificates made after the date of the CS-25 amendment.

The FAA has issued a similar requirement known as FAR Part 26.

EASA Issues Several Decisions, Acceptable Means of Compliance

EASA has issued the following executive director decisions and acceptable means of compliance:

• EASA issued executive director decision ED 2008/007/R to amend the existing AMC20 material with three new AMCs. The new material contains AMC20-21, 20-22 and 20-23. The three AMCs address various areas of the main subject EWIS, which has been addressed in the latest CS-25 amendment.

AMC20-21 is related to the program to enhance EWIS maintenance. It provides acceptable means of compliance for developing enhanced EWIS maintenance for operators, holders of TCs and STCs, and maintenance organizations. It promotes a housekeeping philosophy of "protect; clean as you go" when performing maintenance, repair or alterations on or around aircraft EWIS.

AMC20-22 provides the AMC for developing an EWIS training program. Following this AMC will result in a training program to improve the awareness and skill level of the aviation personnel in EWIS production, modification, maintenance, inspection, alterations and repair.

AMC20-23 provides the acceptable means of compliance for developing an electrical standard wiring practices document for operators, holders of TCs and STCs, and maintenance organizations. It is to promote a common format for documents containing standard practices for electrical wiring and a summary of the minimum content expected to be contained within this document.

• NPA 2008-20 contains a proposal for the amendment of EC1702/2003 (Part 21) to define different categories of flight tests; define the competence and experience of flight test pilots and flight test engineers; and establish requirements for the flight test training organization. The proposal further defines the requirement for design organizations and production organizations to have a flight test operation manual if flight testing is part of its activities and the privileges for a design organization in relation with permit-to-fly.

• On Sept. 15, a comment response document (CRD) was issued detailing the response to NPA 16-2006, which proposes further regulatory clarification on the certification efforts defined in Part 21, Subpart J, "Design Organization Approval." The CRD seems to indicate a disagreement between the industry — which widely accepted the NPA contents — and the NAAs and experts involved in EASA certification

activities who are against.

The CRD lists on nearly 100 pages the response of the stakeholders and should help clarify any misunderstandings in the response interpretation. The original NPA contained proposed regulation amendments in regards to the Flight Manual Supplement approval; development and preparation of a certification program; agency involvement in an STC program; and the approval of Subpart J, "Design Organizations."

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