



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.

UNITED STATES News & Regulatory Updates

FAA Proposes SMS for Part 121 Certificate Holders

The Federal Aviation Administration has issued a notice of proposed rulemaking requiring each certificate holder operating under 14 CFR Part 121 to develop and implement a safety management system to improve the safety of their aviation-related activities.

A safety management system is a comprehensive, process-oriented approach to managing safety throughout an organization. An SMS includes an organization-wide safety policy; formal methods for identifying hazards, controlling and continually assessing risk; and promotion of a safety culture. An SMS not only stresses compliance with technical standards, but also increased emphasis on the overall safety performance of the organization.

This proposal likely will impact more than just Part 121 air carriers. The baseline Part 5 SMS program likely will be applied to repair stations in the next few years. There are two buried documents that also must be reviewed with applicability to repair stations. These documents are contained in the docket file on www.regulations.gov.

Comments must be received on or before Feb. 3, 2011. For more information about this proposal, visit the AEA website at www.aea.net.

FAA to Accept ASTM International Standard Practices for Electrical Wiring Systems

The FAA announced its intention to accept the ASTM International's F2696-08, "Standard Practice for Inspection of Airplane Electrical Wiring Systems," as an acceptable means of compliance to 14 CFR Part 23 sections concerning electrical wiring systems. With this notice, the FAA finds the standards to be acceptable methods and procedures for inspection of electrical wiring systems for normal, utility, acrobatic and commuter category airplanes.

The FAA also announced its intention to accept the ASTM International's F2799-09, "Standard Practice for Maintenance of Airplane Electrical Wiring Systems," as an acceptable means of compliance to 14 CFR part 23 sections concerning electrical wiring systems. With this notice, the FAA finds the standards to be acceptable methods and procedures for maintenance of electrical wiring systems for normal, utility, acrobatic and commuter category airplanes.

These consensus standards are copyrighted by ASTM International and are available from ASTM at www.astm.org.

FREQUENTLY ASKED QUESTIONS

United States

Preventive Maintenance

The following information is from the Federal Aviation Regulations.

QUESTION:

What is preventive maintenance?

ANSWER:

This is a question that confuses many people because two separate areas of the regulations need to be understood to answer the question.

The most general answer is contained in Part 1, "Definitions." Here is where the FAA defines preventive maintenance as "simple or minor preservation operations and the replacement of small standard parts not involving complex assembly operations."

However, you cannot stop with this answer. You must continue to Part 43, Appendix A, Paragraph C. Here is where the FAA restricts preventive maintenance as "limited to the following work, provided it does not involve complex assembly operations..." Appendix A lists 32 specific tasks considered preventive maintenance. If your task is not listed in Appendix A, the task is considered "maintenance" and must be accomplished by a certified mechanic or repair station.

CANADA News & Regulatory Updates

Transport Canada Plans to Amend CAR 521 for Type Certificate Activities

Transport Canada Civil Aviation is amending Canadian Aviation Regulation 52, which was published in December 2009. CAR 521 replaced Airworthiness Manual Chapters 511, 513 and 591. CAR 521 is a parallel regulation to FAA FAR 21 and EASA CS 21 for the processes governing aeronautical product type certificate activities.

Subsequent to the publication of CAR 521, Canadian industry identified issues associated with the transition from the predecessor regulations to the new CAR 521. TCCA now has issued a notice of proposed

amendment, NPA 2010-021, to propose revisions to CAR 521 to address the following:

- Clarification of the terms “conformity” and “compliance” in the text of the regulation.
- Clarification of provisions for test flight requirements.
- Clarification of the terms “major change” and “minor change” to harmonize with the FAA and EASA definitions of these terms.
- Reintroduction of the terms “equivalent safety findings” and “exemptions” for changes to the type design, a repair design approval or part design approval that were omitted from the original publication of CAR 521.
- Clarification of the applicable standards of airworthiness for changed product rule provisions and for the recognition of legacy standards.
- Clarification of actions required in the

event of a service difficulty report.

- Clarification of requirements associated with Canadian Technical Standard Order Design Approvals.

NPA 2010-021 was discussed at the CARAC Technical Committee meeting in November; it is expected to be adopted in 2011.

The NPA can be viewed at www.tc.gc.ca/aviation/applications/npa/en/npa_results.asp?x_lang=e.

To assist in correlating CAR 521 requirements with earlier regulations and standards, TCCA has published AC 521-001, “CAR 521 Table of Concordance.” AC 521 can be viewed at www.tc.gc.ca/eng/civilaviation/opssvs/managementservices-referencecentre-acs-500-521-001-1197.htm.

In addition, TCCA has indicated guidance materials, such as advisory circulars and staff instructions, to support CAR 521 will be available in the latter part of 2011.

FREQUENTLY ASKED QUESTIONS

CANADA

Canadian Technical Standard Order Equipment

The following info is from the Canadian Aviation Regulations.

QUESTION:

Airworthiness Manual (CAR STD) 551, “Aircraft Equipment and Installation,” Subchapter C, now states avionics equipment required to be installed to meet an operational rule (such as FDR, CVR, TAWS, transponders, etc.) must meet the design standards of the applicable CAN-TSO. Previously, AWM 551 identified that equipment was required to meet the FAA’s TSO design standards. Why has this changed, and does this mean newly installed equipment must have a CAN-TSO approval?

ANSWER:

AWM 551 was amended concurrently with the issue of CAR 521 in December 2009. CAR 521 introduced the CAN-TSO appliance design approval process to bring TCCA in line with the appliance approval processes of the FAA (TSO) and EASA (ETSO). CAR 521.106 states the standards for a CAN-TSO are to be those identified in AWM 537, “Airworthiness Standards—Appliances.”

AWM 537.101(b) states:

“The Canadian Technical Standard Orders (CAN-TSOs) con-

sist of those FAA Technical Standard Orders that are adopted by the Minister using the simplified process for the amendment of the design standards of airworthiness as set out in the CARAC Charter and are identified with a corresponding CAN-TSO number in the following table.”

The table in AWM 537.101 currently identifies that all the CAN-TSOs adopt the design standards of the equivalent FAA TSO. In the future, unique CAN-TSO design standards may be adopted for equipment where there is no applicable FAA TSO.

AWM 551 now states the “design standards” of the CAN-TSO documents apply, which means, if the CAN-TSO identified in AWM 537 is based on a corresponding FAA TSO, the design standards of the FAA TSO are acceptable. Hence, equipment approved under the FAA TSO system can be used, as applicable, to meet the requirements of AWM 551. Therefore, despite the introduction of CAR 521 with the CAN-TSO system, and amendments to AWM 537 and 551, nothing has changed with respect to the acceptability of FAA TSO’d equipment to be installed to meet CAR operational requirements.

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.

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INTERNATIONAL NEWS

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EUROPE News & Regulatory Updates

EASA Issues Comment Response Document Regarding Production Organization

EASA issued a comment response document related to Part 21, Subpart G, “Production Organization.” The CRD to NPA 2010-01, issued in October, provides a proposed text for AMC material defining new criteria for a POA holder to meet its obligations under 21A.139(b)(1)(ii) by involving other parties in the activities of assessment, audit and control of a supplier. These are the activities that establish whether or not the organization of a supplier is considered adequate to provide products, parts, materials or equipment to its applicable design.

The proposed text is largely harmonized with the contents of FAA Order 8120.12.

EASA Hosts Design Organization Approval Implementation Workshop

In November, EASA hosted its second Design Organization Approval Implementation Workshop. A number of hot topics were discussed, including:

- EASA organization for DOA and alternate procedure to DOA.
- Implementation of Opinion 01/2010 on AFM supplements and certification program.
- Use of approved data.
- Coordination between DOA and Part 145 maintenance organizations on prototype installations.
- Status of rulemaking activities affecting Part 21.

- Implementation of operational suitability data implementation planned for April 2012.

- EASA Internal Occurrence Reporting System providing improved traceability of occurrences.

- An update to night vision imaging systems and planned developments in regards to approval ratings of Part 145 MOA and P21 DOA.

- An update on the status of the implementation of Environmental Protection requirements, such as noise, exhaust emission and fuel venting, on the design organization level.

- An update on the progress to implement and prepare Instructions for Continued Airworthiness for electrical wiring interconnection systems.

- A presentation about DOA privileges in regards to AFM supplements and the issue of permit-to-fly.

SOUTH PACIFIC News & Regulatory Updates

CASA to Introduce New Maintenance Regulations

Beginning June 27, 2011, CASA will introduce new maintenance regulations. For LAMEs, this means they will have a new license issued under CASR Part 66, which will become effective from June 27, 2011. For operators, maintenance organizations and maintenance training organizations, transition to the new CASRs 42, 145 and 147 will commence from June 27, 2011.

Once published, the AEA will begin assisting members with the transition to the new regulatory structure, including briefing and transition training during the AEA South Pacific Meeting in 2011.

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Implementation of SMS in Canada

BY JOHN CARR, AEA CANADA REGULATORY CONSULTANT

Part VI:

Safety Oversight, Investigation and Analysis

This is the sixth in a series of articles focusing on the implementation of safety management systems in Canadian AMOs to meet the upcoming Transport Canada regulatory requirements for SMS. This series, which commenced in the August issue of *Avionics News*, has helped explain how a comprehensive quality management system designed to meet CAR 573.09 “Quality Assurance Program” requirements forms 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 sample gap analysis addresses the investigation and analysis elements of the safety oversight elements of the SMS. It is noted where these SMS elements may be satisfied by the AMO’s existing quality assurance program.

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 3.3, Investigation and Analysis (CAR 107, CAR/STD 573.16³)

Safety oversight is fundamental to the safety management process. Safety oversight provides the information required to make an informed judgment on the management of risk in your organization. Additionally, it provides a mechanism for an organization to critically review its existing operations, proposed operational changes and additions or replacements for their safety significance.

There are many tools that can be utilized to investigate events. An initial risk assessment might help determine the type of investigation that is conducted, or an organization might employ a predetermined event investigation format regardless of the event. It is up to the individual organization to determine which is the most appropriate method for their organization. Boeing’s Maintenance Error Decision Aid (MEDA), the Ramp Error Decision Aid (REDA) and the Procedural Event Analysis Tool (PEAT) are examples of tools designed to investigate ramp, maintenance and flight operations events. These tools can be adapted to suit your operational needs. Regardless of the process utilized, a rigorous, repeatable methodology is required to effectively investigate events.

Details of these tools are provided in AC 107-001, Section 6.2.6.

| | | | |
|---|----|--|---|
| Are there procedures in place for the conduct of investigations? | No | <p>All AMOs: A process will be in place to ensure that every event shall be investigated. The extent of the investigation will depend on the actual and potential consequences of the occurrence or hazard. This can be determined through a risk assessment. Reports that demonstrate a high potential will be investigated in greater depth than those with low potential.</p> | |
| Do measures exist that ensure all reported occurrences and deficiencies are investigated? | No | <p>1- person AMO: The ability to investigate, analyze and identify the cause or probable cause of hazards and occurrences documented through the SMS is an important component of our continuous safety improvement process. Investigation and analysis are components of the reactive, proactive and risk-management processes. Details can be found in those sections.</p> <p>The person responsible for safety will lead the investigation and analysis of occurrences and hazards to:</p> <ul style="list-style-type: none"> • determine the cause; • develop and implement corrective or preventive actions; and • evaluate corrective actions to make sure they are effective. | <p>AMO > 10 persons The investigative process will be comprehensive and will attempt to address the factors that contributed to the event, rather than simply focusing on the event itself - the active failure. Active failures are the actions that took place immediately prior to the event and have a direct impact on the safety of the system because of the immediacy of their adverse effects. They are not, however, the root cause of the event; as such, applying corrective actions to these issues may not address the real cause of the problem. A more detailed analysis is required to establish the organizational factors that contributed to the error.</p> <p>A process tool will be used to investigate the safety occurrence report using a five step process:</p> <ul style="list-style-type: none"> • identify the error-caused event; • decide the method of investigation, e.g. tool; • investigate the error that caused the event, the factors that contributed to the error, and a list of possible prevention strategies; • review, prioritize, implement, and then track prevention strategies (process improvements) in order to avoid or reduce the likelihood of similar errors in the future; and • provide feedback to the maintenance workforce. |
| Is there a process to ensure that occurrences and deficiencies reported are analyzed to identify contributing and root causes? | No | | |
| Are corrective and preventative actions generated in response to event investigation and analysis? | No | | |
| When identifying contributing and root causes, does the organization consider individual human factors, the environment, supervision and organizational elements? | No | | |
| Does the organization have a staff of competent investigators commensurate with its size and complexity? | No | | |
| Are results of the analysis communicated to the responsible manager for corrective action and to other relevant managers for their information? | No | | |
| Is there is a process to capture information from an investigation that can be used to monitor and analyze trends? | No | | |
| Is there evidence that the organization has made every effort to complete the investigation and analysis process in the established timeframe? | No | | |

The SMS safety oversight elements of investigation and analysis would be additions to the AMO's existing quality management system; and hence, would require a separate system. AC107-001 Section 6 contains guidance for implementation of the safety oversight elements that may be used by AMOs of all size and complexity as appropriate. Diagram 6, (Investigation) Process Flow, should be used to identify the necessary processes and their relationships. The next article in this series will look at the risk management element 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.