



The View from Washington

BY RIC PERI
VICE PRESIDENT, AEA GOVERNMENT & INDUSTRY AFFAIRS

It's Time to Adopt a New Philosophy in Aviation

"We have learned to live in a world of mistakes and defective products as if they were necessary to life. It is time to adopt a new philosophy in America."

—W. Edwards Deming

Iwould take the late Mr. Deming's words a bit further to say, "We have learned to live in a business world of mistakes and defective regulatory processes as if they were necessary to life. It is time to adopt a new philosophy in aviation."

As I sit here reviewing the Notice of Proposed Rulemaking for the suite of Australian Maintenance Regulations, I wonder why, after more than 100 years of flight and 70-some years of aviation regulations, regulators still insist on wholesale rewrite of their regulations?

Deming offered 14 points in his promotion of quality and principles for management; I'll focus on four:

- Remove barriers standing between workers and their pride of workmanship.
- Cease dependence on inspection as a way to achieve quality.
- Constantly improve the process of planning, production and service.
- Create a constancy of purpose for improvement of products and service.

Deming's first two points relate to the quality of products and services we provide to our customers. The last two points focus on constant improvement, but with a consistency of purpose.

Most of the repair station regulations in this last round of rulemaking changed the maintenance industry from a dependence on the final quality check to a process-driven quality system.

Many barriers limiting a technician's pride of workmanship are not regulatory but organizational, which means they should be addressed within the management of a business. The challenge is, not allowing the new focus on human factors to be the justification for limiting one's ability to be a master craftsman.

The latter two points are related directly to improving regulations. From a regulatory standpoint, the quality of our products is safety. So, how does the industry stand up from a safety perspective?

The FAA's safety goal for commercial aviation is to end the fiscal year with a three-year rolling average of 0.018 fatal accidents per 100,000 departures. Through March 2006, the aviation industry had maintained a rate of 0.022 fatal accidents per 100,000 departures. There were three fatal air carrier accidents in the fiscal year's first half and one in the second half.

On Dec. 8, 2005, a Southwest Airlines Boeing 737 overran a runway in Chicago (Midway), hitting a car and killing a child inside. No passengers or crew were killed.

The second accident, on Dec. 20, 2005, involved a twin-engine Grumman G-73T Turbine Mallard turboprop seaplane operated by Chalks International Airlines. The aircraft crashed into the water shortly after takeoff from Miami. Eighteen passengers and two crewmembers died on the flight.

The third accident, on Jan. 16, 2006, involved a mechanic ingested into the engine of a Continental Airlines jet.

The latest fatal accident occurred Aug. 27, 2006, in Lexington, Ky., where a Comair regional jet took off from the wrong runway and crashed, killing 49 people.

Although 0.022 fatal accidents per 100,000 departures equates to one fatal accident for every 5 million departures — prompting the argument that there are more than 41,000 people in the United States who die in motor vehicle crashes each year and we have better odds at winning the lottery than being killed in an aircraft accident — the aviation headlines aren't all that great this year. I would argue that no matter what form of transportation is worse and no matter what kind of odds are given, even one death is too many. We definitely have room for improvement.

Enter the Era of Constant Improvement

Does constant improvement mean every three or four years we throw out the current regulations and start over? Absolutely not. Another point Deming made was having a "constancy of purpose for improvement."

Going back to the Australian rulemaking: What is the purpose of this 10-plus-year effort at rulemaking? The public reason is to upgrade the current regula-

tory structure to that of the internationally accepted aviation standards of the International Civil Aviation Authority (ICAO) and to enhance transportation safety.

Admittedly, the current system is somewhat deficient in the international arena, but not nearly to the extent CASA is pursuing the complete rewrite. Will it have the desired outcome on the safety side? That will take decades to determine.

What is obvious is, they are taking a regulatory structure developed over the years to meet the needs of the Australian aviation industry, and making the new rules standard European. The comparison to ICAO still has not been done, nor is it clear where the current rules are deficient from the international standards set by the ICAO.

And what about the upcoming FAA rulemaking addressing repair station ratings and quality? We will have to see. Are the current rules deficient? Yes, they are a dated set of ratings that do not lend themselves easily to the avionics technology of today. In addition, the quality regulations were written at a time when end-product inspection was the norm, rather than a focus on a quality process.

Is the pending proposal a minor upgrade to the rules with, as Deming says, “a constancy of purpose,” or is it another unfocused change chasing numerical quotas? By the time this column is published we should know the answer.

Also, what about the Canadian activity regarding its long-sought-after safety management system (SMS) initiative? In this instance, I will offer it does have consistency of purpose. The Canadian authorities have been extremely consistent in their approach to mandating SMS. However, what is the overall purpose Deming wrote about? Is it safety? Or is it a reduction of workforce for Transport Canada?

Because Canada’s approach to SMS is a complete overlay to the existing regulations, it cannot be safety-driven; therefore, it must be TCCA-management driven. The reason it cannot be safety-driven is because aviation regulations by their very nature are a safety system. To make the current system meet all the elements of a modern safety management system is to add and adjust the current regulations, not throw them out in favor of the “flavor-of-the-year” regulation.

Canada’s Aviation Maintenance Organization regulations, by design, are a safety management system. They address the organization, the goals, the standards, the processes and the audit. But the regulations are “stove-piped” — that is, each operational unit of a company is managed by its own system of regulations. Each operation within the company is controlled by operation regulations and each maintenance function is controlled by its unique maintenance regulations — and nowhere in the regulatory framework do any of these organization functions co-mingle.

The FAA’s own headquarters’ organizational structure perpetuates the “stove-pipe” mentality. Flight Standards does not talk with Aircraft Certification, and Operations doesn’t talk with Maintenance. The FAA has promised ISO certification and standardization, and they have promised SMS.

There is only one wall separating Flight Standards management from Aircraft Certification management, and approximately 10 feet separating Flight Standards offices from Aircraft Certification offices. But where is the one FAA, the one opinion, and the one rule the industry has been promised?

In discussions regarding the constant improvement of the process of planning, production and service in aviation and creating a constancy of purpose for improvement of products and service, the one element to be made clear is that

the purpose must be open and transparent.

Many of the purposes of rulemaking are politically driven. Some are to promote aviation internally by creating trade barriers externally; some are to reduce the government payroll by outsourcing audits and other services; and some are to harmonize with a favorite trade partner. Whatever the motivation of rulemaking, the purpose must be honest and public.

Those involved in aviation have a commitment to continuous safety improvement. Using safety as the banner for administrative and political rulemaking is not and never should be tolerated.

Let’s go back to the basics: cause and effect. It’s a simple process of continuously evaluating the cause and effect of discrepancies and finding the simplest solution to fix a problem and improve the system.

In aircraft maintenance, we constantly look at what’s broken and evaluate how best to fix it. What we don’t do is scrap an aircraft because it has a flat tire. We don’t change a radio because the engine won’t produce power. As maintenance professionals, we identify the discrepancy and find a corrective action to fix the problem.

After 70 years of aviation regulations, wholesale replacement of the existing rules in the name of continuous improvement makes no more sense than scrapping an aircraft for a flat tire. Focused corrective action and a slight tune-up of the regulations is all that’s needed. □

Regulatory Update

United States

FAA Issues Major Change for Follow-On Use of STC Data

On Sept. 1, 2006, the Federal Aviation Administration, in response to statutory changes mandated by Congress in the Federal Aviation Reauthorization Act of 1996, Vision 100 and SAFETEA-LU, is mandating written permission to use supplemental type certificate (STC) data for follow-on installations.

In those statutes, Congress specifically revised the provisions of 49 U.S.C. 44704, which addresses the use of TCs and STCs. As a result of the congressional mandate, Section 21.120 was added, which applies to the STC holder, and Section 91.403(d), which applies to the owner and/or operator requesting an alteration to his or her aircraft.

These new rules became effective Oct. 2, 2006.

Section 21.120 requires an STC holder (such as the manufacturer of avionics equipment) who agrees to permit another person (such as an avionics shop) to use that STC to alter an aircraft, aircraft engine or propeller to provide that person with written permission acceptable to the FAA.

The new rule reads as follows:

Sec. 21.120: Responsibility of supplemental type certificate holders to provide written permission for alterations:

“A supplemental type certificate holder who allows a person to use the supplemental type certificate to alter an aircraft, aircraft engine or propeller must provide that person with written permission acceptable to the FAA.”

This written permission would be known as the “permission statement.”

To be acceptable to the FAA, the form of the permission statement should contain at least the following:

- A written statement of the agree-

ment specifying product(s) to be altered.

- The STC number.
- The name of the person(s) given consent to use the STC.
- The STC holder may include additional information, such as the effective date of the permission and how many times the STC may be used for fleets of aircraft.

The FAA also added a new Section 91.403(d) establishing a requirement that a person may only alter an aircraft based on an STC if the owner or operator of the aircraft is the holder of the STC or has written permission from the holder.

The new rule reads as follows:

Sec. 91.403 General:

(d) A person must not alter an aircraft based on a supplemental type certificate unless the owner or operator of the aircraft is the holder of the supplemental type certificate, or has written permission from the holder.

Each person who alters an aircraft based on another person's STC, including a person making an alteration for a product owner or operator, should be aware of the statutory requirement for the person requesting the change to have the permission of the STC holder before performing the alteration. The statute also clearly prohibits a person from performing the alteration unless the person requesting the change has the permission of the STC holder.

To ensure their own compliance with the statutory requirement, the mechanic, repair station or other facility making the installation should request to see a copy of the written permission provided by the STC holder to the person requesting the change.

The installer, mechanic or repair station who has obtained permission directly from the STC holder to use the STC also should furnish a copy of the STC holder's permission statement to the owner or operator of the modified product to ensure the owner's com-

pliance with statutory and regulatory requirements.

This new rule still has some questions that must be answered. While the law and the regulation specifically addresses STC data, in the installation of avionics equipment, the STC data typically is not used, but rather the OEM installation manual and a draft FMS “template” supplied by the OEM is used, and the original installation performed under the OEM STC is referenced.

At this time, it is not clear if merely identifying the initial GPS installation STC is considered “use of the STC data” as specified in the law.

Currently, the AEA is researching this and other questions and will provide the information to the membership as soon as it becomes available. In the interim, the AEA recommends every installation citing an STC as the basis for installation has written permission to use the STC data.

FAA Amends Form 337 Rules

On Oct. 4, 2006, the FAA made a change to instructions in Part 43 on how to send required repair and alteration data to the FAA.

The FAA is amending Part 43 to change the location used to submit FAA Form 337, “Major Repair and Alteration,” from the “local Flight Standards District Office” to the FAA's Mike Monroney at the Aeronautical Center in Oklahoma City.

Effective Nov. 3, 2006, 14 CFR Part 43 Appendix B paragraph (43xB.a) reads:

Except as provided in paragraphs (b), (c) and (d) of this appendix, each person performing a major repair or major alteration shall:

- (1) Execute FAA Form 337 at least in duplicate;
- (2) Give a signed copy of that form to the aircraft owner; and
- (3) Forward a copy of that form to the FAA Aircraft Registration Branch

in Oklahoma City, Okla., within 48 hours after the aircraft, airframe, aircraft engine, propeller or appliance is approved for return to service.

While the AEA applauds the FAA's efforts to modernize into a paperless government agency, the Association is concerned the review made by the local FAA office has proven invaluable in correcting minor errors in the administration of the FAA Form 337.

The lack of this "local" review before final submission to Oklahoma City requires the maintenance technician and/or repair station to have a review process in place to ensure the form is absolutely correct before submission to Oklahoma City. There will be no second chance to dot the "i's," cross the "t's" or correct a typo before it is placed in the aircraft's permanent record in Oklahoma City.

FAA Proposes Changes to its Certification Procedures and Identification for Products, Parts

On Oct. 5, 2006, the FAA proposed changes to its certification procedures and identification requirements for aeronautical products and parts.

The proposed changes address standardizing requirements for production approval holders, including:

- Requiring production approval holders to issue airworthiness approvals for aircraft engines, propellers and other aviation parts.
- Requiring manufacturers to mark all parts and components.
- Revising export airworthiness approval requirements to facilitate global manufacturing.

The intent of these proposed changes is to promote safety by ensuring aircraft and parts designed specifically for use in aircraft, wherever manufactured, meet applicable standards. This action also is necessary to update regulations to reflect the current global aircraft and aircraft parts manufacturing environment.

Comments on this proposal are due no later than Jan. 3, 2007.

FAA Revises Procedures for Completion and Use of the Authorized Release Certificate

The FAA has revised FAA Order 8130.21E, which describes the procedures for completion and use of the FAA Authorized Release Certificate, FAA Form 8130-3, "Airworthiness Approval Tag."

The order describes the use of the form for the following purposes:

- Domestic airworthiness approval, including conformity inspections, repositioning of new parts or components pending approval, and splitting bulk shipments of previously produced parts.
- Approval for return to service of products and parts.
- Export airworthiness approval of Class II and III products.

This order can be downloaded from [www.airweb.faa.gov/Regulatory_and_Guidance_Library/rgOrders.nsf/0/874d8a924c3aeaf6862571f8006cdf87/\\$FILE/Order%208130.21E.pdf](http://www.airweb.faa.gov/Regulatory_and_Guidance_Library/rgOrders.nsf/0/874d8a924c3aeaf6862571f8006cdf87/$FILE/Order%208130.21E.pdf).

Organization Designation Authorization Procedures Published

The FAA has published FAA Order 8100.15, which establishes the procedures, guidance and limitations of authority the FAA grants to an organization under the Organization Designation Authorization program.

This order also offers guidance to help designated organizations understand what the FAA may authorize them to do and the procedures they must follow.

FAA Order 8100.15 can be downloaded at [www.airweb.faa.gov/Regulatory_and_Guidance_Library/rgOrders.nsf/0/7e809bb33fce95e7862571e100529178/\\$FILE/Order%208100-15.pdf](http://www.airweb.faa.gov/Regulatory_and_Guidance_Library/rgOrders.nsf/0/7e809bb33fce95e7862571e100529178/$FILE/Order%208100-15.pdf).

Canada TCCA

Transport Canada Publishes Guide for PRM Examinations

Following from the introduction in 2005 of new regulations and standards for appointment of persons responsible for maintenance (PRM) for AMOs, (CAR/STD 573.04), TCCA has published a study and reference guide to identify topics and subjects that may be covered by the TCCA examinations required by the CARs.

This guide is a generic reference document, and TCCA cautions it is not to be interpreted as an all-inclusive list of subjects and topics necessary to complete a specific examination. The document contains various "appendices," including:

- Areas of study to assist a candidate for the written examination(s).
- Areas of study to assist a candidate for the oral interview process(s).

The guide can be viewed online at www.tc.gc.ca/CivilAviation/maintenance/RegsDocs/PRM/menu.htm.

Transport Canada Publishes Audio-Visual Presentation on Safety Management Systems

TCCA has published an online audio-visual presentation intended to acquaint certification holders with Transport Canada's vision of safety management systems (SMS).

The presentation is approximately 11 minutes and can be viewed at www.tc.gc.ca/CivilAviation/SMS/Breeze/SMSE/index.htm.

Europe EASA

NPA Addresses Recurrent Problem of Approval of Minor Changes to Aircraft Flight Manuals

Beyond minor changes to aircraft flight manuals, the Notice of Proposed

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Frequently Asked Questions

TOPIC:

FAA Employee Liability

The following information is from the Federal Aviation Administration.

QUESTION:

My inspector is hesitant to perform "field approvals" because he is concerned about his personal liability.

ANSWER:

An FAA employee's personal liability is extremely limited. The following information is taken from FAA Order 2150.3A, Compliance and Enforcement Program.

1310. LIABILITY OF FAA EMPLOYEES:

a. On Nov. 18, 1988, the President signed the Federal Employees Liability Reform and Tort Compensation Act of 1988 (P.L. 100-694), thereby providing government employees with immunity from personal liability for common law torts committed within the scope of their employment. This new statute, which applies to all pending cases as well as to those cases filed in the future, provides that the exclusive remedy for common law torts shall be against the United States under the Federal Tort Claim Act, 28 U.S.C. 2671 et seq. The net effect of the new law is that where a suit is filed against an agency employee for a common law tort committed within the scope of employment, the United States will normally be substituted as the defendant, and any liability that is found will be assessed against the government itself.

b. Suits against agency employees can arise out of either negligent or intentional conduct, and they can be classified as either common law or constitutional torts. While the Federal Employees Liability Reform and Tort Compensation Act of 1988 does not apply to constitutional torts, that does not mean that agency employees are

completely without protection in that area. First, if the conduct complained of was committed within the course and scope of employment, the employee can normally expect representation by the Department of Justice. Second, federal employees may be entitled to absolute or qualified immunity from liability for constitutional torts. The doctrine of absolute immunity is quite limited. Adjudicative and prosecutorial activities have been found to be situations where absolute immunity applies, but it does not apply to the prosecutor's administrative or investigative functions. Qualified immunity applies where the conduct involved the exercise of discretion and did not violate clearly established constitutional rights. Third, if an adverse judgment is entered against the United States, federal law bars the entry of judgment against an employee of the government for the same conduct giving rise to the judgment against the government, 28 U.S.C. 2876. Finally, as of Dec. 30, 1987, by an amendment to the Airport and Airway Safety and Capacity Act of 1987 (P.L. 100-223), the Administrator has the authority to indemnify agency employees against any claim or judgment that arises out of acts committed within the course and scope of their employment. Thus far, there has been no occasion where the exercise of this authority has been necessary.

c. The common thread that runs through all of these protections is the requirement that the employee's conduct must have been within the course and scope of employment. The protec-

tion from liability for common law torts, the indemnification protection that applies in either a common law or a constitutional tort situation, and even the availability of legal representation by the Department of Justice, all depend upon a finding that the employee's conduct was within the course and scope of his/her employment. In the immunity situation, and in all cases where an employee requests representation by the Department of Justice, the certification that the employee qualifies must be made by the Attorney General upon the recommendation of the Administrator.

d. When an employee is sued in his/her personal capacity for money damages as a result of actions taken or not taken within the course and scope of employment, allegedly done in violation of the Constitution, the employee is ordinarily defended by the Justice Department. The Justice Department will provide representation upon request of the employee and upon recommendation of the agency, if the conduct giving rise to the lawsuit was taken within the scope of employment and that it is in the interest of the United States to provide representation.

e. Indemnification will ordinarily be available only after a finding, award or judgment of liability has been made or entered. To be entitled to indemnification, the Administrator must find that the employee was acting within the course and scope of employment, and that indemnification is in the interest of the United States.

(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 on. 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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Amendment NPA 16-2006 is of importance to any DOA or ADOA. The NPA contains an amendment to the Annex (Part 21) of Commission Regulation EC 1702/2003. The scope of the rule-making activity is outlined in ToR 21.024(a).

The primary aim of this NPA was to propose changes to Part 21 and its associated "Acceptable Means of Compliance/Guidance Material." The draft contents introduce the concept of an approved certification program to enable the level and area of the Agency's involvement in any certification activities to be predetermined from the outset.

The establishment of an approved certification program will enable the applicant to better plan and resource certification activities, and will provide the applicant with greater legal certainty on the acceptance of compliance documentation submitted to the Agency.

Furthermore, this NPA addresses the recurrent problem of approval of minor changes to aircraft flight manuals. Privileges extended to a design organization approval (DOA) holder under 21A.263(c)(4) to approve certain aircraft flight manual changes without the involvement of the Agency were found inconsistent with the identification of minor changes under 21A.91. Part 21, and the guidance material associated with the procedures for the approval of documentary changes to aircraft flight manuals (GM 21A.263(c)(4)) were therefore amended to enhance DOA privileges and to remove this inconsistency.

Comments on the NPA should be received before Jan. 12, 2007.

Advanced-NPA 15-2006 Consults Stakeholders on Preferred Method of Implementation

The purpose of the Advance-Notice

of Proposed Amendment NPA 15-2006 is to consult stakeholders on the preferred method of implementation of the JAA Consistency of Organization Approval (COra) report.

This report was prepared by the JAA COra group to achieve consistency of the Joint Aviation Requirements (JARs). The implementation of the COra report envisages amending Part 21, Part-M, Part-145 and Part-147.

To be able to make recommendations for removing unnecessary inconsistencies, the COra group found it necessary to establish a vision of the future developments regarding organization approval requirements. This vision represents certain general objectives in the development of organization approval requirements that were envisaged in the future.

Objectives named by the COra group include, but are not limited to:

- Reduce duplication of management positions.
- Allow one set of (organization) manuals.
- Recognition of industry standards for quality management systems (QMS) as an acceptable means of compliance.
- Performance-related surveillance and control by authority.
- Appropriate requirements for small organizations.
- Mutual recognition and acceptance of outputs with non-JAA countries.

Comments should be received before Dec. 29, 2006.

The comment response documents to NPA 8/2006 on certifying staff for line and base maintenance, NPA 20/2005 on standard parts, and NPA 11/2005 on airworthiness and operational approval for onboard equipment related to ATM programs were issued and can be found on the website. Agency opinions and decisions to the related topics will be issued soon.

In addition, EASA Decision 2006/05/R was issued Sept. 25, 2006.

It is amending the certification specifications for large aeroplanes (CS-25). A few changes will be of interest for design organizations.

Eurocontrol Business Case Developed to Support Progress on 8.33 kHz

Eurocontrol has developed a business case to support the decision-making process on 8.33 kHz below FL195, and therefore beyond the current limit of FL195, which is mandated by March 2007.

The business case includes:

- Estimate of long-term VHF demand.
- Estimate of the frequency planning benefits arising from 8.33 kHz below FL195.
- Assessment of other options for satisfying the long-term VHF demand.
- Cost assessment.
- Safety assessment.
- Consideration of a new future communication system.

Eurocontrol estimates a full implementation in the order of € 1.56 billion (\$1.94 billion). The report recommends proceeding with full implementation of 8.33 kHz below FL 195, with 2013 as the goal for full implementation.

Aviation Regulatory Responsibility Discussed at European Conference

On Sept. 20, 2006, the European Commission hosted a conference to discuss the future aviation regulatory responsibility regarding safety and the Single European Sky. Member state, commission and industry representatives at the highest level attended the event.

The main conclusion was there are currently too many institutions participating in the decision making at the European level. Most industry and member state representatives believe all political responsibilities for aviation at the European level should be cen-

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tralized in the EU (and the European Commission), and the regulatory powers should be given to EASA, and perhaps another EU agency similar to EASA should be in charge of ATM.

Jacques Barrot, vice president of the European Commission, said Eurocontrol should be turned into an EU agency and its future role reduced to the provision of technical support to member states and the commission rather than engaging on operational activities. □

Ric Peri
*Vice President, AEA Government
& Industry Affairs*
601 Pennsylvania Avenue
Suite 900, South Building
Washington, DC 20004
phone: 202-589-1144
fax: 202-639-8238