

RED Flags on SMS

Friction builds in Canada's push for safety management systems.



BY MARK LACAGNINA

Most aviation safety specialists worldwide have hailed the safety management system (SMS) as a key to further reduction of aircraft accidents. However, cautions recently have been expressed about overextension of the concept and about the risks of relaxing government oversight of operators as they struggle toward full SMS implementation.

It is not surprising that most of the red flags have been raised in Canada, which is leading most of the world in aggressively pushing for SMS implementation by all aviation certificate holders in the country.

Hoisting one of the red flags is Daniel Slunder, national chair of the Canadian Federal Pilots Association (CFPA), a union representing about 470 pilots employed by Transport Canada, Nav Canada and the Transportation Safety Board of Canada.

Slunder contends that safety actually may suffer as self-regulating operators create a deluge of SMS paperwork that can conceal less-than-sterling practices.

“Transport Canada describes SMS as a partnership: Industry agrees to take on more responsibility for ensuring compliance with safety requirements in exchange for less direct oversight by government inspectors,” Slunder said in a CFPA news release issued in July 2009.

“As SMS has been introduced, however, key safety audit programs have been canceled,” he said. “In fact, Transport Canada recently canceled its practice of requiring a specific frequency of audits and inspection and replaced it with a program of SMS assessments and program validations.”

The result, contends Slunder, is that few audits and inspections are being conducted to ensure compliance with regulations; the focus now is to ensure

that operators have a functioning SMS in place.

‘Sugarcoating’

Slunder says that, under SMS, operators provide reams of data to show that they are operating safely; consequently, data analysis has taken the place of direct oversight through inspections and audits.

“The trouble is, all these data are unverified,” he said. “In other words, the door is open to airlines to sugarcoat their reports in order to keep their planes in the sky, earning money.

“Transport Canada inspectors have become deskbound, relying on the paperwork assurances of the airlines that everything is OK instead of inspecting airplanes and crews.”

Slunder says that civil aviation authorities (CAAs) worldwide must maintain adequate oversight by directly conducting inspections and audits. “Such functions cannot be delegated,”

he warned. “Otherwise, aviation personnel, maintenance organizations, general aviation, commercial operators, aviation service providers, aerodrome operators, etc., will in effect be regulating themselves and will not be effectively monitored by CAA inspectors.”

‘Sadly Misguided System’

Criticism of SMS also has been expressed by an organization based in the United States — the Aircraft Electronics Association (AEA), which represents more than 1,300 businesses specializing in general aviation avionics and electronics equipment.

In the January issue of *Avionics News*, AEA board chairman Barry Aylward dubbed SMS the “sadly misguided system” and an “unproven theoretical model based on the faulty premise that if the paperwork is good, the aircraft is good.”

He contends that SMS never was intended to be applied beyond the airlines. “Yet, aviation regulatory authorities are embracing this concept with zeal and forcing broad-brush implementation across all sectors.”

Aylward said that SMS “imposes an enormous and very costly administrative burden on an aviation business, and it does so with no evidence whatsoever that it will improve aviation safety or compliance with existing aviation regulations.

“The fact is, SMS has not been successful in improving the safety record of the rail industry in Canada,” which introduced SMS in 2001.

‘Extra Layer of Protection’

Transport Canada steadfastly dismisses any suggestion that introducing SMS clears the path to deregulation (*ASW*, 1/09, p. 24). On the contrary, the regulator characterizes SMS as a proactive tool that complements government oversight of operators in all segments of aviation — “an extra layer of protection to help save lives.”

“Transport Canada inspects aviation operations to make sure they meet safety regulations and enforces the law when they don’t,” says a statement on the organization’s Web site. “Transport Canada’s role now goes even further, as it

also measures how well industry safety management systems are working.”

The rail industry and the international maritime industry were the first transportation modes targeted for SMS implementation. When the concept was extended to the aviation industry, Transport Canada established a four-phase process for SMS implementation.

Canadian air carriers and their associated maintenance organizations have completed all four phases of SMS implementation, and international airports and air traffic service providers are entering the third phase.

The target for SMS implementation by all remaining aviation certificate holders is 2015. They include commuter operators governed by Canadian Aviation Regulations (CARs) Subpart 704 and air taxi operators governed by Subpart 703.

Among the deadlines established by the International Civil Aviation Organization for SMS implementation were January 2009 for commercial aircraft operators and November 2010 for private, or business, operators of large turbine airplanes.

However, SMS implementation worldwide is proceeding at a slow pace, with much confusion remaining among some operators and regulators about how to proceed (*ASW*, 1/08, p. 14). Transport Canada has conceded that implementation has been far more complex than originally envisioned.

‘Tendency to Stay on Course’

In a presentation at Flight Safety Foundation’s 2009 International Air Safety Seminar in Beijing, Robert Dodd, general manager of Qantas Airways, posed a question that is on the minds of many safety specialists and aviation operators: Has SMS been oversold?

His answer: “I don’t believe so, but I do feel that in many ways the performance improvement to be gained from SMS implementation will be much tougher to get than previous gains. In part, this is just the obvious effect of trying to improve an already extremely impressive accident rate.”

In his discussion about gauging the effectiveness of an SMS, Dodd said, “In all probability, the system won’t be right when it starts up. ... In large

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**‘Organizations
have a natural
tendency to stay
on course.’**

part, this is because existing, presumably successfully functioning organizations have a natural tendency to stay on course and keep doing what they were doing and how they were doing it before they installed the brand new SMS.”

These comments unintentionally cut to the core of concerns about SMS implementation that were generated by the investigation of a business airplane accident in Canada. The accident involved a company that purportedly had been operating under an SMS for three years but actually was doing what it was doing before installing the SMS.

‘Evolving Environment’

The accident occurred on Nov. 11, 2007, at Fox Harbour Aerodrome in Nova Scotia (see “Something Changed,” p. 18). It involved a Bombardier

Chief among them was tacit consent to duck below the visual glide path on approach to a short and/or contaminated runway. This, along with the flight crew’s use of an inappropriate crosswind technique and inadequate response to an excessive sink rate on short final, was among the factors that led to the collapse of the right main landing gear when the big airplane touched down short of the runway. Damage was substantial, and two of the 10 people aboard the airplane were seriously injured.

In its final report, the Transportation Safety Board of Canada (TSB) said that the accident “needs to be considered in the context of a relatively new and evolving safety regulatory environment.”

The environment is unique and complex. Canada is alone in requiring business aviation operators, under CARs Subpart 604, to obtain a private operator certificate (POC) for any airplane that is pressurized and turbine-powered, and weighs more than 5,700 kg/12,500 lb.

Self-Regulation

Transport Canada and the Canadian Business Aviation Association (CBAA) began discussions in the late 1990s about the possibility of self-regulation of business aircraft operators.

At the time, Transport Canada had 16 inspectors responsible for the oversight of 121 POC holders operating 193 aircraft and employing 672 pilots. The inspectors “carried out routine regulatory audits, conducted PPCs [pilot proficiency checks], performed safety visits, monitored, and carried out follow-ups on incidents,” the TSB report said.

The discussions between Transport Canada and the CBAA led to a joint feasibility study concluding that self-regulation was possible. A follow-up study in 2001 generated the recommendation that business aircraft operators implement SMS based on performance-based rules and standards developed by the CBAA.

The studies also concluded that, to mitigate the risks of self-regulation, continued oversight in the form of CBAA audits of POC holders would be required and that any deficiencies in CBAA’s



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Global 5000 that had recently been acquired by Jetport, which specializes in air taxi operations and aircraft management.

For operation of the Global 5000, Jetport had adapted standard operating procedures developed for its Challenger 604, a much smaller airplane. Some of the procedures did not conform with the manufacturer’s recommendations and were not suitable for the new airplane.

oversight must be identified and corrected by Transport Canada. Because of the cost of hiring auditors, it was agreed that the audits would be performed by independent contractors accredited and monitored by the CBAA.

In January 2003, the CBAA issued business aviation operational safety standards (BA-OSS) and SMS-audit guidelines to auditors and POC applicants. Notably, the guidelines advise that “the implementation and operation of an SMS take time, even for mature aviation departments; therefore, the auditor must determine a reasonable level of performance that can be expected when evaluating the SMS.”

‘Twice Removed’

During its investigation of the Fox Harbour accident, TSB found that the business aviation regulatory environment has not evolved as planned.

Figure 1 shows that, as of 2008, three CBAA staff members were assigned to the POC program, and 14 accredited independent contractors were conducting audits of 320 business aviation operators. However, no audits of the auditors or the operators were being conducted by the association.

In effect, business aviation operators had been “twice removed” from Transport Canada’s scrutiny, the TSB report said. “This is a significant departure from the feasibility studies. The current model consists of informal communications between the CBAA and its accredited auditors and operators during liaison visits and trade shows. ... Transport Canada has not ensured that the CBAA is fulfilling its responsibilities for oversight.”

The plan called for CBAA audits of business aviation operators to be conducted at three levels. The first audit determines whether an applicant has

an SMS infrastructure in place; if so, a POC is issued. During the second audit, the POC holder must show that the SMS is functioning. Finally, the operator must show that SMS activities have been fully integrated and that a positive safety culture is being maintained.

No firm deadlines for SMS implementation have been set. “CBAA

formal assessment of the risks involved in operating the Global 5000 at Fox Harbour Aerodrome, the report said.

TSB concluded that these findings point to the absence of effective quality assurance of the CBAA’s POC program.

“As with the transition to any new system, the introduction of SMS in the Canadian aviation industry is facing

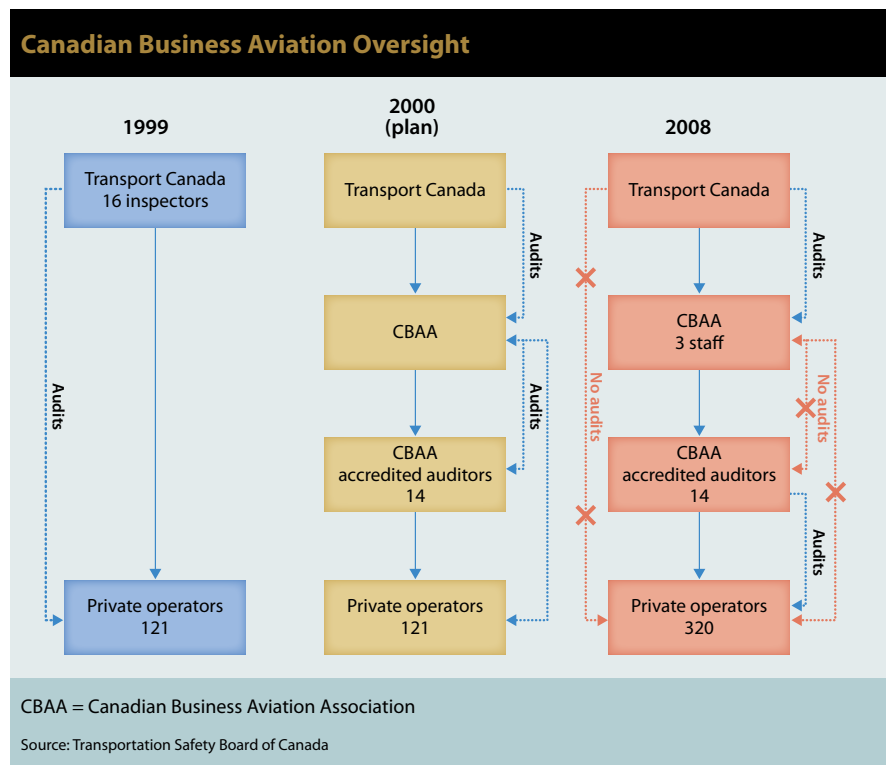


Figure 1

indicated that very few POC holders have advanced beyond level one and suggested that, in some cases, it could be many years before they do,” the TSB report said.

The accident investigation revealed that, after receiving a POC for its Challenger in 2004, Jetport presented basically the same SMS documentation during three subsequent audits, none of which found that it did not meet the BA-OSS standards.

Moreover, the company had a “traditional, reactive safety management process in place” and did not conduct a

challenges,” the report said. “Many operators, although willing to progress to SMS, still do not possess a good understanding of how to do it. ... The confusion is not limited to the operators, as some of the people tasked with assessing SMS programs misinterpret performance indicators expected from a functioning SMS.

“With time and experience, operator and assessor knowledge should improve and eventually provide the level of protection expected of a mature SMS. ... During this transition, it is essential that oversight not be relaxed.”