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**STATEMENT OF MICHAEL D. FANFALONE,
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**BEFORE THE HOUSE COMMITTEE ON TRANSPORTATION AND
INFRASTRUCTURE -- SUBCOMMITTEE ON AVIATION**

**ON THE ADEQUACY OF FAA OVERSIGHT OF PASSENGER AIRCRAFT
MAINTENANCE**

APRIL 11, 2002

Chairman Mica, Congressman Lipinski, & Members of the Subcommittee:

My name is Michael D. Fanfalone and I am President of the Professional Airways Systems Specialists (PASS). I would like to thank you for the opportunity to appear before you today to discuss PASS' views on the adequacy of Federal Aviation Administration's (FAA) oversight of passenger aircraft maintenance. PASS provides exclusive representation for more than 11,000 of the FAA's Aviation Safety Inspectors, Systems Specialists, Flight Inspection Pilots and safety support staff.

When speaking on the current status of passenger aircraft maintenance, you have to concentrate on two FAA systems: Air Transportation Oversight System (ATOS), and Continuing Analysis and Surveillance System (CASS). Both of these systems enable the FAA Aviation Safety Inspectors to perform oversight of passenger aircraft maintenance and inspections. PASS has serious concerns regarding both programs. FAA Aviation Safety Inspectors, represented by PASS, are assigned around the globe and perform the ground and in-flight oversight of the nations airlines in order to ensure the level of safety mandated by Congress.

ATOS

As a result of the 90-Day Safety Review following the ValuJet crash in 1996, the FAA initiated a system safety approach to oversight of the air carrier industry. This new approach was a departure from the reactive "tombstone mentality" process previously used by the FAA. The inadequacies of that reactive process were documented by the National Transportation Safety Board (NTSB) in their report on the ValuJet crash.

This new process, termed ATOS, was defined as a systematic, data-driven air carrier inspection program designed to enable the airlines and the FAA to identify safety trends and resolve deficiencies before they resulted in accidents. According to the Air Transportation Operations Inspectors Handbook, the ATOS system safety approach has checks and balances, emphasizes communications, and results in actions based on inspection data reporting, evaluation, and analysis.

PASS' CONCERNS ABOUT ATOS

While PASS supports the underlying concepts behind ATOS, we are concerned that the history of this program—plagued by insufficient staffing, inadequate training, data analysis problems, and lack of commitment by FAA management—will thwart the program's laudable goals. In fact, the Department of Transportation Inspector General recently reviewed the FAA's progress in implementing ATOS and concluded that the system is in need of considerable refinement.¹ While the failures of ATOS as currently implemented are well documented, PASS is even more concerned that the FAA's proposed remedies to the acknowledged ATOS deficiencies will never be implemented.

Under ATOS, eight major process modules are required in order to have a fully functional certification and surveillance oversight process. These modules include:

1. System and configuration

¹ Kenneth M. Mead, Department of Transportation's Inspector General, "FAA's Fiscal Year 2003 Budget Request," March 13, 2002, p. 13.

2. Certificate management
3. Surveillance resource management
4. Surveillance implementation
5. Reporting
6. Evaluation
7. Analysis
8. Implementation

FAA Administrator Jane Garvey recently testified before Congress stating that ATOS is in place for the nation's ten largest airlines.² However, in our view, this is a misrepresentation. Aside from the issues of insufficient staffing, inadequate training, and lack of commitment to the system by FAA management, ATOS has never been fully functional because the modules on analysis and implementation are not complete. The FAA is now estimating that these critical portions of the ATOS process will be in place by September 2002. PASS agrees that the outline for the modules on analysis and implementation may be in place by September 2002, they will not, however, be fully functional. PASS recommends that the FAA list the completion of these modules as their highest priority and include field inspector input to accomplish this.

INSUFFICIENT STAFFING

As the number of airline passengers increased substantially over the last decade, so has the inspector workload. Approximately 2,600 Aviation Safety Inspectors and 500 safety support staff now provide oversight for over 620,000 active pilots, 390,000 mechanics, 143 commercial air carriers, 7,000 commercial aircraft, 11,000 charter aircraft, 200,000 general aviation aircraft, 5,000 repair stations and 700 training facilities. While 95 percent of this country's traveling public fly on the ten ATOS carriers, only 500 Aviation Safety Inspectors are assigned to them.

More than five years ago, the 90-Day Safety Review looked at inspector staffing and found that staffing levels were inadequate. Unfortunately, current inspector numbers remain dangerously low. Last year the FAA was given authorization by Congress to hire additional inspectors for FY 2002, but the FAA has yet to begin hiring, claiming insufficient funding. Further complicating the staffing situation is the fact that 43 percent of the inspector workforce is eligible to retire by 2006.³ Based on the results of the latest FAA Employee Attitude Survey, where inspectors expressed substantial dissatisfaction with their jobs, we believe a large number of those eligible to retire will indeed do so.⁴

There are also fundamental organizational problems plaguing the ATOS program. For example, the FAA has been unable to resolve the issue of remotely-stationed ATOS inspectors. While the certificate management responsibilities for ATOS air carriers fall upon the inspectors located at the Certificate Management Office (CMO), the vast majority of ATOS geographic inspectors are stationed at offices throughout the United States. While support for the ATOS program is supposed to be the primary work for these remote geographic inspectors, they are not assigned to an ATOS CMO. Rather, they are assigned to the office where they reside. Current guidelines allow local

² Jane F. Garvey, Federal Aviation Administrator, "Statement Before the House Committee on Appropriations Subcommittee on Transportation and Related Agencies Concerning the Federal Aviation Administration," March 13, 2002, p. 5.

³ "FAA's Workforce Planning and Restructuring," June 4, 2001, p. 2.

⁴ Federal Aviation Administration, "Employee Attitude Survey," January 24, 2001.

office managers to utilize ATOS geographic inspectors for other than ATOS related work activities. This results in ATOS geographic inspectors performing local field work such as general aviation accident and incident investigations, telephone availability, counter-duty to serve walk-in customers, and the writing of enforcement investigative reports on other than their assigned ATOS carriers. Local office managers consider ATOS inspectors local resources, and use them extensively in that capacity, thus reducing their effectiveness and availability for their primary work function—ATOS surveillance.

An associated issue is that the original cadre of ATOS inspectors were selected from a group of highly qualified air carrier inspectors. These individuals have substantial experience in surveillance of air carriers. However, promotional opportunities in certificate management are greater than those available for ATOS geographic inspectors. As a result, the FAA is having difficulty in retaining these ATOS inspectors as they seek career advancement elsewhere. Less than 25 percent of the original cadre of geographically assigned ATOS inspectors remain. FAA has hired new inspectors “off the street” to fill the positions vacated by these senior personnel. It will take no less than three years of training to get these new hires fully qualified as ATOS team members.

If ATOS is to be a viable approach to air carrier oversight, then staffing and funding must be increased to necessary levels to ensure each air carrier receives adequate surveillance year round. In order for ATOS to be successful, the FAA needs to hire at least 500 more inspectors and 100 more safety support personnel.

INADEQUATE TRAINING

The philosophy and process tools necessary to successfully implement ATOS are radically different from the traditional inspection and surveillance methods previously utilized by the FAA. Because of this, training is essential to the success of ATOS. Recently, the Inspector General criticized the FAA for not providing the training necessary to properly implement ATOS, reporting that 71 percent of inspectors interviewed had not received adequate ATOS training.⁵ While the initial cadre of ATOS inspectors received indoctrination training three years ago, the job aids and automation processes were not fully developed at that time, nor did this training include the necessary modules in system safety, the very core of ATOS. As a result, the training served as nothing more than a familiarization with the concept.

It was only six months ago that the FAA began to conduct inspector training in system safety concepts. While the FAA has stated that this training will be completed by 2003, additional training beyond this basic course is necessary. Also, while the FAA has scheduled the inspectors for this system safety training during 2002, in order to meet that schedule they have had to double both the size of each class as well as utilizing instructors who are not well versed in system safety. The use of these inexperienced instructors has resulted in a deterioration in the quality of the course. Recent attendees to this course, who were previously trained in system safety concepts from a source outside of the FAA, have acknowledged observing serious deficiencies.

Although the FAA promised Congress they would complete this training by the end of 2003, and although the necessity for this course is well established, PASS was recently made aware that

⁵ Kenneth M. Mead, Department of Transportation’s Inspector General, “FAA’s Fiscal Year 2003 Budget Request,” March 13, 2002, p. 13.

classes scheduled for the fourth quarter of FY 2002 would be cancelled due to a lack of training funds.

Besides being remiss in providing inspectors with training in system safety concepts, the FAA has failed to provide necessary training in new technology. Air carriers are introducing new technology at a rate far in excess of the FAA's willingness to provide training on that equipment. The average inspector is trained on technology that is two to four years behind what the carriers are using in their fleets. This gap in technological knowledge is increasing over time.

DATA ANALYSIS

Another reason ATOS has not met expectations is because the program has inadequate data collection tools, and no effective data analysis program. For example, even though the FAA has recently interconnected the ATOS database with the Safety Performance Analysis System (SPAS), the data sources—e.g., the Program Tracking Reporting System (PTRS), Element Performance Inspections (EPI's) and safety attribute inspections (SAI's)—are inadequate to measure deficiencies in an air carrier's system. The bottom line is no matter how qualified an inspector is, the data tools used by ATOS does not allow them to pass along their observations with the necessary specificity.

The ATOS process is also deficient in being able to gather data that targets those areas that constitute the greatest safety risks. The Inspector General recently testified before Congress, noting that 83 percent of lead inspectors said ATOS data was not adequate.⁶ For example, Element Performance Inspections (EPI's), an essential part of the ATOS process, ask broad, general questions such as, "is the aircraft airworthy?" The data required for the ATOS database allows for only a "yes" or "no" answer. This works fine if the answer is "yes." However, if the answer is "no," the job aids lack a way to drill down to the specific problems that would lead the inspector to target the cause.

Currently, PASS is working with the agency in developing a database of Job Task Items (JTI's) for each of the 95 ATOS air carrier system elements. ATOS elements are generic categories of air carrier operating systems and programs. JTI's are the job tasks that an inspector must perform in order to determine that the objectives of the air carrier's system or program are met. These JTI's will be used to enhance the current ATOS automation/database in the latter part of FY03, and in the development of a new version of the ATOS automation/database at the end of FY04. Since ATOS was originally implemented before it was completely ready, PASS believes that it is imperative that the FAA work with us to ensure that they do not repeat mistakes of the past.

While the quality of data collection tools may improve with the implementation of JTI's, there is still no proven analytical method in place to allow for objective trend analysis. Both PTRS and ATOS have suffered from the fact that subjective analysis of comment areas is necessary in order to identify trends. Rather than pursuing the development of automation tools which would screen comment areas for safety related "keywords," and present those areas of concern to the data analysts, the FAA continues to require individual screening of vast numbers of comments.

⁶ Kenneth M. Mead, Department of Transportation's Inspector General, "FAA's Fiscal Year 2003 Budget Request," March 13, 2002, p. 13.

The success of ATOS has also been hampered by the lack of qualified data analysts. Within the last year, the FAA finally completed the hiring of one data analyst for each of the ten major carriers utilizing ATOS. However, not all of the analysts have completed required training, and the training that they did receive was described as inadequate.

Additionally, due to a shortage of support personnel, FAA management utilizes these ATOS analysts for other than the tasks for which they were hired. For example, the data analyst assigned to one particular CMO is required to perform basic clerical functions. The end result is that instead of analyzing critical safety data, this analyst spends much of the time typing out letters and memoranda.

Also, since the FAA has stated that they plan to transition all the remaining 130 air carriers to ATOS by 2004, it is imperative that they move rapidly to get additional analysts hired and trained to accommodate this transition.

MANAGEMENT COMMITMENT TO ATOS

PASS is not convinced that the FAA is willing to expend the funds necessary to make this system achieve its goals. While many of the deficiencies in ATOS have yet to be corrected, the one portion of the system that was recognized as adding value was the Continuous ATOS Development Core Group (CADCG). The CADCG was accountable for meeting the project schedules, developing the unfinished modules, and for quality assurance of technical work group activities related to resolving problems with ATOS. In recent months, however, the focus of the CADCG has been changed. While the original CADCG had subject matter experts (SME's) selected from field inspectors, FAA management has now returned those inspectors to the field. The very core for ensuring continuous improvement of ATOS through the use of field inspectors has now been removed. PASS recommends that the FAA re-instate field inspectors to serve as SME's on the CADCG.

As previously noted, the FAA intends to incorporate the additional 130 air carriers now operating outside of the ATOS concept into that system by 2004. With the past failures and current deficiencies in ATOS, PASS is concerned that the FAA will not have a fully functional system to serve as a model for those new entrants.

PASS recommends that the FAA take the time it needs to complete the task of developing and implementing ATOS with the current carriers, before it is expanded to include all of the remaining air carriers. PASS also recommends that the FAA work with PASS during this transition period, and that the FAA not accelerate implementation of that plan until it is willing to provide both the management commitment and resources necessary to preclude failure.

CONTINUING AIRWORTHINESS SURVEILLANCE SYSTEM (CASS)

Whether or not an air carrier is operating under ATOS, all passenger carrying maintenance programs must have a CASS, which is mandated by the regulations. CASS is the system air carriers use in identifying maintenance problems that could ultimately lead to an accident. It allows the airlines to monitor the effectiveness of their aircraft maintenance and inspection programs. This program has been required by the FAA since 1964.

The ultimate failure of CASS was evidenced in the crash of Alaska Airlines flight 261. The Department of Transportation Inspector General's report on the overall effectiveness of CASS acknowledged the deficiencies and identified six principle findings:⁷

- FAA inspectors should perform annual comprehensive CASS reviews.
- The FAA must ensure CASS deficiencies identified through its oversight inspections are corrected.
- FAA inspectors need to better document their CASS inspections to allow for trend analysis and resource targeting.
- The FAA must better train its inspectors to evaluate carriers' CASS for systemic weaknesses.
- FAA guidance needs to be updated and expanded.
- FAA inspectors need to link maintenance deficiencies found in carriers' operations to the overall effectiveness of the carriers' CASS.

PASS agrees with all of the findings of the Inspector General's report, and strongly supports the recommendations as well. To date, however, the FAA has failed to take adequate steps towards solving the deficiencies identified in the report. For example, the Inspector General recommended that the FAA conduct annual CASS inspections at all air carriers to evaluate the overall effectiveness of each CASS and establish minimum review criteria for the inspections. The FAA concurred with this recommendation, but failed to report that the job aids necessary to complete annual CASS inspections have not been developed.

Second, the Inspector General recommended that the FAA develop a follow-up system to monitor inspector findings to ensure identified deficiencies are corrected. Again, the FAA concurred with the recommendation but has not fully completed the program it promised to have in place by April 2002.

Third, the Inspector General recommended that the FAA require inspectors to document, at a minimum, the scope and results of each CASS inspection to facilitate trend analysis of CASS findings. The FAA concurred with that recommendation but, as we noted earlier, the existing job aids are inadequate and the current ATOS SAI/EPI process is under review pending completion of JTI's. At this time, the FAA is committed to the use of JTI's, however, it will be at least two years before JTI's can be fully used.

Fourth, the Inspector General recommended that the FAA establish milestones for the development of CASS specific training; ensure the training includes techniques for conducting effective surveillance and validating CASS procedures; and within two years, provide this training to all inspectors who oversee CASS. While the FAA concurred with this recommendation and committed to having the inspectors trained on the use of the job aids by March 2002, we regret to inform you

⁷ Alexis M. Stefani, Assistant Inspector General for Auditing, "ACTION: Report on Oversight of Aircraft Maintenance, Continuing Analysis and Surveillance Systems," December 12, 2001, p. 13-14.

that the FAA has not completed development of the job aids. Additionally, the FAA's long-term commitment—to establish an inspector training program on CASS—is not set to be completed until January 2004.

Fifth, the Inspector General recommended that the FAA complete proposed revisions to CASS guidance within 90 days of the date of that report. The FAA, again, concurred with this recommendation and promised to have an updated CASS Advisory Circular (AC) 120-16D published by January 31, 2002. Unfortunately, that date has passed and the AC has not been published. PASS understands that the AC will not be available until some unspecified date in the future. Additionally, while the FAA has promised a model CASS program by January 2003, with deployment of that product to field inspectors by March 2004, PASS is concerned that these schedules require a commitment by the FAA that it appears unwilling to provide.

Finally, the Inspector General recommended that the FAA require that inspectors and analysts periodically analyze maintenance-related inspection results to identify deficiencies or trends in carriers' aircraft maintenance programs that could be considered indicators of problems in the carriers' CASS. The FAA only partially concurred with this recommendation, believing that the data analysts assigned to the ATOS carriers already performed that function. Our earlier concerns regarding the FAA's use and training of ATOS data analysts are just as pertinent when discussing CASS as when discussing ATOS. The FAA also believes that for those carriers operating outside of ATOS, that analysis is already being conducted using the Surveillance Evaluation Program (SEP) process. SEP is a bridging mechanism to allow the 130 non-ATOS carriers to transition into an ATOS system. SEP currently relies on data evaluation by an inspector workforce, identified previously as not being trained in system safety principles. The FAA also promised to investigate enhancing the analysis process through the use of the Flight Standards Safety Analysis Information Center (FSAIC). However, PASS is not aware of any action on the part of the FAA at this time.

PASS recommends that Congress authorize an immediate joint committee comprised of the FAA, PASS, and industry representatives to report back to this Subcommittee within 90 days as to the FAA's progress on implementing the Inspector General's recommendations on CASS.

OTHER OVERSIGHT ISSUES

We would also like to bring to the Subcommittee's attention several issues that continue to be of concern to the inspector workforce.

- **Lack of oversight of outsourcing.** The current ATOS inspection system has a significant fault; the lack of a framework for oversight of outsourcing by the air carriers. Most American air carriers outsource some or all of their aircraft maintenance as well as de-icing, refueling, ground handling, aircraft cleaning and training. With limited inspector resources, the FAA needs to place more emphasis on this growing area of concern.
- **Designees.** PASS is also concerned with the outsourcing of inspector functions by the FAA through the designee program. In an effort to deal with the continuously shrinking inspector workforce, the FAA has chosen to designate out critical safety mandated responsibilities to commercial organizations outside the agency instead of recruiting and training its own inspectors. While the use of designees is not a foreign concept for low level responsibilities,

it is now being expanded. By using designees the FAA is essentially allowing the industry to regulate itself without FAA oversight.

- **Contracting out.** Over the years, Congress has made it clear that the work of Aviation Safety Inspectors should be done by federal employees because the work is clearly inherently governmental. Currently, Aviation Safety Inspectors are classified by the Office of Personnel Management in the 1825 job series, which falls under regulation and enforcement. PASS recently learned, however, that the Administration is considering changing their classification to the 2155 job series, thereby placing them in a “transportation” category rather than regulatory and enforcement. PASS believes that this move is the first step to contracting out Aviation Safety Inspector jobs. PASS is vehemently opposed to contracting out the inherently governmental responsibilities and authority that inspectors perform and believes that contracting out virtually ensures that the FAA will continue down a road that reduces the level of safety within the aviation industry. In light of the events of September 11th, PASS is alarmed to think that the Administration would contract out aviation safety to the lowest bidder.

CONCLUSION

By looking at air carrier safety programs as a system, rather than just the individual outcomes, there is a belief that inspectors will spot problems before they become accidents. If properly developed and utilized, ATOS can be a tremendous tool for inspectors to use. PASS is concerned, however, that the FAA believes that ATOS is a replacement for inspectors, rather than a tool for their use. Safety is not something which can be automated. Only people can properly oversee and ensure safety. Because safety is a subjective standard that the FAA attempts to enforce through objective regulations, the human element, inspectors, remain the most crucial aspect of aviation safety. Only when adequate numbers of properly trained inspectors are utilizing all the tools at their disposal, including ATOS, will there be sufficient oversight of aviation safety.