



***SUMMARIES,  
CONCLUSIONS,  
& ACTION ITEMS***

U.S./EUROPE INTERNATIONAL AVIATION SAFETY CONFERENCE  
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## ***FAA Organizational Changes***

**Presenters:** **Nick Sabatini**, Associate Administrator for Regulation and Certification, FAA  
**John Hickey**, Director, Aircraft Certification Service, FAA  
**Jim Ballough**, Director, Flight Standards Service, FAA

### **Summary of Presentations**

This presentation provided information to the conference participants on recent changes to the FAA's Regulation and Certification (AVR) Organization. Mr. Sabatini introduced two new offices within AVR: the Air Traffic Safety Oversight Office (AOV) which will oversee the operations of the Air Traffic Organization, and the Office of Quality and Integration (AQI) which will lead the AVR integration efforts and will introduce the Quality Management System within AVR. John Hickey presented the AIR organization and explained the realignment of its office in Brussels to a more policy-oriented role. Jim Ballough said that he was pleased to report that the Flight Standards Service has had no change in the headquarters staff in the past year and that all of the divisional management positions are in place.

### **Discussion Issues**

None.

### **Summary/Conclusions**

None.

## ***EASA Update***

Presenters: **Patrick Goudou**, Executive Director, EASA  
**Norbert Lohl**, Certification Director, EASA  
**Claude Probst**, Rulemaking Director, EASA  
**Klaus Koplín**, Chief Executive, JAA

### *Summary of Presentations*

Executive Director Patrick Goudou led the update on the European Aviation Safety Agency (EASA). He described the agency as an operational reality that by virtue of European law has the mandate to regulate and enforce aircraft certification, environmental protection and maintenance for the European Union (EU) Member States and those other European States that have an association agreement with the European Community. He contrasted the current situation of a single European law with the previous 25 not fully harmonized national laws; a single European Agency instead of 25 National Authorities; and, a single certificate for aeronautical products instead of 25. Additionally, EASA is expected to assume responsibility for air operations and flight crew licensing in the near future and airport operations and air traffic management at some time in the future.

Mr. Goudou provided an explanation of the legal framework that exists in Europe since the establishment of EASA. European Member States have agreed to transfer executive powers to EASA to perform tasks on their behalf. This new legal reality requires that European Member States comply with European Law, cannot deviate from common European rules, nor impose additional requirements or conclude agreements with third countries. As a consequence, EU Member States are represented by the EASA in the JAA. Furthermore, Member States are bound by and must reflect Agency decisions and positions when carrying out their representative roles in such fora as ICAO and ECAC. He also noted that JARs are in the process of being replaced by European regulations. However, he strongly emphasized that safety continues to be a collaborative effort between the Agency and Member States, based on a clear definition of roles and responsibility for specific technical functions. In his presentation he provided a detailed outline of how responsibilities are shared between Member States and the Agency.

He indicated that the Agency is committed to establishing proper relations with non-EU members of ECAC and to pursuing international relationships with other international partners through special arrangements, association, partnerships, and mutual recognition agreements – he cited examples of these types of arrangements. He also noted that bilateral aviation safety agreements are the competence of the European

Commission. He concluded by providing a list of the Agency's priorities for the remainder of 2004 and by stating that the Agency is focused on fulfilling the mandate it was given: to assure customer confidence, increase safety and improve market economic viability in a global environment, enhancing the European profile. He then introduced Dr. Lohl to provide an update on the Agency's Certification Directorate.

Mr. Norbert Lohl thanked the JAA and the National Aviation Authorities of Member States for the technical expertise and advice they have, and continue to, provide to the Agency. Their support was key to the successful transition from JAA to EASA and to the seamless transfer of several ongoing projects. He enumerated the responsibilities the Agency is now discharging in the certification of products and organizations. He also provided a series of flow charts identifying how the directorate is organized. Although only in its ninth month of operation, EASA has already achieved a number of successes and issued thousands of approvals. However, many challenges remain for 2004 including: the selection of key department heads and PCM specialists as well as the Agency's physical move from Brussels to Cologne, Germany. Additionally, there is an urgent need to develop certification databases, establish sound working relationships with relevant partners and customers, and adopt internal certification procedures.

Mr. Claude Probst provided the participants with an explanation of the institutional and legal framework in Europe in order to facilitate the understanding of the Agency's operating environment. He explained that in the European context decentralization of tasks, and centralization of rulemaking and direct application of regulations constitutes the framework in which the Agency is established. He then provided examples of the different types of regulatory instruments used by the European Commission and the Agency and how EASA and the Member States use them. He outlined EASA's unique responsibilities among European agencies, such as the right of initiative in rulemaking, the right to adopt implementing rules and specifications, and the right to issue certificates to industry based on those rules. He provided a series of flow charts identifying how the Rulemaking directorate is organized.

This panel concluded with a presentation by Mr. Klaus Koplín, who provided a detailed presentation on the status of JAA membership, the current state of cooperation between the Agency and JAA, and the role of JAA in a post-EASA environment. He indicated that JAA now have 32 full members and 6 candidate members. EASA and the JAA have signed a service provision contract that provides for continuous support and collaboration between the two organizations. He also said that JAA would maintain the JARs by ensuring that IR/CS material is incorporated by reference into current JARs. Once EASA was established, most certification projects and rulemaking activities were transferred from the JAA to EASA. JAA have retained a few certification, rulemaking and maintenance projects, and the entire spectrum of operations and licensing activities. The expected outlook for JAA is to remain active so long as EASA does not assume responsibility for operations and licensing and to eventually become a small secretariat within EASA. The current expectation is that JAA will continue to exist as a separate organization for at least 2 years, assuming continued funding by Member States.

Discussion Issues

None.

Summary/Conclusions

None.



## ***EASA: Other Perspectives***

Presenters: **John Hickey**, Director, Aircraft Certification Service, FAA  
**Jim Ballough**, Director, Flight Standards Service, FAA  
**Haydar Yalçin**, Head of Flight Standards, DGCA-Turkey  
**Jerry Mack**, Vice President-Government and Industry, Boeing/AIA  
**Claude Schmitt**, Senior Director-Engineering/Product Integrity,  
Airbus/ASD

Moderators: **Nick Sabatini**, Associate Administrator for Regulation and Certification, FAA  
**Patrick Goudou**, Executive Director, EASA

### *Summary of Presentations*

The FAA presented their experience with the transition to EASA for certification and maintenance. Overall, the apocalypse that some had predicted where there would be interruptions to the flow of products and services between the United States and Europe did not occur. John Hickey spoke about the key changes in the European system and gave the status of U.S./European Community activities related to a future new bilateral agreement. There has been substantial agreement on the objectives and purposes of such an agreement, even though the first formal negotiation is not scheduled until July 2004. His presentation highlighted several areas where the United States and EASA have already begun to work closely in aircraft certification, including discussion on key safety initiatives such as fuel tank safety, and consultation on the new EASA staff certification procedures for design changes and continued airworthiness. The FAA expects to reach agreement with EASA on a harmonization approach that will include an annual Executive review of rulemaking priorities and opportunities for specialists to participate in each other's working groups for drafting new requirements.

Jim Ballough reported that in the future EASA will certificate U.S. repair stations rather than JAA. In anticipation of this process, FAA is comparing the FAA and EASA part 145 regulation and has completed 13 of 15 FAA assessments of the maintenance oversight systems of national aviation authorities as part of determining whether effective oversight systems are in place. FAA is also looking forward to EASA assuming competency for operations and licensing. FAA would like to understand how simulator implementation procedures and the implementation procedures for crew licensing can be handled with the European Community in the interim. Overall, the FAA believes the relationship with EASA has begun as a positive and open one.

Haydar Yalcin, speaking on behalf of Turkey, an EU candidate accession state, urged that EASA and the conference attendees think more about non-EU members as EASA matures. He posed several questions to the group, including what is the role of non-EU members and how could the high level of safety be maintained in Europe without the participation of non-EU members. Aviation safety should be technically based, and not political. There is a possibility of there being two levels of safety in Europe without further integration of all the JAA members. He identified 16 states in Europe that are not EU members and cannot benefit from the new agency. From Turkey's perspective, it is essential for enhancing safety that countries across Europe be involved in decision making in Europe. Mr. Yalcin urged that EASA explore ways for more flexible and transparent collaboration with non-EU members.

European and U.S. industry gave a joint presentation comparing the start-up of EASA in the nine months since September 2003, to the birth and growth of a child taking its first steps. Industry commended EASA for its communication, including meetings with industry and establishing a website. Industry also cautioned that EASA's startup occurred during a relatively poor economic period, and as the economy recovers and more aeronautical products are being ordered, EASA must look for more efficient ways to operate.

Industry would like to see harmonization continue and stressed that unilateral actions should be avoided at all costs. A real commitment is needed on the part of both industry and the authorities' leadership to monitor rulemaking efforts and ensure that drafting teams do not go beyond their tasking, as has happened in the past.

Industry would like to be consulted on the development of procedures for product certification and validation as well on any new bilateral implementation procedures that will impact them. They asked that new EU accession states be brought up to date on EASA's expectations and processes quickly.

Industry highlighted several of the key areas where there are still some questions including fees and charges, and outlined its expectations for a fee charging system that would be in line with international practices and not impact the competitiveness of industry.

### Discussion Issues

During the limited time remaining for discussion, the panel was asked how continued joint safety research would be pulled together. Both authorities are very supportive of efforts to further coordinate aviation safety research efforts.

A representative from the Association of European Airlines (AEA) asked the FAA whether it would reconsider its requirement for separate operations specifications under 14 CFR 129 for foreign operators into the United States once EASA assumes competency for airline operations. AEA believes that under a new bilateral agreement, the United States should be willing to recognize the operating specifications of EASA as adequate, based on the safety levels of operations on both continents. FAA replied that

there are no plans to withdraw the part 129 requirements and that such recognition of the EU system was not being contemplated for a future bilateral.

Summary/Conclusions:

Overall, the panel members saw the transition to EASA as being a smooth one. This session highlighted both the benefits and remaining challenges to EASA's ultimate success and its goal of sustaining high levels of aviation safety in Europe.

## ***Development of Regional Organizations: Progress and Areas for Future Cooperation***

Presenters: **Hondo Gratton, Pacific Aviation Safety Office (PASO)**

**Jorge Vargas**, Director, Central American Agency of Aeronautical Safety (COCESNA/ACSA)

**Phillip Wambugu**, Economist, East African Community (EAC)

Moderators: **Mike Daniel**, Manager, International Programs and Policy Office, Flight Standards Service, FAA

**Claude Probst**, Rulemaking Director, EASA

### *Summary of Presentations*

Hondo Gratton, from the Pacific Aviation Safety Office (PASO), outlined his organization which encompasses six island nations with a massive area and sparse population. As a result, air transportation is essential for the economic viability of the region but the individual authorities are very small and struggle with their oversight responsibilities. Five of the six countries are signatories to the Chicago Convention and are, therefore, responsible to meet ICAO obligations. These responsibilities are difficult to meet unless there is a pooling of resources within the region. PASO's fundamental task is to provide regulatory safety and security oversight to the six Member States (i.e., maintain their ICAO responsibilities), through a recently drafted and circulated multinational treaty. Another important aspect is to provide advice to the industry.

PASO is a small non-profit company undertaking the services of the Member States covering: airworthiness, flying operations, airports, and security. Staffing is presently limited to a general manager, an operations officer and an administration officer, but will soon add two flying operations inspectors, an airworthiness inspector, an airport inspector and an aviation security inspector. Due to limited resources, technical staff cannot be finalized until the necessary funds are available.

PASO addresses fundamental problems of small nations, and will provide a substantial safety and security benefit to the Member States, the region, and the industry. Consequently, it could be used as a model to address similar problems of other States with a small or limited aviation capabilities.

Jorge Vargas from the Central American Agency of Aeronautical Safety (ACSA) presented his organization which started in 1999 following a feasibility study regarding the necessity of a regional safety agency. ACSA is a part of COCESNA, which is a

corporation for regional aviation safety regulatory activities in Central America. The products of ACSA include regulations to ensure full compliance with ICAO SARPS. The rulemaking procedures of ACSA are very similar to the procedures of JAA.

The CAAs of the Member States are stronger now as a result of ACSA. ACSA facilitates modernization and provides better support to inspectors. It also provides administrative and logistical support to its Member States and facilitates the dissemination of necessary technical guidance needed by the CAAs to accomplish their ICAO responsibilities. Systems and processes are in place to develop qualified technical personnel and to share these resources among the Member States. ACSA also assists Member States with certification, licensing, surveillance, and resolution of safety issues.

ACSA has developed its mission and strategic objectives with a vision of being the region with the highest level of safety and security in the world through a model of regional integration in aeronautical matters.

Many difficulties have been encountered, particularly developing the trust and confidence of all the Member States to think as one agency. However, progress has been made to overcome these difficulties and there is an increased level of compliance to ICAO requirements. ACSA wants to encourage regional approaches and it is important for ACSA to provide support to ICAO for the development of material to develop such regional approaches. As with the discussion on PASO, financial assistance is an issue that needs to be addressed to ensure continued success with the regional concept.

Phillip Wambugu from the East African Community (EAC) presented his organization which is comprised of Kenya, Uganda, and Tanzania. Rwanda and Burundi have applied for membership. The region has a large number of international flights (5 international airports) due to the tourist interests in the region.

During the last decade, the national carriers of Kenya and Tanzania have been privatized. This has resulted in healthier airlines in the region and increases in route capacities. At the regional level, a renewed East African community is the catalyst for pooling aviation safety resources in the region. The community has created the Heads of Civil Aviation Committee to lead cooperation in the civil air transport area. Under EAC and ICAO, the committee has also facilitated aviation development with other sub regional bodies.

One of the most important programs is the on-going harmonization of laws covering aviation. The objective of harmonization is to facilitate regional laws governing air transport. It is vital for EAC's continued success that investments by the European Investment Bank and the United States continues.

The EAC is concerned with implementation of the Yamoussoukro decision aimed in liberalizing air transport across all of Africa, not just within sub regions of Africa. Civil

aviation safety and security calls for close cooperation between many organizations and people in the region. EAC supports the creation of regional bodies to pool resources among several states to improve aviation safety.

### Discussion Issues

Mr. Daniel asked to the panel about the reaction of operators to the regional approach. ACSA responded that at first it was hard to get trust. However, ACSA has involved the industry in their activities, including conducting a number of seminars. As a result, a new culture is being created and now the confidence with ACSA has been growing.

PASO responded that industry reaction is mixed, but that may partly be a result that PASO hasn't really started yet. Because the CAAs have been so ineffective in the past, the industry has actually been self-regulating so there big culture shift is required. PASO is going to be very inclusive and open with industry, so Mr. Gratton believes they will see and appreciate the benefits soon.

EAC responded that one of the needs of the industry is to have direct flights to the United States. He believes that they will appreciate the benefits of the regional approach when they receive approval for direct flights to the United States.

Mr. Probst commented that he has the responsibility to develop policy for international cooperation and asked the panel on which issues he should be focusing.

Jorge Vargas stated that having relationships within the international aviation community is more important than financial assistance (although that is very much appreciated). Also, there is a need to have the rest of the world accept the regional concept. There needs to be a big message sent to ICAO to encourage the regional approach and develop guidance on setting up regional authorities.

Hondo Gratton echoed Mr. Vargas' comments with respect to ICAO acceptance and support of the regional concept. Lines of communication need to be developed between these regional agencies and the bigger agencies, such as EASA and FAA. Resource, in terms of funding, is also important.

Phillip Wambugu asked that for the international conference there needs to be broader involvement of other regional groups across the globe.

### Summary/Conclusions

- The development of regional aviation organizations is a very important concept for ensuring compliance to ICAO requirements and improving aviation safety, particularly in lesser developed countries where resources are limited;

- The involvement and cooperation of industry is essential to changing the existing culture into a culture of multi-national cooperation;
- Regional aviation organizations need the support of more developed organizations and countries in terms of capital investment and access to technical expertise; and
- There needs to be recognition and support from ICAO on regional aviation organizations with a particular emphasis on ICAO to develop and disseminate guidance on the development of regional aviation organizations.

## ***Do Current Regulatory Systems Hinder Safety Advancements? The Link Between Safety and Quality Management Systems of Aviation Regulators***

Presenters: **Peter Noad**, Regional Manager, UK Civil Aviation Authority

**Vi Lipski**, Director, AVR Quality and Integration, FAA

**Steve Douglas**, General Manager, Government Relations, New Zealand Civil Aviation Authority

**Gilberto Lopez Meyer**, Director General, Mexico Direccion General de Aeronautica Civil

**Scott Collinge**, Honeywell International/Aerospace Industries Association

Moderator **Nick Sabatini**, Associate Administrator for Regulation and Certification, FAA

**Patrick Goudou**, Executive Director, EASA

### *Summary of Presentations*

Peter Noad's presentation posed many questions about what ISO-9000 registration is, what it will do for us, and will it add value. He also posed the question "Is it right that we as regulators expect the regulated to accomplish the highest standard yet we rarely impose that same standard on ourselves."

It was also pointed out that if a process has not failed it does not indicate the process is perfect. To support this thought Peter quoted an African Gentleman - "The absence of war is not peace"

Vi Lipski's presentation provided insight into the challenges the FAA Office of Regulation and Certification are addressing in their efforts to becoming ISO-9000 registered. In her introduction to the slide material she added that a common challenge for the entire FAA is finding ways to continue reducing the extremely low accident rate we have today. Ms. Lipski continued by cautioning that the low accident rate could lead to overconfidence in the reliability of our processes and that, continued improvement is predicated on the current safety system. In support of this thought she quoted Dr. James Reasons, author of *Managing the Risks of Organizational Accidents* - "We must Manage Risk or our organization could unwittingly contribute to an accident."

It was also pointed out that AVR is looking at how AVR does business and challenging their existing safety models and strategies.



Steve Douglas' presentation provided a review of the ISO-9000 Registration status of the New Zealand Civil Aviation Authority who has been ISO-9000 registered since 1995 and updated to the new ISO 9001:2000 standard in 2003.

Mr. Meyer's presentation covered the ISO-9000 registered process for pilot licensing in Mexico. The ISO process has led to significant customer satisfaction and improvements in standardization within the DGAC of Mexico.

The industry perspective of ISO-9000 was provided by Mr. Collinge from his experience with ISO-9000 registration at Honeywell. His presentation emphasized the positive impact ISO has had on the dispersed Honeywell organization and on his customers.

Discussion Issues:

Nick Sabatini posed the question of whether we are doing the right thing by committing resources toward ISO registration or should we focus on these other pressing issues such as large # of RJ's, Large population of Micro-jets, or other industry needs.

Peter Noad responded that ISO registration will help you answer that question. If you tack on risk management you will be able to use information from the ISO process to make data-driven decisions. After that process is applied then if risk is high, then we kick in predecessors.

Vi Lipski also responded that it is important to understand that ISO will not change the need to deal with critical issues--that is no different than today's situation. What would be different is that ISO will provide the ability to address the issues in a systematic way. We now scramble for ad-hoc data to support decision making; it is not accomplished by using a systematic or structured risk based management process. With the ISO process we can take this structured approach using data driven analysis enabling us to make more informed, prioritized decisions about where resources should be focused. We will then be able to assess existing systems to evaluate how they support or address new safety critical issues.

Gilberto Lopez Meyer emphasized that implementing ISO is a complete culture change not just a paper on the wall. If ISO registration is accomplished, every problem will be solved in an easier way. This is what a quality system is supposed to achieve, not just face the problem but be able to face the future.

Patrick Goudou then asked the panel, what would you say to those who claim that ISO is just an administrative task, is burdensome to just want to get the certificate on the wall.

Scott Collinge responded that at first we just were trying to get the certificate to hang on the wall and when an auditor came to the door we would all do what we called the "ISO Shuffle". It took awhile but eventually it evolved into a system that truly showed how our

processes support our needs and began to produce results that our customers began to see.

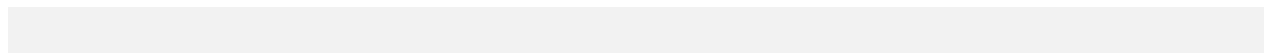
When used for its true intent, to analyze results and manage performance, ISO certification really becomes the sideshow and the Quality Management (QMS) becomes the result or Main Event.

Steve Douglas further responded that challenges are part of daily lot, these things will always come up. With ISO processes and principles firmly in place, it takes out the variables. Under ISO we now spend more time doing productive things and less time on unproductive projects. Management will curse it (ISO) up front however you could equally say that budgets and time sheets are useless as well. But they are a necessary part of doing business. You should make investment (in ISO) up front, then look at it later and you'll find yourself saying – that wasn't such a difficult thing.

*Summary/Conclusions:*

Mr. Sabatini thanked the panel and complimented their accomplishments in achieving ISO-9000 registration. He stated that they were a very knowledgeable panel of professionals and that the session was very informative and thought provoking. To be the most effective organization we have got to position ourselves to address challenges in the most effective ways.

We have heard from five professionals in regulatory organizations that are at various stages of ISO-9000 Registration. From these presentations we can conclude that all of them have found that the ISO-9000 registration process has brought with it a more efficient way of doing business, a clarity of purpose for the stakeholders, and a system which supports sound business decision making and risk-based management for their organizations.





Mr. McBride presented the current Domestic Reduced Vertical Separation Minima (DRVSM) activities in the US. Significant areas covered included rulemaking effected in October of 2003. FAA and JAA documents are fully harmonized. He presented a global overview of RVSM implementation. Mr. McBride noted that DRVSM requirements include the use of TCAS II version 7 and that DRVSM airspace is exclusionary; however, that aircraft can transition to altitudes above this airspace (FL410). He noted that expected benefits are \$393 million in the first year with a 2 percent annual growth thereafter. Mr. McBride noted the effective date of January 2005 for this airspace.

Mr. Streeter presented an overview of the FAA's Alaska Capstone program. He noted that the May Capstone international conference was highly successful; and, that information on these technologies and the numerous civil aviation authorities involved is available at the Capstone web site. Capstone is a government/industry program using real operators in real time to promote safety in Alaska – leveraging emerging technologies to increase safety. Capstone is providing an IFR infrastructure in mountainous and non-mountainous terrain. Alaska's major mode of transportation is aircraft; preventing a significant number of accidents is paramount. Capstone has provided a 25 percent decrease in accidents in Alaska. Capstone elements include ADS-B, TIS, FIS, Synthetic Vision-Enhanced Flight Information Systems (SV-EFIS), multi-function displays, GPS, and GPS/WAAS. The first IFR WAAS flight was conducted in Alaska on July 10, 2003. Mr. Streeter noted that one of the greatest challenges we are facing today is the global harmonization of these [Capstone] technologies.

Mr. Hamel presented the industry viewpoint on CNS avionics, specifically on air/ground cooperation. He noted the need for a total systems approach. Mr. Hamel presented a worldwide ATM roadmap, noting the need for convergence and the challenges we face in integrating disparate platforms (aircraft). Air/Ground cooperation requires a long-term vision that includes an evaluation of both drivers and enablers to achieve a comprehensive A/G functional integration. From the manufacturer's perspective, the use of adaptive system architectures enables low cost evolution and maintainability. Management must focus on technology maturation and lifecycle costs. Global operational performance requirements and safety help provide a balance – providing a positive business case – essential to successful ATM evolution. Clear plans with broad stakeholder consensus one needed to offset early investment risk, especially in the transition. A robust strategic plan with evolutionary capabilities that provides incremental benefits is needed to exploit today's airborne capabilities in the near-term, define a sound transition plan, factor in airborne implementation cycle; and, deploy future end-to-end architectures that will support increasing levels of air/ground functional integration.

Mr. Goernemann presented the regulatory oversight of navigation database providers. With the implementation of PRNAV, Europe has a performance-based system. Databases play a major role in performance-based systems. The main topic of the presentation was the preparation of data provider and service responsibilities. He noted

that a single solution does not fit as data is exchanged on a global level. An NPA on the data process (EASA NPA 03) was published on May 28, 2004. Mr. Goernemann noted that there remain some open legal questions surrounding database approach. These issues/concerns are included in the handout materials. He noted that he recently learned that the FAA had previously resolved similar concerns. Mr. Goernemann is looking forward to reviewing the FAA's solution and use it to develop a recommendation to EASA. There are two different types of data service providers: a database supplier e.g., ARINC and a data application integrator, e.g., avionics manufacturers. The target date of approved databases is November 2004 – the date for PRNAV implementation.

Mr. Stastny presented safety regulatory aspects of new technologies. He noted that new technologies provide opportunities to improve safety; however, with change there is a possibility of increased risk. European Safety and Regulatory Requirements (ESARRs) have been established and implemented to harmonize safety regulation across the European region. ESARR 4 specifically addresses new technology – it's about the future. ESARRs also have advisory materials associated with them. All ESARRs are available on the Eurocontrol website. As an outcome of some significant safety events, Eurocontrol's conducted a safety assessment and analysis which led to the development of eight high priority areas. ESARRs are currently evolving into European law. In the ATM area, Eurocontrol has worked with ICAO to align their safety program with ICAO requirements. Mr. Statsny highlighted that risk identification and mitigation requires both a formal safety framework and historical knowledge.

#### Discussion Issues:

On the topic of database approval and the intent to provide a letter of approval either from FAA or EASA– are those letters reciprocal? Will there be formal notification of reciprocity? FAA has an AC on database approval in final draft. EASA guidance materials should highlight acceptance of FAA letters.

#### Conclusions:

The workshop concluded that global harmonization efforts benefit the entire community. The FAA, EASA, and JAA are rapidly moving towards implementing performance-based systems that provide tangible benefits to both users and service providers. In Europe, PRNAV implementation is scheduled for November 2004. Database issues surrounding performance-based implementation continue on a converging course. EASA published an NPA in May and a legal concern is raised in this NPA. The FAA has already addressed this issue and is providing its resolution to EASA/JAA. Letters of approval issued by either FAA or EASA should have reciprocity. This reciprocity is stated in the FAA's advisory circular (previously coordinated EASA/JAA) and should also be covered in EASA guidance materials.

#### Actions Items:

The next European meeting on database issues will take place at the end of June 2004. FAA and EASA members will attend and report any outcomes.

## ***Airline Oversight in a Global Environment***

Chairs: **Jim Ballough**, Director, Flight Standards Service, FAA

**Claude Probst**, Rulemaking Director, EASA

Presenters **Matt Schack**, Manager, Air Transportation Division, FAA

**Kim Miller**, Aviation Safety Inspector, International Program and Policy Office, FAA

**Marinus Heijl**, Deputy Director, Air Navigation Bureau, ICAO

**David Mawdsley**, Director-Safety, IATA

**Mike O'Brian**, Director- Program Implementation/Auditing, IATA

**Vincent De Vroey**, Manager, Operations and Airworthiness, AEA

### *Summary of Presentations*

**A Data-Driven Approach to Safety Oversight.** Matthew Schack summarized the FAA's Air Transport Oversight System, a system-based approach to airline oversight. In addition, the FAA outlined four voluntary safety programs covering airlines, employees, training data, and in-flight data. The voluntary programs all share the ability to retrieve useful data while minimizing or eliminating certificate actions. Finally, the FAA outlined continued concerns from the regulated parties, including the potential for regulatory actions, public disclosure under legal requirements (e.g., FOIA), civil litigation, and the sharing of commercially sensitive information with competitors.

**Exchange of Ramp Inspection Safety Data.** Kim Miller, FAA, described the development of a program to exchange ramp inspection data among participating civil aviation authorities in order to multiply the information available to each participating authority on carriers under its jurisdiction. The FAA has begun discussions with European Civil Aviation Conference on the necessary legal and technical arrangements to allow the sharing of such data.

**Airline Oversight in a Global Environment.** Before beginning his presentation, Mr. Heijl gave a brief background of states' obligations under the Chicago Convention for the oversight of air carriers. Under the Universal Safety Oversight Audit Program (USOAP), ICAO teams have conducted audits of 181 Contracting States and have returned to 131. USOAP has been effective in encouraging states to improve their oversight systems. Upon return audits, 25% of states have not made good progress on their action plan, and 8 states had no action plan. The bottom line for ICAO is that safety oversight is a state responsibility. Mr. Heijl also reminded the audience that 83bis agreements must be registered with ICAO indicating which states are responsible.

ICAO has developed guidelines to provide more clarity to states on what duties may and may not be transferred under 83bis.

Mr. Heijl outlined several trends in the aviation industry affecting airline oversight and underlined the need to maintain a clear line of responsibility between the company and the responsible contracting state.

ICAO will present to its Council this week a draft General Assembly resolution to provide a strategy for improving states' oversight through audits, regional groupings, and safety information sharing.

Leasing of aircraft, code sharing, and subcontracting of ground handling have blurred areas of responsibilities, and will need to be looked at carefully.

**IATA 6-Point Safety Program.** Mr. Mawdsley described IATA's STEADES program (based on British Airways Safety Information System database), which combines safety data from a wide scope of sources, provides an analysis of the data into a report.

Mr. O'Brian summarized IATA's IOSA program for standardizing and sharing codeshare audits. IATA serves as the clearinghouse for IOSA audits; however, airlines continue to own their audits. IATA manages the entire program, accredits auditors, maintains audit standards, ensures quality. All 18 airlines that have completed IOSA audits have submitted corrective action plans. Seven airlines' corrective actions have been approved to date. The FAA has formally accepted IOSA for its review of US airlines' codeshare audits, and IOSA is supported by several other authorities.

**Oversight Challenges in a Global Operation.** Mr. Barimo described the increasingly complex nature of the global airline industry and how this relates to the economic state of the industry. Given this reality, internal and cooperative industry-based quality audit programs are taking a larger role in the safety oversight of carriers. This requires a more systems-based approach on the part of regulators.

**Airline Oversight in the Era of Open Skies.** Finally, Mr. de Vroey expressed the concern that, despite liberalization in aviation, there remains a lack of trust between regulatory authorities between the U.S. and Europe concerning the acceptability of each others' systems. He expressed concerns with FAR 129 requirements and indicated that FAR129 is counter to the spirit of the Chicago Convention. AEA advocated for a harmonized and coordinated approach and, where harmonization is not possible, mutual recognition of AOCs. Mr. de Vroey opined that Operational Specifications (OpSpecs) do not produce added safety. Instead, FAA should rely on European AOCs. In addition, AEA wrote a letter to DOT indicating that some airlines have reported difficulties adding new aircraft to OpSpecs within a reasonable time period. They received a response from the FAA Administrator, which reinforced the right of the U.S. to impose OpSpecs. Mr. de Vroey went on to cite examples of issues encountered by European airlines when flying into the U.S. and asked the FAA what it could do to improve customer service. In addition, he asked how would the U.S. respond to the

possibility of an EASA part 129? Can the U.S.-EU “BASA” serve as an opportunity for greater recognition of U.S. and European operational requirements?

Discussion Issues:

PASO would like to formally acknowledge the IOSA program and will work closely with IATA and the carriers.

EASA was asked for its position on the lack of dispatcher flight tracking in Europe. AEA responded that there is a flight tracking system as required under JAR-OPS, and it is not a safety issue. It is simply a cultural difference between the US and European systems in that dispatchers are not required to be licensed under the JAA system. EASA requested that comments be made through the EASA consultation paper requesting public comment on how EASA should regulate operations.

TCCA expressed surprise that AEA did not include Canada in its comments on FAR 129 OpSpecs problem issues, since Canada has a similar requirement. TCCA acknowledged the need to continue to issue AOCs to foreign operators flying to Canada.

FAA in response to the criticism of FAR 129 stated that it will work with responsible offices to review the AOC process.

Conclusions:

There is a need to examine how national regulators can adapt their processes to the growing trend towards globalization of the air transport industry. This examination should address the way in which mandatory oversight at national levels can integrate and benefit from voluntary industry audit systems. It should also assess how bilateral or multilateral cooperation can alleviate the regulatory burden on air operators that progressively become global and may be subject to multiple oversights.

Actions Items:

FAA and JAA/EASA should cooperate to address the challenge of regulatory oversight of global air operations.



## ***What is Driving the Lower Accident/Incident Rate? Linking Improved Safety Records to the Global Safety Agenda***

**Chairs:**      **Nick Sabatini**, Associate Administrator for Regulation and Certification, FAA  
                      **Klaus Koplín**, Chief Executive, JAA

**Presenters:**   **Bob Matthews**, Safety Analysis Team Leader, Office of Accident Investigation, FAA

**Mike Romanowski**, Assistant Vice President, Civil Aviation, Aerospace Industries Association

**Yves Morier**, Regulation Director, JAA

**Marinus Heijl**, Deputy Director, Air Navigation Bureau, ICAO

**Carlos Limón**, Technical Director, Asociacion Sindical de Pilotos Aviadores de Mexico

### **Summary of Presentations**

The panel chairs opened the session with challenges to panelists to address at the conclusion of their presentations the dynamic changes we see occurring in the aviation system; dramatic growth in numbers of regional jets and influx of micro jets (and associated pilot training issues); use of new materials (composites), etc. A request was made of the audience to provide more interaction and discussion on the materials presented.

**Cooperative Efforts Are Driving Down the Accident Rate** – Bob Matthews/Mike Romanowski jointly presented a summary of the Commercial Aviation Safety Team’s collaborative international efforts of industry and government to reduce the commercial worldwide aviation fatal accident rate. Initial discussion on the dramatic gains that have been made through the cooperative efforts of industry and regulators was punctuated by the future challenges to improvement posed by the current very low fatal accident rate. The impact of the ongoing CAST Safety plan was estimated to provide an approximate 50 % fatal accident rate reduction to date, and this correlates well with the current U.S. experience. Furthering the growth of International cooperative safety programs was strongly encouraged. Past gains have focused on technical improvements that provided both a safety benefit and a dramatic economic benefit, which facilitated their cooperative introduction. Future safety initiatives will benefit from a continuation of this philosophy utilizing data sharing, metrics driven prioritizations, and a transition to a focus on precursor/emerging threat identification and corrective action. It was noted that an effective safety improvement program needs to evaluate a degree of implementation, and have metrics available to quantify the effectiveness of the safety solutions. In closing, Mr. Romanowski reiterated the importance of continuing this

cooperation in worldwide fatal accident rate reduction, with the focus on data driven decision making and a data sharing approach. The completed results and products of CAST are available on CD.

**JAA Safety Strategy Initiative (JSSI): An Update** –Yves Morier provided an update on the status of action plans in the JSSI focus areas; CFIT, ALAR, and LOC. With specific regard to LOC, he indicated that the certification side has been effectively dealt with, but operational issues remain. An update was then given on ECC-AIRS, a standardized occurrence reporting database developed for the purpose of European data sharing. In this context, he highlighted the ODAS report, namely specifications to perform analysis such as safety performance monitoring, precursor detection, and risk assessment, and present the results in a standardized format. European efforts to reduce runway incursions were reviewed, notably the production of recommendations that have been included in EUROCONTROL Strategic Safety Action Plan. An overview of FAST methodologies as applied in JSSI was provided, resulting in the identification of future prioritized hazard areas, such as flight deck automation. FAST may be seen as a tool but not the only one to identify and prioritize in a consistent manner emerging trends. Results are available on the JSSI website. With the transition from JAA to EASA, efforts are being made to continue these activities through the development of an EASA safety strategy.

**Improved Safety Record and The Global Safety Agenda** — Marinus Heijl provided an overview of the CAST and JSSI initiatives and their focus areas, and indicated that ICAO, in the GASP activity, had identified three of these (CFIT, LOC and Technical Failures) as areas of primary concern. He noted that future trends are not identified by studying past accident history, and that the 50% reduction achieved in recent years in the fatal accident rate has been concentrated in a few areas, whereas other areas are not showing a similar improvement. While much has been done to reduce the rates in the three identified areas of concern, he noted that the major accident types of a decade ago are still the major accident types seen today. Future actions need to continue in these areas to provide further reduction, and that solutions need to be applied globally to ensure that maximum safety benefit is achieved.

**What is Driving the Lower Aviation Accident/Incident Rate? Linking Improved Safety Records to the Global Safety Agenda** – Carlos Limon showed how the PAAST has taken the prioritized results of the CAST/JSSI and FSF safety data solutions, and applied them locally to the PAAST geographic region to realize safety improvements specifically in the areas of CFIT and ALAR. Mr. Limon identified several challenges unique to his geographical region (lack of a safety culture, and diversity in environment, language, climate and terrain), and noted how PAAST had maximized their own resources by utilizing the safety products of others. A mandatory training effort of the CFIT/ALAR toolkit was undertaken, and to date 70% of the region's flight crews have been trained resulting in a 24% reduction in ALAR related accidents.

Discussion Issues:

Subsequent to the presentations, each panelist responded on how the aviation safety community can position itself to respond to future challenges.

Bob Matthews indicated that CAST will anticipate change by identifying trend deviations or exceedences in operational data (FOQA, ASAP, etc), and by monitoring existing databases and changes in the organization's external environment, such as economic and fleet demographic changes.

Mike Romanowski stressed that data is the key, from all sources and shared with everyone, to aid in tracking precursor metrics. Monitoring these metrics will identify whether the system is responding as expected or if plans must be adjusted due to poor assumptions or new emerging risks being introduced into the system.

Yves Morier reiterated the message given in his presentation, particularly the relevance of FAST. He also indicated that the methodology could equally be used by other safety minded entities, e.g. airlines.

Marinus Heijl reiterated that lessons learned must be shared with all parties, so that all may implement and reap the benefits of past improvements that have been made by local entities. We must share the data.

Carlos Limon noted that while progress has been good, the rate is still unacceptably high, and we need to continue to work as a team of regulators, pilots, airlines and organizations, to reduce the accident rate further still.

Klaus Koplín then requested input from the audience.

Has the trend for in-flight fires and runway incursions gone up or down in recent years?

Klaus Koplín responded that in-flight fire was not a major threat in itself, but a contributor, and that runway incursions have come to the forefront as a result of the Milan accident. Bob Matthews ventured that notwithstanding the Milan accident, the rate of ground collisions is indeed down in the US as defined by level A and B threat level descriptors, but worldwide, the overall rate is increasing according to ICAO statistics for all (A, B, C and D) threat levels. Marinus Heijl noted that we are not out of the woods yet in these areas, and that security is the threat in recent years.

Mike Romanowski noted that most serious incident level data trends for runway incursion in the U.S. have shown a decided downward trend. He also noted the need to put incident level statistics in perspective with hazard ratio (severity) of the data being analyzed. Efforts must be focused on high-hazard incident types that have true safety significance.

The next question was what is being done to focus resources on high impact safety issues, to ensure that low benefit issues do not take resources away from safety critical activities, such as funding for recurrent training in airline training programs? Mike

Romanowski indicated that CAST training recommendations have had low impact to airlines.

It was further noted that there is a JAR-OPS rule that requires recurrent training in areas that are not related to current safety trends. One could argue that training focus is, therefore, in the wrong areas.

A comment was made that we need to be careful how we evaluate safety data. As the overall accident rate goes down, the confidence level becomes a greater percentage of total data value. We need confidence level bands on our data so that we can draw reliable conclusions. Bob Matthews noted that although other measures can be useful for aviation professions, we will always be driven to measure fatal accidents, however to gain relevance we might be able to reverse the fraction so that we can count the number of successful flights between accidents. Mike Romanowski replied that accidents are still the ultimate metric, but noted that we must look at precursors and their related metrics, and set “trigger points” for potential action.

Conclusions:

Cooperative safety programs are growing internationally and showing positive impact; they should be encouraged.

The key elements of effective cooperative safety programs have been identified to include:

- Involvement of key stakeholders and decisionmakers
- Precursor tracking through data sharing
- Systematic identification of emerging trends and future hazards
- Risk management
- Safety prioritization
- Cost benefit analysis
- Implementation and effectiveness measurement
- Global sharing of safety products and lessons learned.

Ensure regional programs remain linked to maximize efficiency and minimize duplication of effort.

Actions Items:

Conduct an annual review at this forum of the efforts of these teams to aid in the continued sharing of these critical safety products.

## ***Reciprocal Acceptance of Environmental Approvals: The Path Forward***

Chairs: **Paul Dykeman**, Deputy Director, Office of Environment and Energy, FAA  
**Claude Probst**, Rulemaking Director, EASA

Presenters: **Paul Dykeman**, Deputy Director, Office of Environment and Energy, FAA  
**Claude Probst**, Rulemaking Director, EASA  
**Bob Robeson**, Vice President, Civil Aviation, Aerospace Industries Association

### Summary of Presentations

Bob Robeson, representing ICCAIA, which is an association that encompasses the interests of the global aerospace industry, provided industry's perception on the issue. The global forces having greatest impact on industry can be categorized into four areas covering the business environment, airline and industry strategies, airplane and aerospace capabilities, and regulatory environment. Within the regulatory environment, the introduction of Chapter 4 / Stage 4 noise standards is a specific area that has had considerable impact on industry.

One particular concern is with the re-certification of existing airplanes from Chapter 3 to Chapter 4. Unilateral imposed restrictions on airplane certification and re-certification are very costly and must be avoided.

Industry feels it is important that there be reciprocal acceptance of environmental findings to enhance efficiency, reduce regulatory burdens, and facilitate global acceptance of products. The introduction of EASA along with the commonality of noise certification standards provides a good opportunity to establish reciprocal approval of environmental certifications.

Claude Probst remarked that while the requirements may look the same, due to the work of ICAO CAEP, there are differences that exist in the corresponding regulatory requirements and policy. However, reciprocal acceptance of findings does not mean that all of the requirements must be the same. The most important outcome is that we don't duplicate certification activities and that we maximize the work done by the certifying authority, even in areas where there may be differences.

The work done to date by the working group reveals that significant confidence building activities are necessary in driving towards reciprocal acceptance. We hope to be able to draw upon the lessons learned in airworthiness, i.e., TVP process. However, we do need to address some of the reservations raised by the specialists and more work is required by the EASA/FAA working group to arrive at a point where reciprocal acceptance can move forward.

Paul Dykeman, FAA's presentation outlined that there are no European bilateral provisions, but there are close working relationships that have developed among the regulatory experts in Europe and the U.S. Since there are very few regulatory experts covering environmental issues, the current working relationship is very people-dependent and is not defined by structured processes. The FAA/EASA working group is striving to define the processes and tools that would enable us to build and maintain confidence with each other, even when key experts leave.

The working group met in April and will meet again in July with an aim of providing a proposal to EASA and FAA management. The task of the working group (i.e., terms of reference) is to identify obstacles, strategies to overcome the obstacles, workload associated with implementing the strategies, and the overall benefits for regulators, industry and the public.

One of the areas where it is most difficult to establish reciprocal acceptance is in the identification and determination of whether a change in type design will result in "no acoustic change" or "no emissions change". These judgments are highly subjective and there is little written guidance. Some of the other significant obstacles include deviations from reference procedures; approval and acceptability of equivalent procedures; and consistency of technical decisions.

The working group categorized potential solutions for removing obstacles into a number of areas: harmonization, training, process (e.g., TVP), standardization, assessment and communication. The working group has matched a number of these potential solutions to each of the identified potential obstacles. These solutions will be discussed in more detail at the July meeting of the working group and industry input is most appreciated on these proposed strategies. Information and data on the cost / benefits are a particular area where the team needs industry input.

In summary, Mr. Dykeman stated that the FAA is committed to go forward with reciprocal acceptance and hopes that EASA will arrive at a similar conclusion.

#### Discussion Issues:

The panel was asked what is the scope of the initiative? Mr. Dykeman replied that the effort covers all products (transport airplanes, general aviation, rotorcraft, engines) and both noise and emissions.

Web Heath, Boeing, asked what is the meaning of delegation and will this result in more delegation to industry? The discussion is the criteria of delegation and how we can

confidently use delegation within our own systems and then to be able to convey that confidence to the validating authority. It is not an assessment of each other's delegation systems but an understanding on how it is applied to environmental findings. The main item is for any delegation system to be acceptable to the other party.

Another industry comment was that industry welcomes reciprocal acceptance of environmental findings, but fears there is a duplication of effort based on what is being done in ICAO. Commenter also feels that industry, particularly those participating on ICAO CAEP, should be invited into the working group.

The working group activity will not duplicate the work of ICAO as the people involved in the working group are also connected to the ICAO CAEP process. This FAA/EASA activity is not addressing standards, but just the certification activity (i.e., how standards are implemented). We need to address some issues between authorities and will likely invite industry at a later date.

Martin Ely, TCCA stated a concern about how the changed product rule may impact acoustical and emission changes. Also, EPA requires specific findings outside ICAO Annex 16. Paul Dykeman replied that the group will address differences as they work the process.

Adrie Kraan expressed concern about why there is still a need to build confidence when the community is so small and that confidence should already be developed. Mr. Dykeman explained that the link of published certification levels to economic penalties or benefits (e.g., fees) has resulted in authorities questioning each other, particularly to the levels of noise precision (0.1dB) to which these certification levels are reported.

Mr. Probst added that the few experts that are present today trust each other but the fear is that when one leaves, then the trust within the community will be significantly degraded. There is a need to have a system that is less people dependent such that confidence will not be lost when current experts leave. Also, the existing experts feel comfortable of working and duplicating each other's work. Therefore, we need to understand if it is feasible and practical to develop a more systematic approach, as in airworthiness.

Another question was whether the working group will take into consideration the type of standardization that was discussed in the Quality Management Systems workshops this week. Mr. Dykeman stated that there is a need to address standardization issues, and was recognized as a primary solution to many of the obstacles raised by the working group.

Tom McSweeney, Boeing asked whether there is any effort being made to address what is good enough, recognizing that the individual judgments of specialists in assessing to very precise levels of noise, e.g., 0.1dB, will ultimately lead to second guessing even

when the product clearly meets regulatory requirements. Mr. Dykeman replied that we haven't gone through any such effort and it is not part of the scope of this activity.

Giff Marr, Bell, stated we let the experts go to CAEP and design a method of measurement that is very costly. We didn't go to CAEP with the proper terms of reference, and why are we measuring to the precision we are required today, that cannot even be perceived, e.g., 0.1 dB. We need to review the standards.

This comment is outside the scope of the FAA/EASA activity (i.e., it is an ICAO CAEP issue).

Conclusions:

- There is considerable cost associated with environmental certification to the industry, particularly with noise certification which is becoming more critical with the implementation of Chapter 4 / Stage 4 noise standards;
- There is industry support for EASA and FAA to continue efforts towards reciprocal acceptance of environmental approvals; and
- Industry feels it is important that they participate with EASA and FAA in establishing the framework for reciprocal acceptance of environmental findings.

Actions Items:

Industry will provide input to Mr. Dykeman and Mr. Probst by July 9, 2004, on the overall approach being pursued by the FAA/EASA working group, particularly on the associated benefits for the industry.



## ***Challenges for Global General Aviation Operations***

**Chairs:**        **Anne Graham**, Deputy Division Manager, FAA  
                      **Manzur Huq**, Director, General Aviation, TCCA

**Presenters:**   **Anne Graham**, Deputy Division Manager, FAA  
                      **Bill Stine**, Director- International Operation, National Business Aviation Association  
                      **Bill McIntyre**, Executive Manager, Civil Aviation Safety Authority  
                      **Manzur Huq**, Director, General Aviation, TCCA  
                      **Georges Rebender**, Operations Director, JAA  
                      **Ron Swanda**, Senior Vice President, Operations, General Aviation Manufacturers Association

### **Summary of Presentation**

Mansur Huq provided a short introduction for the panel. There were six presentations each giving perspectives of the challenges to General Aviation (GA). The General Aviation (GA) workshop consisted of speakers from the FAA, TCAA, CAA Australia, GAMA and the NBAA

Anne Graham, FAA, led the briefings acknowledging that this was the first time GA had had the opportunity to meet at this conference. The presentation provided an overview of GA in the US. The challenge to the current system will be integration of new aircraft and technologies. Technologies that have until now had their roots in the air carrier or military world are now being used in, not just Technically Advance Aircraft (TAA), but also retrofitted into legacy aircraft. Shared ownership, joint ownership and fractional ownership will provide access to a larger segment of the population. The expansion of UAVs into the civil arena will put further pressure on the airspace system. Safety is the overriding concern while providing freedom of access. These challenges will not only be faced by the US. Continued modernization of the airspace and certification and training for the new technologies in a timely manner is necessary. Some initiatives already being developed to address these concerns were introduced.

Mr. George Rebender, Operations Director, JAA provided a short review of risk assessment models and regulations underway. He also gave overviews of the Norwegian Flight Safety Program, subpart J, Mass and Balance issues and Operational Control Base Location. A proposal to mitigate risk to third parties through a proportionate response using ICAO Annex 6 was briefed.

Mr. Bill Stine NBAA, reviewed his organizations scope in General Aviation both in numbers in use and the impact on the economy compared to the airlines. He

emphasized the need for safe, secure and timely access for business aircraft. He voiced the need to have security measures that match the risks so not to encumber business aviation. He touched on another upcoming challenge, that of the introduction of Very Light Jets (VLJ) and the impact on safety as well as the airspace. He expressed the need to address the FANS requirement. He also highlighted the need for consistent Customs and Aviation Laws. Mr. Stine requested that pilot certification differences be addressed.

Mr. Manzur Huq, TCCA, provided an overview of general aviation in Canada. It is based purely on sport aviation. There has been expansion in the homebuilt market. Transport Canada has embraced a Safety Management System, a self administered system. It recommends this for non-certificated operations such as ultra lights. Costs and security issues as well as access to airports will affect the development of GA in Canada and globally. Mr. Huq recommends that the issues with new technologies should be addressed at the early stages to provide standardization. Mr. Huq encouraged working closely with the industry.

Mr. Bill McIntyre, Executive Manger, Civil Aviation Safety Authority, Australia, provided a briefing on the use of Fatigue Risk Management as a new approach to safety. The project has been tested in the GA community and is about to be expanded into the commercial arena. He also described the explosion of Sport Aviation (self administered) versus traditional general aviation that is inhibited by the certification process. He professed a need for an active safety culture in aviation. Mr. McIntyre also recommends moving away from prescriptive rules to a more scientific method.

Mr. Ron Swanda, GAMA, talked about the greater capabilities for general aviation through the expansion of technologies that will allow general aviation as a true alternative mode of transportation. He sees the need for Europe to regulate and provide oversight for GA. He also sees the need for Europe to ensure that GA accident prevention is part of future safety activities. Europe should create a single body for investigating and determining probable cause in GA accidents. Europe and the US should measure GA safety using an accident rate. He recommends that the GA activity survey be continued and that it may need amending. He also offered the support of industry partners in accident investigation

#### Discussion Issues:

Interest focused in three main areas:

- Emerging technologies, particularly UAV, developing acceptable safe standards jointly for their operation
- The absence of having an accident rate for general aviation activities precludes any comparison or assessment of the state of safety; and
- Self administration and the process of achieving such certification for Associations.

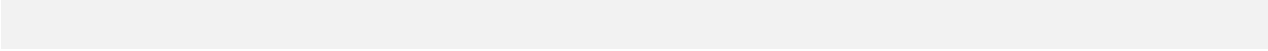
#### Conclusions:

1. The description of GA from country to country varies.

2. GA forms the basis for all aviation and consists of 60% to 80% of all flying. As such, the development of a safety culture begins with the ab-initio training in general aviation.
3. There is no accurate measure of safety in the absence of accident rate for the activities in GA.
4. GA operations are a global activity and therefore require rules harmonization among the major CAAs to provide freedom of access for all.
5. It is imperative to develop a common regulatory approach for emerging technologies.

*Actions Items:*

FAA and EASA should continue to provide a forum for General Aviation at future conferences.





share partner program, highlighting the increase in the number of Boeing suppliers and partners over the last 20 years, and providing some preliminary information on the location of Boeing partners around the world.

The authority perspective on risk sharing partner programs was given by Cláudio Passos Simão, CTA-IFI, and Frank Paskiewicz, FAA. The first part of the presentation focused on the challenges faced by both industry and authorities in risk sharing partner programs. It is important to note that relationships are changing between OEM and suppliers as suppliers take on the role of risk partner. Often, the technical expertise is held by the risk partner who now performs both the design and production of complete segments and critical systems. This also means that the risk share partner holds the proprietary data, and the OEM must take this into consideration in the certification process with the authority of the OEM. Aviation authorities also face challenges involving both design and production. Conformity inspection, certification test witnessing, production surveillance must be accomplished worldwide, which can put a strain on an authority's limited resources. Limited access to partner proprietary information is also a challenge. But, despite the challenges, the second part of the presentation went on to state that risk share partner programs can be successful. The keys to a successful risk partner program include a clear authority policy for the aircraft OEM related to partner responsibilities (configuration management, control of suppliers, authority approval of major and minor modifications), an aircraft OEM strong partner control system, good coordination between an authority and aircraft OEM focusing on program management, attention to schedule, and early identification and resolution of issues, and finally, cooperative work between authorities. It was suggested that detailed program plans (addressing both design and manufacturing) between the authority of the State of Design and the aircraft OEM, and between the authority of the State of Design and other CAAs of countries where partners are located, are the keys to successful risk share partner programs. The presentation ended by listed remaining concerns for both industry and authorities, including some authorities' limitations to support cooperative work, the sharing of proprietary design data, aircraft OEM loss of technical capabilities in certain areas, independent CAA part approvals, and the fact that current certification procedures may not address risk share partner programs adequately.

The industry perspective on risk sharing partner programs was offered in two different presentations. The first presentation by Gene Barker, IAQG, focused on the new globalization of manufacturing, as well as industry's vision to design, certify, build, conform, and support any part or airplane anywhere in the world at any time. The presentation stated industry's challenges associated with risk sharing partners including design control and configuration management, management of the extended global supply chain, and coping with a design that is dynamic and always changing. Mr. Barker then presented IAQG's role in helping Industry meet the challenges of risk share partner programs. IAQG is developing common processes for both the OEMs and their partners to enable them to reach the global manufacturing vision, using risk-based supplier control and results-based metrics. IAQG has developed a strategic plan that focuses on an improvement strategy to help industry face the challenges of global

manufacturing. IAQG is committed to implementation strategies that involve cooperation, coordination, integration, and common processes to aid all OEMs to reach the desired end state of enhanced safety.

The second industry presentation was given by Chris Rawden, Rolls-Royce, and Jay Rawlins, IAE. This presentation emphasized that risk sharing arrangements can cover a wide range of activities with different levels of autonomy. There are differences between a risk sharing supplier and the collaboration of a joint venture, and these differences effect the design and manufacturing roles and responsibilities associated with the program. Joint ventures/collaborations typically involve a “HQ” company that holds the TC and the PC. The HQ is the integrator, and the risk partners are defined as part of the approved organization. Each partner retains individual design expertise, and individual quality systems, organization and processes. The presentation went on to describe the ingredients of a successful collaboration, including a well defined flow down of requirements and procedures from the HQ to the partners, a single State of Design regulatory oversight, a single point of contact for regulatory issues, frequently scheduled face-to-face meetings, and involving the partners expertise in post-certification and continued airworthiness. The challenges of collaboration were also defined and focused on the importance of communications, the efficient dissemination of information, and the inevitable duplication of work. Despite the challenges, joint ventures and collaborations that are properly structured work well within the current regulatory framework. It was also emphasized that newly formed joint venture structures should take advantage of the lessons learned by the successful joint ventures/collaborations in existence today.

The final presentation was given by Roger Simon, EASA, on the EU experience with Design Work Sharing. The focus of this presentation was the Design Organisation Approval (DOA) concept. It explained how the DOA concept establishes a qualified framework with regard to the management, responsibilities, procedures, and resources of an organization, and how it provides a system that monitors the performance of that organization. The DOA concept provides confidence that the design of a product complies with the applicable requirements based on the certification of the organization and certification of the design of the products. The DOA is a tool for both authorities and industry to use so that resources are deployed in the most effective and economical manner. The DOA concept addresses design work sharing by partner organizations or subcontractors and involves both integration of the design and certification activities and documentation of those activities. DOA is a powerful tool that can be used to control the activities of the risk share partners and suppliers and allows for project management between the applicant and the authority. The presentation ended with several options for addressing risk share partner programs within the current regulatory framework of the DOA concept, as well suggesting mid- and long-term solutions for the expansion of the DOA concept. Finally, Mr. Simon asked industry to please bring proposals to EASA and other authorities which define the real needs of Industry based on the current and future outlook for global design and manufacturing. Authorities and industry can then work together to address the challenges associated with global design and manufacturing.

Discussion Issues:

Industry stated that there is a real need with risk share partner programs to protect the benefits of these programs (cost savings, time schedules) and to clearly define relationships, responsibilities, State of Design, etc. to avoid duplication of work (both for authorities and the OEM/partner/supplier). Industry encourages the authorities to recognize each other's work, and asked if this is the intention when dealing with risk share partner programs. The FAA agreed with and supported industry's comments, and stated that both aviation authorities and the OEM/partner/supplier must have clearly defined roles and responsibilities. There is also a need for cultural change in our organizations. Communications must be a top priority, with discussions starting in the very early stages of any new program. Also, regular executive reviews are necessary for any program to be successful.

Industry also stated that the OEM as integrator is the future of global manufacturing. There was a concern raised that the FAA may put artificial barriers in the new ODA system. The FAA responded that this was not the intent, and that the ODA is merely a stepping stone to a certificated design organization, similar to the European system. Also, there are certain perceptions by some government bodies (i.e., U.S. Congress) of what actually occurs in a risk sharing partner program, and how certain situations, such as the need for instant information in the event of an accident, will be handled by the central OEM integrator. Because of the uncertainty of how critical situations may be handled, they will hold the FAA accountable, and this underlines the importance of having clearly defined roles and responsibilities for all parties involved in these types of programs.

Dr. Lohl replied that in Europe, the Airbus model has shown over the past 20 years that this type of program can be successful. He did not have the impression that any persons or government bodies have had a problem with the European joint venture concept and how the information flow is handled in critical situations. He also added that European regulations provided a good framework for risk sharing partner programs.

The International Aero Engines representative stated that a single point of contact is essential to the success of the program, and that this single point of contact ensures that there will be no problems with flow of information.

The FAA stated that the "U.S. mindset" presents a real challenge for U.S. companies and the FAA. There must be constant, open communication, with one Authority responsible for the organization. A representative from U.S. Industry stated that perhaps Industry has not done a good job of informing the U.S. Congress about how these risk share partner programs are working, and that more information would promote a better understanding and acceptance of these programs.

A Honeywell representative stated that, in the future, partners will come from countries where no bilateral arrangements exist. It is important to understand that the TC holder is responsible to the FAA for the entire design and the understanding of the data

(including all proprietary data). The FAA encouraged industry to identify the issues in a new program in the early stages, and to share those issues with the FAA, so that there is an understanding by all parties of any issues that may hinder the responsibilities of the TC holder. The FAA also added that programs in non-bilateral countries do pose an additional burden on the FAA to administer those programs, and that industry needs to take this into consideration when developing risk share partner programs.

Conclusions:

There was a recognition by the authorities/EASA that risk share partner programs are an important factor in global manufacturing today, and will play an even more significant role in the future. The authorities/EASA and industry are committed to working together in partnership to ensure the success of these programs through proper planning and good communications. Risk share partner programs that are properly structured can work within the current regulatory systems, but industry and the authorities/EASA will also work together to identify future changes in both the risk share partner programs and the regulatory systems that will ensure even better cooperation, coordination, and enhanced safety.

Actions Items:

There were no action items resulting from this workshop.



## ***Certification/Maintenance***

**Chairs:**     **John Hickey, Director, Aircraft Certification Service, FAA**  
                  **Jim Ballough, Director, Flight Standards Service, FAA**  
                  **Norbert Lohl, Certification Director, EASA**

**Presenters:** **Dave Hempe, Manager, Aircraft Engineering Division, FAA**  
                  **Ali Bahrami, Manager, Transport Airplane Directorate, FAA**  
                  **David Gibbons, Manager, Rotorcraft and Transport Aeroplanes, UK Civil**  
                          **Aviation Authority**  
                  **Dionne Krebs, Rulemaking Program Manager, Transport Standards Staff, FAA**  
                  **Tom Llewelyn, Maintenance Division, JAA**

Three discussion topics were covered in this combined maintenance/certification workshop.

### **Summary of 1<sup>st</sup> Presentation**

**US/Europe Reciprocal Acceptance of Repair Data Approvals--**Dave Hempe (FAA) and Frank Steffens (EASA/LBA)'s presentation focused on the history and numerous successes that have resulted from the work of the US/European Repair Data Working Group. The Repair Data Working Group participants included European and US representatives from both industry and regulatory authorities. Their task included comparing and identifying differences between the FAA and JAA/EASA systems of repair data approval with the intent of proposing a process for reciprocal acceptance. Difficult issues such as FAA field approval vs JAA repair approval, differences in the definition of major vs minor and acceptable vs approved, and third party approvals were addressed by the group.

The working group identified differences in the FAA and European repair data approval processes, however, the majority of these differences were not significant enough to preclude the future goal of automatic recognition of US and European Union repair data on used aircraft. This position is currently reflected in the EASA Decision 2004/01/RM which outlines automatic acceptance of certain FAA repair approvals. In addition this position is reflected in a special repair data acceptance arrangement that the FAA recently established with UK-CAA and the LBA. Although some additional issues remain which will need to be addressed by the working group in the near future, the working group has been extremely successful to date in overcoming long standing repair approval barriers. It was proposed that an EASA/FAA working group continue to

work in the future with long term goal of reciprocal acceptance of all repairs on a daily basis.

### Discussion Issues:

Industry noted that the working group approach to the repair data issue was very successful and should be conceptually applied to other FAA/EASA issue areas that could benefit from a streamlined or harmonized approach.

Industry also commented that EASA still needs to implement the output from the working group as some NAAs are beginning to institute independent processes for repair data approval.

FAA was then asked when they plan to revise Part 43. FAA replied that FAA still plans to update appendix A in the future, addressing the definition of major and minor.

Dr. Lohl congratulated the group and noted that in case of difficulties, industry can always contact the Agency and we will try to assist.

Bob Mather, Pratt & Whitney Canada asked what is the process for FAA approval if a third party modifies a critical engine part that was originally certified using certification guidance documented in AC 33-14. Further, his opinion was that in this case the FAA should work with the Type Certificate holder, and not just the responsible Engine Certification Office, to ensure all modification issues are adequately addressed. The FAA responded that this issue may also be part of the future working group tasking.

### Conclusions:

- 1) The goal is to have reciprocal acceptance of repair data between the United States and Europe.
- 2) Third party US repairs currently can be handled under EASA through existing bi-lateral agreements.
- 3) FAA will expand Order 8110.4 to cover differences identified by the working group for critical and life limited part repairs.
- 4) Future EASA/FAA working group activities should generally focus on third party repairs to in-service aircraft (which is not covered by the EASA Decision 2004/01/RM) This working group should focus on the long term goal of reciprocal acceptance of repairs on a daily basis.
- 5) The working group approach worked well and should be modeled for future decisions on controversial FAA/EASA issues.
- 6) European decision should be simplified to reflect the Repair Data Working Group's findings and recommendation. The NAAs are still in need of better guidance.

Actions Items:

FAA ACTION: FAA will expand order 8110.4 to cover differences identified by the working group for critical and life limited part repairs.

EASA ACTION: The Executive Director's decision on repair data should be simplified to reflect the Repair Data Working Group's findings and recommendation. The NAAs are still in need of better guidance.

FAA/EASA ACTION: Future EASA/FAA working group activities should generally focus on third party repairs to in-service aircraft (which is not covered by the EASA Decision 2004/01/RM) This working group should focus on the long term goal of reciprocal acceptance of repairs on a daily basis.

**Fuel Tank Safety --Ali Bahrami (FAA) and Fuel Tank Safety – The European Perspective Dave Gibbons (EASA/UK-CAA)**

Both presentations briefly outlined the history of fuel tank safety, the current status of the FAA/JAA fuel tank ignition prevention initiatives (SFAR 88 and JAA Recommendation 04/00/02/07/03-L024), and provided an overview of how rulemaking associated with fuel tank flammability reduction may be accomplished in the near future.

In general both the JAA and FAA presentations stated that the fuel tank ignition source assessments associated with SFAR 88 and JAA Recommendation 04/00/02/07/03-L024 have been completed and there is FAA/JAA agreement on the unsafe condition criteria that is being used to mandate retroactive design changes. Further, both the authorities stated that specific fuel system design ADs are beginning to be issued associated with this review. In addition to the design aspects, however, the authorities agreed that additional work needs to be conducted to develop and implement necessary fuel tank maintenance practices such as Airworthiness Limitation Inspections (ALI), Critical Design Configuration Control Limitations (CDCCL), and lastly improved maintenance procedures and training. The JAA presentation emphasized the importance of increasing the sensitivity of how operators view fuel tank maintenance related tasks with the intent being that the operators treat the fuel system much like some of the other airplane critical systems (i.e., like the flight control system).

On the issue of flammability reduction, both regulatory authorities agreed that the accident histories combined with the results from the recently completed fuel system safety analysis support the need for future rulemaking associated with flammability reduction. The results of both the ARAC I and ARAC II studies associated with flammability reduction and fuel tank inerting respectively also support a balanced approach to fuel tank safety when flammability reduction and cost effective solutions become available. Recent FAA Research and Development has developed a new fuel tank inerting system which overcomes many of the concerns referenced in previous studies such as high weight, complexity, cost. Both Boeing and Airbus have conducted successful development flight testing of this new type of inerting system.

Based on the discussion above, both regulatory authorities appear to be in agreement on the need for a balanced approach to fuel tank safety in the future which would include a combination of ignition prevention and flammability reduction. This approach would include a new fuel tank flammability reduction rule which would be applicable to newly certified as well as future production.

The FAA presentation also stated that they believe historical accident data combined with the projection of future fuel tank explosion risk necessitate the need to go forward with retroactive flammability reduction on those airplanes with high flammability fuel tanks. Consistent with FAA rulemaking process, the agency is currently developing a regulation evaluation (which includes cost/benefit). However, EASA indicated that they do not fully support this retroactive approach based on the initial results of the Regulatory Impact Assessment (RIA) conducted. It was noted that the initial retrofit cost estimates coming from airplane manufacturers vary significantly from one another. In closing, both authorities stressed the need to continue working together on these issues to harmonize to the maximum extent possible while ensuring that the regulation is appropriate and cost effective.

#### Discussion Issues:

An Airbus industry representative thanked EASA/JAA for developing the RIA which documents the high costs associated with retroactive rulemaking and also stated that fuel tank explosions do not show up as a significant safety threat within CAST recommendations. Further, the FAA pointed out that other safety enhancements such as turbulence have been previously supported by CAST, but not shown to be the highest threat per the JIMDAT process. Lastly, the FAA pointed out that both ARAC I and II supported flammability reduction rulemaking when the technology became practical and cost effective.

Mr. de Vroey, AEA, questioned the FAA whether they would take into consideration the JAA/EASA RIA in development of their Flammability Reduction NPRM. FAA responded that they would take the RIA into account in their rulemaking development. FAA also stated that the initial cost estimates associated with retrofit vary significantly between manufacturers. This discrepancy needs to be addressed prior to either the FAA regulatory evaluation or the EASA/JAA RIA being finalized.

The Malaysia Department of Civil Aviation representative requested that the FAA use ADs to require flammability reduction on existing airplanes with high flammability fuel tanks. FAA ADs are preferred over other types of retroactive rulemaking because of how most foreign authorities quickly respond with an equivalent mandatory action. FAA replied that ADs would be used to correct unsafe conditions posed by potential ignition sources. However, flammability reduction is a necessary safety improvement best addressed in the U.S. system by use of a Special FAR.

Conclusions:

- 1) FAA/JAA agreement exist on both the fuel tank ignition unsafe condition criteria and the specific design changes that are being used to mandate retroactive design changes.
- 2) Specific fuel system design ADs associated with mitigation of fuel tank ignition sources are beginning to be issued by US and European authorities.
- 3) Additional work needs to be conducted to develop and implement necessary fuel tank maintenance practices such as Airworthiness Limitation Inspections (ALI), Critical Design Configuration Control Limitations (CDCCL), and lastly improved maintenance procedures and training.
- 4) Both regulatory authorities agreed that the accident histories combined with the results from the recently completed fuel system safety analysis support the need for a balanced approach to fuel tank safety in the future which would include a combination of ignition prevention and flammability reduction.
- 5) Both regulatory authorities agree the balanced approach would include a new fuel tank flammability reduction rule which would be applicable to highly flammable fuel tanks installed on newly certified as well as future production.
- 6) Both regulatory authorities are currently reviewing the prospect of retroactive flammability reduction rulemaking for airplanes with high flammability fuel tanks. However, there appears to be significant differences between the Regulatory Impact Assessment and the FAA cost/benefit analyses currently being developed. The authorities will continue working together on these issues to harmonize to the maximum extent possible while ensuring that the regulation is appropriate and cost effective.

Actions Items:

- 1) Additional work needs to be conducted to develop and implement necessary fuel tank maintenance practices such as Airworthiness Limitation Inspections (ALI), Critical Design Configuration Control Limitations (CDCCL), and lastly improved maintenance procedures and training.
- 2) The authorities will continue working together on these issues to harmonize to the maximum extent possible while ensuring that the regulation is appropriate and cost effective.

**The FAA plan for Aging Airplane Rulemaking** presented by Dionne Krebs, FAA and **Aging Aircraft JAA Regulatory Initiatives**, Tom Llewelyn, JAA.

The FAA presentation contained a brief overview of the history associated with both aging structure and systems. This history stressed that many of the aging rulemaking initiatives had been developed separately without an overarching plan. This resulted in several issues which included redundant requirements, lack of consistent inspection intervals and compliance times, and lastly a concern that many of the proposed aging aircraft requirements were imposed upon operators but required significant airplane manufacturer support in order for the operator to demonstrate compliance. These issues resulted in FAA establishing a “Tiger Team” consisting of Flight Standards and Aircraft Certification specialists and executives. This team was tasked to review these aging airplane rules and proposals from a holistic perspective and develop an integrated aging airplane plan.

The goal of the Tiger Team was to streamline these aging airplane rulemaking initiatives to minimize the impact and costs on the operator without introducing additional safety risk as a result of the realignment of the compliance times. As part of the communication plan, the FAA has already discussed this plan with US Governmental Agencies and Congressional Staffs as well as briefed our plan to key national airworthiness authorities. A Federal Register notice will be published in the near future which should provide details of this plan to the public.

The JAA’s presentation addressed the three JAA initiatives that have significant impact on safety and economics: aging aircraft structures; aging transport systems and fuel tank safety. He stressed that the impact on maintenance of the three issues should not be underestimated.

The affected organizations and persons are TC/STC holders; Operators; Maintenance personnel and maintenance training organizations. As JAA have no Special JAR corresponding to SFAR, other tools for regulating were chosen. The regulatory approach results in two separate cases:

- 1) Unsafe conditions: for future airplanes this will be handled by revised regulations; for existing fleet this will be handled by ADs.
- 2) Non compliant but not unsafe: this will be handled through revised requirements and associated material leading to revised Instruction for Continued Airworthiness.

There are no ADs developed to date, however, advisory material has been developed for aging structures. Regulatory material is being drafted for aging systems. A Policy and Temporary Guidance Material have been adopted to address ignition issues for fuel tank safety. JAA and FAA have developed two different approaches to address the same issue.

Global industry needs equivalence to ease aircraft transfer. So cooperation must continue to identify and resolve differences. Future work relative to aging issues could address commuter and low utilization aircraft. It is expected that the EASA system will carry forward these initiatives.

Discussion Issues:

None

Conclusions:

- 1) The FAA is implementing an aging airplane realignment plan based on the recommendation of an internal Tiger Team.
- 2) This realignment provides a holistic approach to aging airplane issues while reducing the impact and cost to industry.
- 3) The FAA concluded the potential safety risk of aligning the aging airplane initiatives is very minimal and acceptable.
- 4) The FAA plans to continue working with the NAAs and industry to coordinate this plan. A Federal Register Notice will be published shortly which will describe in detail the scope and magnitude of this activity.

Actions Items:

None

## ***Flight Crew Licensing/Operations***

**Chairs:**     **Emily White**, International and Policy Programs Staff, FAA  
                  **Jim McDonald**, Operations, Seattle Aircraft Evaluation Group, FAA  
                  **Fergus Woods**, JAA Licensing Director  
                  **Georges Rebender**, JAA Operations Director

**Presenters:** In addition to the chairs  
                  **Marinus Heijl**, Deputy Director, Air Navigation Bureau, ICAO  
                  **Regine Vadrot**, International Regulatory Affairs, Airbus  
                  **Paul Lamy**, ICAO Chief of Licensing and Training

### **Summary of Presentations**

The workshop was opened by Jim Ballough, Director, FAA Flight Standards Service, and Haydar Yalcin, JAAC Chairman, who jointly signed the model JAA/FAA IPL. Both had words of thanks to those involved in the development of this process.

A narrative handout document covering each agenda item was provided as part of the conference material. Updates occurring since development of the conference material and discussion items during this workshop are noted below.

### **Discussion Issues:**

#### **Agenda Item #1: Report out from harmonization management team on flight crew licensing/operations issues**

Vincent de Vroey expressed concern about the cost of training European Flight Crews in PRM procedures in accordance with FAA training requirements only to find out that FAA AT would not be implementing PRM at JFK Airport. Jim Ballough explained that this was unfortunate and not a Flight Standards decision. FAA Flight Standards was trying to be proactive in meeting the needs of AT and the carriers to maximize the use of this procedure,

#### **Agenda Item #2: Implementation of JARs in JAA member states. Concept of mutual recognition**

It was noted that there are inconsistencies in the handout material due to recent mutual recognition of some JAA Member States. It was agreed that the handout material would be updated for the final conference material.



### **Agenda Item #3: EASA transition and Essential Requirements**

It was noted that the Essential Requirements for both Licensing and Operations and now open for comment and are available on both the JAA and EASA website.

### **Agenda Item #4: Rulemaking updates**

Updates on JAA rulemaking were presented. It was noted that recently EU OPS 1 was agreed within the COREPER and will be presented for approval to the next EU Council of Ministers on 11 June 2004. This document covers Amendment 2 of JAR OPS 1, including flight time limitations and technical competence of cabin crew. After approval, this document will undergo a major update in order to be aligned with the most recent JAR OPS 1 amendment. Also, a more extended implementation period is foreseen.

### **Agenda Item #5: ETOPS**

JAA NPA LROPS is in final discussions within the JAA OST and will undergo a regulatory impact assessment as part of the rulemaking process.

### **Agenda Item #6: Performance**

The proposed FAA AC 120-OBS, Airport Obstacle Analysis, is currently under legal review.

The JAA NPA on performance is undergoing a regulatory impact assessment.

### **Agenda Item #7: Night Vision Goggles**

No further update from the handout material.

### **Agenda Item #8: Special licenses/validation for manufacturer's test pilots/training pilots**

FAA has taken an action item to develop a timeline for dealing with this item. JAA included this item in NPA FLC 1.19, which is currently out for consultation.

### **Agenda Item # 9: MMEL Development**

The FAA Harmonization Working Group chairman for this project presented the final report to the JAA Operations Director. A copy will also be presented to the FAA and TCCA. JAA will introduce the final document to the Authorities and incorporate the material into implementing procedures.

**Agenda Item #10: Type rating determination and training program development for aircraft types: JAA/FAA/TCCA.**

The harmonization process has been completed. The FAA Harmonization Working Group chairman for this project presented the final report to the JAA Operations Director and the JAA Licensing Director. A copy will also be presented to the FAA and TCCA. The JAA will incorporate this material into the JOEB Handbook.

**Comments:**

Industry complemented the working group on their efforts and responded positively on the report.

Maxime Coffin, the JAAC member for France, agreed that JAA should make the necessary steps to ensure the JOEB Process is incorporated into the transition from JAA to EASA.

FAA has agreed to take an action item to revise current guidance in AC 120-53. This revision was a part of the original project Terms of Reference.

ALPA questioned whether human factors expertise had been included in this process. While it was not discussed in the workshop, the FAA included a human factors review in the development of the report.

**Agenda Item #11: Simulators**

Presentations were given and no further discussion was held on this item.

**Agenda Item #12: Model implementation procedures for licensing**

Fergus Woods explained that the next step, implementation, will have two different approaches 1) FAA and JAA non EU states and 2) FAA and JAA EU states. In the second case the EC needs to be involved in the process.

**Agenda Item #13: Update in the ICAO Operations Panel**

Presentations were delivered without discussion.

**Agenda Item #14: Update on ICAO Helicopter Tiltrotor Study Group**

Presentations were delivered without discussion.

## **Agenda Item #15: Update on the ICAO Flight Crew and Licensing and Training Panel.**

Presentations were delivered.

Comment: It was pointed out that the FAA medical certification categories are different from ICAO standards. FAA pilots flying outside the US must ensure their medical certificates comply with ICAO Annex 1 standards. The FAA took an action item to review its medical regulations with respect to ICAO Annex 1 standards.

## **Agenda Item #16: Update on language proficiency**

A presentation was delivered with no discussion. Paul Lamy informed that an ICAO symposium on language proficiency will take place from 1-3 September, 2004 in Montreal, Canada.

### Conclusions

Everyone acknowledged the successful completion of several harmonization action items, i.e., signature of the model IPL, delivery of the harmonization working group reports on MMEL and pilot type rating, SIP agreements ready for revision, and progress on aircraft operating performance.

### Action Items:

FAA agreed to develop a timetable, schedule or decision tree to parallel JAA accomplishments regarding manufacture's test pilot licenses/validations.

FAA agreed to revise AC 120-53 to capture the results of the pilot type rating harmonization study.

JAA agreed to take the necessary steps to ensure the incorporation of the JOEB process into the transition from JAA to EASA.

FAA agreed to review its medical regulations with respect to ICAO Annex 1 standards.

## ***Aircraft Certification***

**Chairs:**       **John Hickey**, Director, Aircraft Certification Service, FAA/AIR-1  
                  **Dr. Norbert Lohl**, Certification Director, EASA

**Presenters:**   **Dave Hempe**, Manager, Aircraft Engineering Division, FAA  
                  **Ralf Erckmann**, Certification Manager General, EASA  
                  **Claude Probst**, European Aviation Safety Agency  
                  **Thaddée Sulocki**, JAA Harmonization Coordinator  
                  **Dr. Michael Basehore**, R&D Program Manager, FAA  
                  **Dr. Michael Romanowski**, Assistant Vice President, Aerospace  
  Industries Association

### ***Summary of Presentations***

**Changed Product Rule (CPR): A Harmonization Success Story:** Dave Hempe discussed the background of the Working Group. He described how it resulted in a fully harmonized program in terms of rule guidance training and implementation. He stressed the importance of dialogue with industry. The CPR process can be used as model for the future. He reviewed the goals of the Continuous Improvement Team (CIT) to implement and oversee the new certification procedures. The CIT survey showed that implementation is progressing satisfactorily. The current CIT discussion papers were listed. He stated that continuing dialogue is important on CPR. The CIT results include policy and procedural changes, AC revisions, recommendations for future rule change, additional training and a database for new product changes.

**EASA Certification Processes and Program Management:** Ralf Erckmann reviewed the JAA certification process and the advantages and disadvantages of this process. He stated that the JAA system had provided the foundation for the EASA certification process. The EASA process addresses the disadvantages of the JAA process by centralizing responsibility with EASA for design approvals and related activities. He reviewed the legal basis of EASA in particular the responsibility of EASA and the Member States. He explained that EASA could use NAA and qualified entities to conduct technical tasks on its behalf. The Agency can also have a working arrangement or bilateral agreement for cooperation with third countries and accept approvals from third countries. Next, Mr. Erckmann described the EASA certification procedures and noted that EASA is developing detailed working procedures that will be published for comment. Such procedures must be finalized very soon because they will be the reference on which the agency will be audited internally and externally. The

intent is to have “slim” procedures to start and expand them only as necessary. He showed the structure of the Certification Directorate and discussed the specific role of the Programmes Department. The Head of Programmes will have to manage all applications and ensure timely and effective results toward applicants. He stated that technical decisions would remain with the EASA product and organization managers.

**Rulemaking Transition from JAA to EASA:** This joint presentation covered four areas: the institutional framework, rulemaking in the EASA context, the EASA rulemaking process, and the future of EASA/FAA cooperation. Claude Probst presented the European system and hierarchy of rules. He stressed that EASA uses activity-based management including the rulemaking program. He emphasized the importance of harmonization and stated that the 2004 rulemaking program is mainly a continuation of JAA’s rulemaking program. He noted that annual planning is not enough and needs to be complemented by an advance rulemaking planning for the period 2005 -- 2007.

Thaddee Sulocki reviewed the status of the Harmonization Work Program open issues. He stated that out of the 49 open issues 20 have been incorporated into the EASA 2004 Regulatory Program and 27 have been incorporated into the 2005 – 2007 Program.

Tony Fazio discussed the development of a white paper to facilitate regulatory cooperation between FAA and EASA until such time as a formal agreement is reached between the United States and the European Community. The purpose is to identify issues, areas of cooperation, and to minimize the risk of divergence. The independence of both systems is recognized. Senior officials are committed to meet regularly to ensure regulatory cooperation.

**Safety Research: Determining the Future Direction of Cooperative Efforts:** Michael Basehore discussed the work of the Joint Coordinating Committee whose purpose is to identify common research areas, initiate Research Technical Groups (RTGs) and to share and disseminate research results. Current RTGs include: Cabin Safety Research and Icing Research. He proposed two new RTGs: Advanced materials and Cabin air Quality and Passenger Health. He asked for feedback on these proposals. He stated that an area for future cooperative research is in the development of analytical tools and certification methods. Two examples were evacuation simulation and smoke transport in cargo compartments. He mentioned the establishment of the Center of Excellence for Cabin Environmental Quality.

**U.S. Manufacturers’ Perspective on Safety R&D:** Michael Romanowski discussed the key elements of Safety R&D. It must be based on data, have a near term focus, implementation should be considered from the beginning and there must be a strong alignment of the key stakeholders. He also raised the issue of emerging risk that need R&D attention. This includes large flocking birds, uncontained engine failure prevention and the need for advanced diagnostics. R&D can facilitate reduction in rotorcraft accidents by improving situational awareness, decision-making, IFR operational procedures and Health and Usage monitoring Systems (HUMS)

Discussion Issues:

**Changed Product Rule (CPR): A Harmonization Success Story:**

A representative from the Civil Aviation Authority of Israel asked whether FAA and JAA were open to adding authorities to the CIT because it is difficult to interpret the CPR rule and guidance material without such involvement. Dave Hempe said that the FAA is open to others participating, but stressed the importance of obtaining the CPR training.

Several commenters appreciated the work of the authorities and thanked them. They believed that the joint authority and industry training worked well. They felt that industry had more work to do on the issues of safety benefit and practicality. US industry believes that there is still a need to clarify the language of the rule. They also raised concerns about the proposed amendment to ICAO Annex 8 to apply CPR to significant or substantial repairs. FAA does not support the ICAO amendment. CPR was designed to address changes to type design and a repair is not a type design change in the United States. A certification basis change would only be applicable for a repair so extensive as to raise its level to a major change in type design. It was noted that some of the NAAs in Europe support the proposal. This should be an item for the CIT.

One commenter was concerned about the lack of visibility of decisions on CIT and access to the database of decisions. Dave Hempe asked that the commenter contact their CIT member. He also stated that the database is just now being constructed and does not exist at this time. John Hickey supports visibility in the process.

One commenter raised concerns about CPR's application to aircraft below 6000 pounds.

A commenter asked about future harmonization and the status of efforts towards a single worldwide code and single worldwide process. John Hickey stated the FAA policy to use special conditions, equivalent level of safety findings and exemptions to allow for the use of positions developed through the harmonization process. He also discussed that the transition in Europe is a more immediate concern and that is why the single worldwide code and process are on hold. He mentioned that the FAA is presenting a paper to the ICAO Assembly to reflect this position. Dr. Lohl confirmed that Europe's priority is to establish its own system.

**EASA Certification Processes and Program Management:**

One authority expressed concern about EASA's impact on Member States complying with their ICAO responsibilities. He asked how EASA intends to address the notification to other Contracting States of all transfers of State of Design and the issuance of Mandatory Continued Airworthiness Information (Airworthiness Directives). Dr. Lohl stated that the Internet web site is the official means for such communication. However, based on the discussion of June 8, he has already reminded the Member States to fulfill

their notification requirements. He stated that for ADs EASA is also looking at email notification with links to the website.

One commenter raised concerns about time delays in the validation of U.S. Supplemental Type Certificates. Dr. Lohl discussed the process for application. He stated that if the applicant has concerns to please contact EASA to help resolve them.

One commenter wanted to know the criteria for selecting certification team experts. Dr. Lohl pointed out that the JAA teams are still used today. In addition many EASA employees have come from the JAA and are very knowledgeable about expertise in Europe.

One authority raised concerns about operating different aircraft configurations possible under the European transfer policy. Roger Simon stated that the goal of the airworthiness transfer policy was to avoid any disruption in the operation of aircraft after September 28, 2003. Consequently, the Commission Regulation establishes a common Type Certification Basis (State of Design or JAA TC bases) and defines the approved configurations (all configurations that were approved by one of the EU Member States prior to September 28, 2003). It was noted that this configuration issue can occur with any operator even within a single national system today.

#### **Rulemaking Transition from JAA to EASA:**

A TCCA representative was concerned about different interpretations of rules during a certification program and suggested a forum to resolve them. EASA and FAA responded that management systems and executive meetings were in place to address this concern.

#### **Safety Research: Determining the Future Direction of Cooperative Efforts & U.S. Manufacturers' Perspective on Safety R&D:**

One APU manufacturer supported the research on air quality standards to assist certification of APUs. The Swedish authority also voiced support for the Cabin Air Quality Research.

One manufacturer asked if EASA would play a role in R&D. Dr. Lohl explained that a small group called Safety Analysis and Research will be established under the Executive Director.

A manufacturer stated that research is needed to better define general aviation and to determine aircraft usage and accident rates.

The DGAC of Spain representative asked about Deep Vein Thrombosis and whether it would be addressed by the RTG for Cabin Air Quality. Mike Basehore noted that it is not included at this time, but will be brought to the attention of the Joint Coordinating Committee.

Conclusions:

The Changed Product Rule is a harmonization success story and a Continuous Improvement Team (CIT) has been formed to implement and oversee the new certification procedures.

The EASA certification process is under development and promises to provide a more efficient and effective system, in particular with a strong programme management approach.

The Rulemaking transition from JAA to EASA has been productive and transparent. FAA and EASA are committed to regulatory cooperation to the maximum possible extent.

Cooperative efforts are underway in safety research. New initiatives are planned in the area of advanced materials and cabin air quality. Industry made several additional suggestions for research to address emerging safety issues.

Actions Items:

The FAA took an action item to improve transparency with the other aviation authorities involved in the CPR CIT process.

The FAA will discuss possibility of doing research in Deep Vein Thrombosis with the Joint Coordinating Committee.



## **Maintenance**

Chairs: **Dave Cann**, Manager, Aircraft Maintenance Division, FAA  
**Julian Hall**, Manager, Maintenance Organization, EASA

Presenters: **Julian Hall**, Manager, Maintenance Organization, EASA  
**Thaddee Sulocki** - JAA  
**Christopher Barks**, International Programs and Policy Office, Flight Standards Service, FAA  
**Claude Probst**, Rulemaking Director, EASA  
**Linda Valencia**, Transportation Security Administration  
**Tony Fazio**, Director, Rulemaking, FAA  
**Eugene Barker**, Technical Fellow-Quality, Boeing  
**Bill Henry**, Aircraft Maintenance Division, FAA  
**Leo Weston**, Aircraft Maintenance Division, FAA

### Summary of Presentations

Dave Cann, FAA, opened the workshop welcoming all attendees.

**AGENDA ITEM 1.** Julian Hall, EASA, (**EASA Maintenance Overview**) provided a brief history of EASA and explained how Regulation 1702/2003 & regulation 2042/2003 interrelated and importantly how the maintenance requirements Part-145 are introduced. The differences between the JAR's and Part-145 were also explained. The reasons for the main changes were explained, including how existing text was reorganized to meet the need of the EC. It was further explained that Part-145 Certificates will need to be issued by 28 November 2004.

An explanation then followed regarding the implications on existing BASA/MIP's along with the future intentions for the MIP under a US-European Community agreement. For the short term the existing procedures, including TGL22 and AC 145-8 shall continue to be used but will be modified to reflect the new situation. EASA certificate numbering system takes the following example:- JAA.4321 becomes EASA.145.4321.

**AGENDA ITEM 2a. Claude Probst, EASA - (Rulemaking transition from JAA to EASA)**

The rulemaking process of EASA was outlined, based on the basic EASA regulation. This is based on EASA issuing opinions to the EC which is an 8 step process, based on JAR-11. The U.S. & European legal systems for rulemaking were outlined and similarities were noted. It was also explained that the rule making process was a planned process following the above 8 steps taking into account priorities. It was explained that the rule drafting process can take place either internally or through outsourcing. The agency may choose to include third countries in the drafting process. Once formulated, public consultation will take place, with comments assessed before finalizing the new/amended rules. These "Agency Opinions" are then sent to the Commission for further coordination and adoption.

It was then explained that discussions on the principles of harmonized rule making were in process.

**AGENDA ITEM 2b. Thaddee Sulocki JAA. (Mapping the current HWP EASA Rulemaking Programme.)**

It was explained that there are 27 open initiatives from the JAA Harmonization Work Programme that were included in the EASA rulemaking program for 2005-2007. The details of all past and current initiatives are detailed in the hand out.

**AGENDA ITEM 2c. Tony Fazio, FAA (Regulatory Cooperation Draft Working Paper.)** The principles of EASA/FAA cooperation on the annual rulemaking processes were explained. It was explained that both parties have a rulemaking programme and that both parties will meet to try to harmonize 2-3 times per year and initiatives for joint rulemaking or indeed one party taking the lead.

*Discussion Issues:*

Dick Dam, KLM stated that industry is subject to multiple audits. Will these audits be reduced under a bilateral? Julian Hall replied that the intention of the bilateral is to reduce redundant oversight audits between the signatories, but not commercial or third country audits.

Mr. Guccini, ENAC asked for clarification whether maintenance approvals had to be converted to Part-145 by November 2004? Is this a requirement or a best practice? Mr. Hall explained that this was part of the requirements driven by the Approval numbering system for foreign organizations. Claude Probst added that for domestic approvals the existing JAR-145 approval can continue until expiry, providing EASA requirements for approval numbering and compliance with Part-145 are satisfied. However this item is to be discussed at the forthcoming workshop on 6 July 2004.

Mr. Dam, KLM also requested a transition period for renumbering, as this represents a significant administrative burden. EASA replied that this can be discussed at the

coming Part-145 workshop to be hosted by EASA on 6 July 2004 for member Authorities and industry.

A Pratt & Whitney representative questioned the Decision 2004/1 on 3<sup>rd</sup> party repairs permitting automatic recognition of repairs approved by the FAA. EASA is committed to recognize agreements between member states and third parties. Via Decision 2004/1 EASA is obliged to accept repairs which have been approved by the FAA. For Minor repairs these can be accepted, if it can be demonstrated that the minor repair has been approved under the FAA system. The Agency intends to reissue the Decision to clarify the situation.

Further explanation was requested on the differences between 'The lead party process' as opposed to 'The shared drafting teams.' How will industry be involved in these processes? It was explained that the 2 systems were mutually exclusive. This has yet to be worked out, but in the future there may be a joint committee with executive powers although serious discussions on how industry may be involved have yet to be held. One possibility could be through the forum of the annual executive harmonization review.

The panel was asked what effect does the need to address opinions to the European Commission have on the regulation drafting process? It was explained that the European Commission is not allowed to change the technical content of Opinions without the agreement of the Agency.

### **Agenda Item 3a - Christopher Barks, FAA**

The need for the FAA's maintenance assessment program was explained. In particular, before FAA can enter into a bilateral agreement, it needs to be satisfied that the state with whom a bilateral is agreed is capable of conducting those tasks to standards acceptable to FAA.

The principles of the program were explained together with a progress report on actions thus far.

### **Agenda Item 3b - Bill Henry, FAA - 145 Rule Comparison**

The proposed CFR Part -145 new Rating System was explained which may be required to be supplemented by a Capability List.

A question was asked whether off-wing & on-wing maintenance is part of the airframe or part of the engine rating?

The reply was that this point is currently under consideration.

Another question was how is the FAA Rating System being harmonized with the EASA Rating System? The work that FAA is doing is moving closer to the EASA system and the existing BASA/MIP accounts for the differences between the two Rating systems.

Overview of the Regulatory Comparison between EASA Part – 145 and aspects of Part – M and that of CFR 145 in relation to Commercial Air Transport is on going. This needs to be completed to identify the differences before an FAA/EC bilateral may be developed. For General Aviation a full review of Part-M and applicable FAR provisions will need to be completed in the future.

UKCAA asked where will these differences be published? The official version will be embedded in the MIP with guidance material published in an FAA AC.

### **Agenda Item 3c - Leo Weston, FAA - Amendment to FAR 43.17 related to the TCCA/FAA Bilateral**

The present regulation 43.17 and associated limitations were explained. The reasons for the proposed changes were explained which will provide for greater flexibility. In addition, the Implementation Procedures for Airworthiness contain provisions for reciprocal acceptance of repair data, STC, etc.

FAA was asked whether industry can send components from USA to Canada & visa versa. Yes, that is covered by the existing rules but in future greater flexibility is envisaged. This will allow components removed from a US registered aircraft anywhere in the world to be sent to the Canadian AMOs for repair.

If the Canadian AMO is working on an N-registered aircraft, which regulations are followed American or Canadian? FAA replied that the US regulations apply.

### **Agenda Item 4 – Linda Valencia, Transportation Security Administration**

TSA explained a recent Congressional requirement that will require TSA to conduct security audits of all 664 FAA certificated foreign repair stations located in 63 countries within 18 months of the publication of security standards yet to be developed. It was explained that this initiative was being conducted in close cooperation with the

The US NPRM process will be followed in the development of these security requirements, which will apply to both foreign and domestic US repair stations. The basic elements that the mandate could contain include e.g., CCTV/alarm systems. Information for which can be found on <http://dms.dot.com>

A number of questions were asked and answered as follows:

Will all foreign AMO's be subjected to 2 audits (i.e., FAA and TSA) before they can be approved.

Audits are not a precondition for FAR 145 approval. However, if TSA audits are not completed within 18 months following the publication of the TSA final rule, FAA may not issue new FAR 145 foreign repair station certificates until the audits are completed. Existing approvals can be renewed regardless of whether TSA meets the 18 month time

frame for security audits.

Is this requirement applicable to component maintenance organizations. Yes, It is intended that all AMO's require audits but these will be based on risk considerations.

Will TSA take into consideration European airport security requirements? TSA conducts the Foreign Airport Assessment Program and is very familiar with the European requirements.

How will foreign countries/organizations know when the NPRM is published? There will be no formal letters, but it will be well publicized, including on the internet.

Where there is a BASA MIP in place, how will this security audit be covered? Will it be an additional requirement? The TSA requirement is beyond the scope of a MIP. The TSA rulemaking team are aware of the problem and are looking into the matter. It should be noted, however, that this security mandate is outside the remit of the FAA.

What will be the result of a failed audit? If a security audit is unsatisfactory then, under the Congressional mandate, TSA may require the FAA to suspend or revoke a Repair Station certificate.

Are Canadian AMO's subject to this mandate? TSA is aware that under the present bilateral, Canadian AMOs are not considered foreign FAR 145 repair stations.

Can you meet the time scales mandated for the audits? It will be difficult since this is an unfunded mandate.

If a foreign FAR 145 repair station changes names, approval number, or facilities, is a new audit needed before the repair station certificate is issued? Such details are yet to be worked out.

Will the program be a one time event or ongoing? It is anticipated that it will be ongoing.

Will the inspectors be proficient in the local language? This is not defined and was discussed.

How will outsourcing of security by an organization be addressed? This was recognized and needs to be considered in developing the working processes.

As a final comment, Linda Valencia asked that if any comments on the NPRM are of a sensitive nature they should be sent directly to her.

**Agenda Item 5 - Gene Barker**, Technical Fellow-Quality, Boeing - International Aerospace Quality Group

The system was explained, confirming that they addressed civil aviation standards, based on ISO-9001-2000 & 9100 plus additional standards. Each geographical region is establishing a system to comply with the above and this will reduce the current customer audit overload endured by industry. For the future it is hoped that global common standards will be addressed.

We meet the quality standards of 18 different organizations. What is the benefit for operators such as KLM? Boeing believes this could be used by industry to reduce the number of commercial audits, while recognizing the regulatory needs may be different.

Are Operators involved in these proposals or just manufacturers? There was minimal Operator involvement in the development of the process. The focus was addressed at manufacturers. In the longer term they would consider looking to extending it to Operators.

#### Conclusions:

The FAA and EASA will continue the cooperation that was established under the FAA-JAA cooperative framework. While there will be changes to some processes, all sides acknowledge the importance of working with each other and with the industry to maintain and improve how aviation safety oversight is carried out within this new framework.

#### Actions Items:

1. MIP -- FAA and EASA will continue to carry out a regulatory comparison begun by the FAA and JAA between FAR 145 and EASA part 145. This may extend to applicable elements of FARs 43 and 65 and EASA parts M and 66.
2. FAR 145 – FAA will continue the development of a new NPRM for FAR 145 considering the ratings system and quality assurance ARAC recommendations.