



Patrick Goudou,
EASA Executive Director

People sometimes ask me, does EASA have a vision? My reply is that Europe shall become the safest aviation region in the world! For this to happen, the Agency needs progressively to implement its safety responsibilities in all areas of civil aviation safety, from aircraft, pilots and operators to airports and air traffic management.

EASA, however, is only one part of the plan. Operators, manufacturers, national authorities and the EU

From vision to reality:

The European Aviation Safety Programme

institutions each have specific actions to improve aviation safety. What is missing today is a framework that pulls these actions together. This is why the Agency has initiated the European Aviation Safety Programme (EASP). The EASP is Europe's answer to ICAO's requirement of state safety plans. The EASP will identify Europe's top safety priorities, propose suitable remedial actions and set concrete safety targets. One priority, for example, could be pilot training and how to best adapt it to future operational challenges and aircraft technology. This is also the subject of a dedicated EASA conference on 24 November (see events, page 7).

In line with our principles of transparency and accountability, the EASP will allow stakeholders to monitor progress on how Europe's safety targets are being met. It will be a reference document for policy makers and a guide for best practice. An Advisory Committee for the EASP has been established with senior representatives of industry, government and the EU to agree on the next steps before the end of the year. As the EASP takes shape in 2010, I look forward to reporting to EASA's stakeholders regularly on the measures taken and the targets met. I am convinced the EASP can play a pivotal role in making Europe the world leader in aviation safety. ■

The way forward with EASA's new responsibilities

by **Jules Kneepkens,**
Rulemaking Director

We have seen many changes during the past months, starting with the consultation on the proposed implementing measures regarding pilot licensing and air operations and more recently the adoption of the amended Basic Regulation addressing the extension of Community competence to the fields of ATM/ANS and aerodromes. These developments represent a challenge for all of us – Member States, Industry, EASA and the Commission. Following the various views expressed by the aviation community, the Agency and the Commission

worked on a coordinated approach to the way forward to address the concerns raised and to ensure a smooth transition. The proposed approach received full support from the EASA Management Board during its meeting on 15 September this year.

All parties involved in this process stressed the importance of meeting the legal deadlines set by the Basic Regulation through establishing priorities and offering appropriate transitional measures. It is also agreed that lessons learnt during the first extension phase will help with the second. This includes keeping processes as simple as possible and building the work around existing material and expertise.

Taking into account the views of stakeholders, EASA and the Commission have decided to prioritize work packages for the areas covered by the first and second extension. This prioritization provides the necessary balance in terms of safety and level playing field and is based on:

- safety risks,
- whether uniform rules are already established at European level,
- the size and type of the affected stakeholder community,
- the progress already made by EASA in certain fields regarding the first extension, and
- the resources available.



EASA will propose appropriate transition measures allowing Member States and industry time to adapt to the new rules. The length of the transition periods will depend on whether Community legislation or common standards are already established and will take into account the effort needed by Member States and industry to implement the legislation. The final decision for the transition measures will be made at Commission level.

First Extension_ Pilot Licensing and Commercial Air Transport operations have been identified as first priority work packages. Work packages related to other types of operations such as aerial work and general aviation will follow. With a few exceptions, further rulemaking tasks in the fields of pilot licensing and air operations can only be started once EASA has published the Opinions on the initial implementing rules. One of these exceptions is the task on flying in IMC conditions, which has already been initiated and will continue.

Many of you have commented on our NPAs concerning pilot licensing, air operations and operational suitability. We would like to thank each one of you for having gone to the time and effort to provide meaningful comments which will help us to improve the proposals. The work on the implementing measures for pilot licensing is already quite advanced, while we are at the very early stages of reviewing the comments on the other NPAs.

Due to the exceptional circumstances and in order to ease the potential weight of comment response documents and resulting text proposals, we will apply advanced working methods for the comments on the requirements for authorities, organisations, air operations and operational suitability. While taking into account the individual comments received, we will provide a summary of the responses to the comments in order to concentrate on improving the text. We are developing a tabular format to clearly show the changes made, as well as related justifications. The plan is to include references to EU-OPS/JAR-OPS 3 and ICAO SARPs, as applicable.

We plan to publish the comment response tables and resulting text using a phased approach between March and December 2010. To meet the legal deadlines we will have to stick to the 2 months publication period for the comment response tables, as provided for in the Agency's Rulemaking procedure. This will probably mean that the publication periods for individual packages will not overlap. However, the Agency will regularly inform stakeholders about the comment review progress.

Regarding the structure, the total system approach and consequently the horizontal structure of the



Jules Kneepkens

Present structure as included in the NPA on air operations



Envisaged structure after comment review



authority and organisation requirements are maintained. This includes the general requirements and additional requirements for aero-medical centres and approved training organisations as well as commercial operators and non-commercial operators of complex motor-powered aircraft. Taking into account the views of stakeholders, we will adapt the sub-structure of Part-OPS by separating the requirements into dedicated parts for Commercial Air Transport, non-commercial operations (i.e. recreational and business aviation), Special Approvals (e.g. low visibility operations, dangerous goods, etc.) and other operations (e.g. aerial work, training flights and test flights). The change is depicted below.

The approach established by EASA and the Commission also touches upon a number of important

principles for processing the related NPAs. These include producing proposals that are aligned as closely as possible to existing standards (ICAO SARPs, Community law and adopted JARs) and that can be easily adopted during the Comitology process. Consideration is given to safety and regulatory principles (e.g. changes stemming from the Basic Regulation) and proportionality to avoid undue burden for general aviation and small/medium enterprises. The EASA proposals will provide the necessary balance in terms of safety and level playing field as well as hard and soft law. As is the case today, the draft implementing rules and Agency measures (CS, AMC, GM) are being developed in parallel.





Second Extension A phased approach for publishing NPAs will also be used for the ATM/ANS and aerodromes implementation measures. EASA has proposed 3 distinct terms of reference to address the extension of scope to ATM/ANS and will concentrate its rulemaking activities now on Air Navigation Service Provisions, Air Traffic Controller Licensing and requirements for competent authorities in ATM/ANS. In the field of aerodromes, EASA has already initiated the preparatory work and envisages no further prioritization for the development of the implementation measures at this stage. The EASA proposals will build on existing rules and material and will take account of the available expertise (Eurocontrol, GASR). The horizontal rule structure of authority and organisation requirements proposed under the first extension will be followed.

This coordinated approach by EASA and the Commission which is welcomed by the Management Board, provides a clear way forward in the further processing of the first extension tasks following the extensive debate in reaction to the associated NPAs. It embraces 4 key elements: the modification of the proposed rule structure with implementing measures which are readily understandable by those who have to comply with them, prioritisation of the work, alignment with existing standards and proposals for transition measures. The second extension will benefit from the clarification reached for the first one. The Agency will continuously inform stakeholders at various levels and through different forums about the progress of the related rulemaking activities. ■

EASA's International Cooperation: Setting Priorities in a Challenging Environment

by **Thaddee Sulocki**,
EASA Head of International Cooperation

Technical Cooperation and Assistance Programmes The EASA system - being quite unique and innovative - generates a lot of expectations and interest throughout the world. This is the combined result of the development of a modern set of regulations adapted to the complexity of the aviation world and the new sharing of responsibilities between authorities and industry allowing for a better use of scarce resources. As a consequence, an increasing number of countries elect to adopt or adapt EASA regulations and there is a vast increase of the volume of requests to the Agency in terms of technical cooperation activities.

Furthermore, as part of its efforts in supporting the improvement of aviation safety worldwide, the European Commission (EC) is launching new major EU Civil Aviation Cooperation Programmes (e.g. India, China, Russia, Mediterranean countries - EUROMED - and Central Asia/Black Sea countries

- TRACECA). Moreover, CAAs subject to regulation 2111/2005 (known as the "Black-list") may also require the definition of specific assistance programmes under the leadership of the EC. In both cases, the EC makes use of the technical expertise of EASA - in the first instance to identify the needs of beneficiary CAAs, and secondly to guide and monitor the implementation of projects.

As a matter of general principle, however, EASA technical assistance focuses on the following three main domains: the Regional strategy, the support to the EU Civil Aviation Cooperation projects, notably those related to the "Black-List" and the EASA International Cooperation Forum (ICF).

The first EASA International Cooperation Forum was held in Cologne in October 2008. Such a forum helps to identify the common needs and expectations of the authorities using, in one way or another, EASA regulations. Together with EASA, these authorities form a "Community" sharing a number of common values, goals and challenges.

Therefore, EASA has established a network of focal points and is developing a method to deal systematically with most requests emerging from "EASA Community" Members.

In conclusion, the priorities are to support the European Neighbouring Countries, Sub-Saharan Countries, "Black-Listed" Countries, Asian Countries, other regions and to follow up on the EASA International Cooperation Forum.

Bilateral Agreements and Working Arrangements Assisting the Commission in the negotiations of Bilateral Agreements is a priority for the International Cooperation Department. The Department is today actively supporting the discussions on two bilateral agreements: the EU/US Bilateral Agreement, and the EU/Canada Bilateral Agreement. EASA has also started to support the Commission in the negotiations with Brazil and Australia. It is expected that a comparable exercise will soon start with New Zealand.



EASA International Cooperation Department

A top priority has also been the preparation and signature of Working Arrangements with the “ECAC-non-EU countries”, in order to organise a smooth transition from the JAA to EASA. EASA was tasked to develop these agreements by the EC and ECAC/JAA. All these Working Arrangements (except with Ukraine) have been signed early July 2009.

Work in the first half of 2009 was almost exclusively geared towards these two main priorities. Now, the Agency is focusing on Working Arrangements with China, India, Japan, and possibly South Korea. This activity is conducted in close cooperation with the European Commission.

The Department also continues to organise management meetings with the Civil Aviation Authorities of third countries in order to monitor and ex-

cute the terms of the current Bilateral Agreements, and to monitor the implementation of the Working Arrangements (for an overview of all the existing Working Arrangements please look at the EASA website and click on International Cooperation).

EASA Representation Abroad Today, EASA has established two representatives abroad, one in Washington DC, USA, and one in Beijing, People's Republic of China. They are the main direct contact for the civil aviation authority, the accident investigation board and the industry of these countries. The two main objectives are: improvement of the day-to-day cooperation, and technical advice and assistance.

The representative in China, Sylvette Chollet, has additional tasks such as supporting EASA involve-

ment in technical cooperation programmes (International Civil Aviation Organization Cooperative Development of Operational Safety and Continuing Airworthiness Programme (ICAO COSCAP) for North Asia and EU Programme) on a local level. She is also assisting EASA in the issuance of Export Certificate of Airworthiness for Airbus aircraft assembled in China.

In the future, several posts are foreseen, for example in Brazil, Canada (ICAO), India and Russia, whereas the current representations in China and the USA should be strengthened.

Representations abroad are key elements for disseminating the European system and contributing to the smooth implementation of Bilateral Agreements and major Working Arrangements. ■

Report from the U.S.

by **Julian Hall**,
EASA US Representative Washington D.C.

In 2008 it was confirmed that DG TREN supported the approach of EASA to attach an aviation safety representative to the Delegation of the European Commission in Washington D.C.

I have now been in post for one year, working at the Delegation of the European Commission where I work closely with the Transport, Energy and Environment (TEE) Section, which is responsible for monitoring and analysing US political, economic and regulatory developments. The Ambassador of the Delegation is Mr John Bruton, a former Prime Minister of Ireland.

The role of the EASA Representative is to support the Agency in all areas which are within the scope of the Agency's remit in the United States and Canada. To accomplish this it is necessary to work closely with the US and Canadian Administrations, Industry and Non Government Organizations (NGOs). The role also entails working closely with the Commission Delegation in Washington, and with the European Commission on all common matters.

There are several current challenges, the first being the impact of draft US legislation on the entry into force of the bilateral safety agreement with the USA. The language in the FAA “reauthorization Bill” is primarily used to approve the finances for continued operation of the FAA. However, certain

new provisions have been introduced which would, if approved, contradict the intent of the agreement, particularly in the Maintenance Annex to the Agreement by introducing additional inspections and the possibility of drugs and alcohol testing.

The second challenge will be how to assist in managing the impact of the Regulation (EC) No. 216/2008 on the relationship between North America and Europe. The new Regulation ushers in the first extension of scope of the Agency, which includes new requirements in Operations, Licensing, Third Country Operators and Operational Suitability Certificates. In the global aviation system it will be necessary to explore how Europe and the US and Canada can adapt to these changes whilst maintaining a robust safety system. A key focus is ensuring we consider the views of US and Canadian stakeholders during the comment response period. To facilitate this activity, various meetings have been organised in the United States to explain the first extension and discuss the new implementing rules. It will be important to have close cooperation and coordination to ensure we have a balanced, workable Safety system.

The third significant challenge will be to support the proposed second extension of EASA to Aerodromes and ATM, which is already providing its own unique challenges and opportunities.



2010 has many additional challenges for EASA in the United States such as maintaining the momentum in existing safety initiatives. For example, it is planned to become more involved in the Commercial Aviation Safety Team (CAST) activities, and the FAA Aviation Rulemaking Advisory Committee (ARAC).

In the coming years it will be increasingly important to regularly liaise with the National Transportation Safety Board (NTSB) to ensure a good flow of information to permit EASA to maintain its responsibilities for continuing airworthiness of the products it certifies.

Regular liaison with industry associations such as the International Air Transport Association (IATA), Air Transport Association (ATA), General Aviation Manufacturers Association (GAMA), Aerospace Industry Association (AIA), Aeronautical Repair Station Association (ARSA), etc. and close liaison with the FAA and TCCA are essential elements in marketing and promoting EASA. ■



Aircraft engine particle emissions: a new certification parameter

by **Erika Herms**,
EASA Environmental Protection Officer

Since the late 1970s, there is a growing concern regarding aircraft engine emissions and their effects on local air quality and global climate change. When the First Edition of the International Civil Aviation Organization (ICAO) Annex 16 Volume II was adopted in 1981, it was focused on the control of common air pollutants emissions which have an effect on local air quality: carbon monoxide (CO), hydrocarbons (HC), nitrogen oxides (NOx) and smoke. Many changes have been introduced in the Annex 16 volume II since that time. The most significant changes were the introduction of more stringent limits for NOx emissions while the other limits remained unchanged.

Smoke was originally controlled mostly for visibility reasons as the appearance of black smoke at the exhaust of aircraft engines was considered undesirable. Nowadays, due to progress in technology, aircraft engines are considered to be smoke-free. However, in reality, the particles which are emitted are so small that they are not visible.

In the ambient air, particulate matter (PM) consists of a mixture of solid and liquid particles that are suspended in the air. They vary in size, composition and origin. PM is either directly emitted into the air or formed from gaseous precursors. The direct emissions of particles from aircraft engines are non-volatile particles containing carbon. They are the result of an incomplete combustion processes. The main volatile PM precursors/substances emitted by aircraft engines are sulphur oxides (SOx), nitrogen oxides (NOx) and unburned hydrocarbons (HC). Combustion-related particles are small in size, as opposed to coarse particles stemming from natural sources (salt, sand, dust). While aviation contributes significantly, the majority of global PM pollution can be attributed to road vehicles, power/heating plants and various industrial processes.

Small particles – dangerous, but as yet unmeasured When it comes to their effect on health, the size of particles is an important issue. The smaller the particle, the deeper it enters into the lungs. Fine particles are strongly associated with heart and lung diseases which, in extreme cases, can

lead to premature mortality. Particle sizes at the exhaust of a current aircraft engine vary with a large proportion between 20nm to 60nm depending on the operating conditions. These nanoparticles may pass through the lungs and cell membranes into the blood. Particles emitted by automotive engines are of a similar or slightly larger size.

The particle surface also has a significant impact on health. Particles can absorb toxic compounds and the effect on lungs will depend on the interacting surface area. Particle surface is not easy to measure and therefore the particle number may be used as an surrogate parameter since the surface can vary with the number at a given constant mass concentration.

Furthermore, particles impact the environment at regional scale through the contamination of soil and water after deposition, and at global scale on climate change by triggering cloud formation.

Current legislation and methods EU ambient air regulation (Directive 96/62/EC) was established in 1996 in order to reduce undesired health effects.



As particles larger than 10µm (1x10⁶m) in diameter do not cause major problems because they are filtered by the nose and throat, the first regulation on PM in ambient air was based on the measurement of the mass of particles smaller than 10µm (PM₁₀). Following the Cleaner Air for Europe (CAFE) initiative, the latest Directive (2008/50/EC) on ambient air quality also introduces a PM_{2.5} mass limit value (diameter smaller than 2.5µm) which better represents the impact on human health. It should be noted that compliance with this Directive is expected to be a problem at some European airports.

In order to reduce the concentrations of PM in ambient air it is necessary to mitigate the emissions at all sources. Since the early 1990s, the European car legislation has prescribed limitations in particle mass emissions. The latest car emissions legislation, Euro5 and Euro6, introduce more stringent PM mass standards and non-volatile particle number limits. As for aircraft engine emissions, ICAO Annex 16 Volume II prescribes certification limits for smoke emissions using a visibility parameter known as a "Smoke Number (SN)". This procedure measures the obscuration (opacity) of a spot on a filter and is only linked to visibility properties. The gaseous precursors which form secondary particles in the plume are also regulated as ICAO has established standards for nitrogen oxides (NO_x) and unburned hydrocarbon (HC). The emissions of sulphur oxides (SO_x) are indirectly regulated via the fuel specifications which place a limit on sulphur content. Within the UK Def. Stan. and US ASTM specifications, this content is currently limited to 0.3% in mass for commercial aviation fuel.

Working towards a new regulation As mentioned above, the smoke requirement was mainly created to address the issue of visibility of exhaust emissions. Particle emissions from aircraft engines are now very small, and so SN is no longer an appropriate indicator although it is still used for the certification of aircraft engines. In order to evaluate the trend in engine technology advances as regards particle emissions and their subsequent impact on local air quality and climate change, we have to focus on the measurement of particulate matter mass, number and size. For these reasons the ICAO Committee on Aviation Environmental Protection (CAEP) is currently working on developing an aircraft engine particulate matter emissions certification methodology. Towards that end CAEP is coordinating with the SAE E-31 committee which is responsible for establishing standard methods and recommended practices for sampling and measurement of aircraft exhaust emissions. E-31 has previously developed the Aerospace Recommended Practice (ARP) on smoke which was adopted by ICAO in the first edition of Annex 16 Volume II. This year the Committee has also finalised and approved the Aerospace Information Report (AIR) on the measurement of non-volatile particle emissions.

EASA is already working within CAEP and last year the Agency became a member of the SAE E-31 committee in order to closely participate in the development of an ARP on non-volatile particle emissions. When published, this ARP is expected to be used by ICAO and regulatory agencies to underpin a certification requirement on aircraft engine particle emissions.

Research and development In order to contribute towards the CAEP and E-31 work, EASA funded a study on airplane particle emissions (APE) in 2008. This has been followed up by a further research study, SAMPLE, in 2009 to consider some of the outstanding questions regarding sampling and measurement of aircraft engine PM emissions. This study has been successful in bringing together key expertise on this issue from all over Europe, and coordinating with US FAA/EPA research projects on this same subject, with the aim of closing knowledge gaps and progressing quickly towards a robust PM certification requirement.

The next CAEP work programme will start in 2010 and end in 2013. One of the work items is likely to be the development of an aircraft engine based metric and methodology for application as a non-volatile PM emissions certification requirement. Significant effort is needed to achieve this task, and EASA will further contribute to this by launching a follow-on research study in 2010 known as SAMPLE II. It will build on the results and conclusions from the initial study by focusing on the sampling system and on aircraft engine tests. The Agency will also host the next SAE E-31 particulate matter subcommittee meeting in November this year.

¹ Gaseous precursors are gases that lead to particles after chemical and physical transformations.

² SAE International is the society dedicated to advancing mobility engineering worldwide; SAE E-31 is the «aircraft exhaust emissions measurement» committee.

³ FOCA : Swiss Federal Office of the Civil Aviation
FAA: US Federal Aviation Administration
EPA: US Environmental Protection Agency

Events

EASA conference

Are pilots trained to meet the challenge?

On 24 November, the Agency will be hosting a pilot training conference close to its headquarters in Cologne, Germany. The symposium addresses what is emerging to be a global consensus that training needs to move up on the safety agenda. Issues include future training needs for increasingly automated aircraft and the challenges of working in congested airspace. The purpose of the conference is primarily to exchange views and identify key elements of best practice. The Agency's initiative brings together experts and speakers from Eu-

rope and worldwide. John M. Allen, Director, Flight Standards Service FAA, will kick-off the debate along with EASA Executive Director Patrick Goudou and set the scene from the US and European perspectives, followed by contributions from industry representatives.

The agenda is available on the events page of our website and we will keep readers posted of the outcome of the conference via the EASA News electronic newsletter.

3rd EASA

Rotorcraft Symposium

From 2–3 December, EASA will for the third year running provide the rotorcraft community with a forum to discuss initiatives or issues in the field of rotorcraft safety. Topics include rotorcraft design, continuing airworthiness, regulatory approval and operational matters. Speakers include Gunter Carloff, Executive Director of the New European Helicopter Association and senior representatives from the world's leading helicopter manufacturers.

// QUICK NEWS / // QUICK NEWS / // QUICK NEWS //

Product Safety

The activities of the product safety department in the past months are occurring in a general context of revision of the rulemaking programme department in order to provide support to the Air Traffic Management and aerodrome department. Two significant events deserve to be highlighted: the publication of the amendment 6 of CS-25 which introduces new specifications for thermal/acoustic insulation material, for flight in icing conditions and for fuel tank flammability reduction and the positive opinions given by the EASA Committee to the pending opinions relative to regulations 1702/2003

and 2042/2003. These positive opinions will, in particular, introduce the privilege to issue permit to fly for Continuing Airworthiness Management Organisations (CAMO).

Much work has also been invested in the Operational Suitability Certificates during the comment period of the Notice of Proposed Amendment (NPA) and after closure of comments on June 30, to define a strategy to reply to the comments received. To finalise the Comment Response Document with regard to 4 tasks related to Part 66 (privileges of B1/B2 licenses; type and group training, type training, li-

censes for maintenance engineers for non-complex aircraft) has also represented a lot of effort.

Furthermore, the department has contributed to the progression of issues in relation with permit to fly, conversion of Part-66 licenses, foreign CAMO, replacement of halons as fire extinguishing agents, and introduction of version 7.1 of the software for ACAS (Airborne Collision Avoidance Systems)

The activities of replying to accident investigation safety recommendations and to article 14 exemptions have continued at a sustained pace. ■

Bell 429 Certification

On 29 September EASA issued a type-certificate to the Bell 429 helicopter. The Agency also approved the Bell 429 Initial Maintenance Requirement Report (IMRR). This is the first time the MRB process has been approved for a helicopter, resulting in safety and efficiency benefits for operators and maintenance organizations. ■



Source: Bell

Imprint

Publisher:

European Aviation Safety Agency (EASA)
Postfach 101253
D-50452 Cologne
Germany
Phone +49 221 8999 0000
Fax +49 221 8999 0999
www.easa.europa.eu

Editor:

Daniel Höltgen

Layout:

804© GRAPHIC DESIGN, Düsseldorf Germany

For more information about this publication, reactions or subscriptions please write to easa.news@easa.europa.eu

Copyright EASA for all imagery, unless otherwise noted.

Published quarterly, release free of charge.

ISSN: 1831-3272

Air Traffic Management / Air Navigation Services

The Regulation that will amend the EASA Basic Regulation 216/2008 and represent the 2nd extension of EASA to Aerodromes and ATM/ANS will be adopted by the Council of Ministers on 14 September 2009. Meanwhile the work on the detailed rulemaking tasks for the implementing rules which EASA is mandated to prepare from here until the end of 2012 (ATM/ANS) and 2013 (aerodromes)

has started. Member States' Civil aviation administrations and the industry representatives have been asked to nominate members for the rule-making groups for ATM/ANS. These groups are scheduled to be formed and hold their constituting meetings starting as from autumn. The same work will shortly begin for aerodromes. ■