Task Force on Airline Safety

- Final report -

November 2015

Explanation

This final report summarizes the composed results of the Task Force being published in the »Interim report of June 2015« and in the »Supplements to the interim report of November 2015«.

1.
Remit, its memorandum of understanding and the members of the Task Force

The board of management of the German Aviation Association (BDL) and the boards of the airline companies in the German Aviation Association were invited by Federal Minister Dobrindt to talks held on 2 April 2015 at which it was decided to appoint a Task Force to determine what conclusions could be drawn from the crash on 24 March 2015 in the French Alps.

This Task Force was set up under the auspices of the BDL. It began its deliberations on 8 April 2015. With the deliberations on 27 October 2015, the Task Force has completed its work.

The Task Force's remit was to advise whether the scope of the regulations governing air traffic need to be extended. In carrying out this remit, the Task Force was to give particular attention to the following questions:

1. Do changes need to be made to the safety functions of the cockpit doors?

2. Can improvements be made to the procedures for determining and checking a pilot's medical fitness?
   In considering this question, the Task Force was to discuss both the procedures for obtaining medical fitness, possibly after supplementary examinations, and issues relating to the flow of information.

The Task Force's memorandum of understanding was as follows:

- The Task Force performs its work in confidence and non-publicly. Communication is ensured by the BDL in agreement with the members of the Task Force.

- In the interests of safety, all courses of action are to be considered carefully and fully, taking into account their respective advantages and disadvantages.

- The mutual trust built up between pilots and aero-medical examiners as well as psychologists in determining and examining the question of medical fitness plays a key role in ensuring safety.

- Conclusions drawn are directly dependent on the progress of the investigations carried out by the state investigating authorities.

- The conclusions of the deliberations cannot be converted into unilateral action by individual countries, but are to be introduced into the discussions at a European and international level, i.e. at the European Aviation Safety Agency (EASA), the International Civil Aviation Organization (ICAO) and the International Air Transport Association (IATA).

The members of the Task Force:

The Task Force worked under the auspices of the BDL (chair). The following bodies were included in the consultation process:

- Airlines as well as associations such as the German Airports Association (ADV) and the German Airline Association (BDF),

- The German Federal Ministry of Transport (BMVI), the Federal Aviation Office (LBA) and the German Military Aviation Authority (LufABw),

- The following professional associations in Germany: the Association of Pilots (VC) and the Association of Flight Attendants (UFO),

- Aero-medical examiners as well as experts in the field of psychology and psychiatry,

- Manufacturers (German Aerospace Industries Association (BDLI)),

- German air navigation service provider (DFS).

2.
Results of discussions on the subject of the “cockpit door”

A subgroup of the Task Force made up of representatives from Lufthansa (chair), BMVI, BDL, LBA, airline companies (including Air Berlin, Germania, Condor, Germanwings, Lufthansa, Tuifly), manufacturers (Airbus) and professional associations (VC and UFO) was set up to discuss the subject of the “cockpit door”.

Three risk assessment workshops were held to:

a) consider possible alternative procedures to the current access procedures and the effects of these procedures on safety, security, operational, technical and legal aspects

b) assess the “Two person” rule which has been introduced.

The assessment was based on the assumption – which also takes into account the number of similar cases that have occurred in civil aviation – that the most probable threat in civil air traffic in the context of cockpit protection procedures continues to be external attempts to gain access to the cockpit (by terrorist/criminal acts). To assess the individual alternative procedures, the working group stipulated the following criteria:

- no facilitation of attempts by unauthorised persons to force entrance to the cockpit by terrorist or criminal acts
- no additional risks to flight safety
- assurance of a standardized technical and procedural implementation in all German airlines to the best extent possible
- no conflict with existing international legal provisions (especially the provision that the right to make the final decision on opening the door must remain in the cockpit).

The procedures of the operational risk assessment (ORA), which have been tried and tested in the safety management system, and the operational risk evaluation (ORE), formed the methodological basis for the risk assessment. The ORA used to assess the alternative procedures, which was developed by SWISS in collaboration with the Swiss Federal Institute of Technology (ETH) in Zurich and which has already been widely used in airlines including the Lufthansa Group, comprises the identification, assessment and development of measures to provide protection against risks arising from a complex risk scenario.

The ORE (used to assess the “Two person” rule) is a methodology for categorising operational risks rapidly and in a structured manner. These risks are then assessed in terms of probability and severity.

Regarding a) alternative procedures for gaining access to the cockpit:

The purpose of this risk assessment workshop was to carry out a qualitative assessment of possible alternative procedures for gaining access to the cockpit (technical and procedural) and to assess their safety implications, taking into account the problems of ensuring access to the cockpit by flight crew and preventing access by unauthorised persons. Corresponding access procedures are regulated under European and international law. Amendments would require prior agreements at international level (ICAO, EU).

The possible alternatives discussed included:

- Removal/reduction of the reinforcement of the cockpit door, dispensing with a possible safety bolt (dead bolt)
- Establishing a “clear zone” by short-term procedural measures
- Establishing a structural lock (both doors are reinforced)
- Installing toilets in the cockpit area
- Biometric identification and dispensing with the dead bolt/deny function
- Unlocking the cockpit door by remote control from the ground
- Temporary access code for cockpit personnel, dispensing with dead bolt
- Permanent locking of the cockpit door by means of an additional deny switch (new)
- “Super access code” for cockpit and cabin crew, dispensing with dead bolt (new)

Regarding b) “Two person” rule:

Generally speaking, the provisional introduction of the “Two person” rule was welcomed (in this connection, also see the recommendation in EASA *SIB 2015-04*). The airline companies participating in the risk assessment workshop carried out individual safety analyses for a risk assessment beforehand. A risk assessment building on these analyses was carried out in accordance with the methodology referred to above.

Conclusion:

- The working groups recommend that no changes be made over the short term to the locking system of the cockpit door.

- The cockpit and cabin crew must maintain a high level of safety awareness at all times, especially with regard to the careful execution of the applicable access procedures and avoiding opening the door/leaving the cockpit unnecessarily. It is recommended that the respective aviation companies conduct regular awareness campaigns on this point.

- Structural options (locks between cabin and cockpit door, WC installation in the protected area) should be examined over the long term when new aircraft are being developed.

- It was feasible to implement the “Two person” rule on short notice in all German airline companies (the right to give the final decision on opening the door remains in the cockpit).

- The “Two person” rule increases safety. Any additional risks can be compensated by taking concurrent measures. These measures are being continuously re-assessed in day-to-day operations. Experiences gathered during operation of the “Two person” rule should be evaluated after the rule has been in place for one year. By way of contrast, the professional associations/pilot and flight attendant unions suggest on the basis of their overall assessment that the “Two person” rule could be abolished.

3.
Results of discussions on the subject of “medical fitness”

The Task Force discussed the subject of “medical fitness” at several sittings. The participants initially discussed the current international, European and national legal position. On this basis, the Task Force discussed, alongside various other questions, possible ways of assessing medical fitness as accurately as possible. The key areas discussed were:

(1) Aeromedical expertise
(2) Measures for pilots
(3) Transparency of the examinations
(4) Organisation of the aeromedical committee.

Discussion point 1: Aeromedical expertise

The Task Force discussed whether the expertise of aero-medical examiners needs to be extended in the psychological and psychiatric parts of the assessment to determine medical fitness and/or whether this would necessitate providing additional information and/or the LBA guidelines to the aero-medical examiners.

Conclusion:

- The trust between pilot and aero-medical examiner is of fundamental importance for safety in airline operations.

- The psychological and psychiatric expertise of aero-medical examiners and examining experts in the field of mental illnesses is always available and accessible.

- In making scientific and social findings on mental illnesses, however, a greater awareness, as well as a greater diagnostic awareness, of these illnesses is required on the part of all involved. More and better information should be provided to the examining aero-medical examiners on suitable contact points in detecting mental disorders/evidence.

Discussion point 2: Measures for pilots

a) The Task Force discussed whether additional contact points are to be created to which crews can turn if they detect signs of mental problems in themselves or in their colleagues. Like all people, pilots experience stress and negative situations. The reasons for this are often many and varied, and can arise both in the work environment and in a person's private life. Individual factors, or a combination of several, can cause temporary or long-term psychological problems if they are not recognised and treated at an early stage. In the Task Force, the contact points established by some airlines to deal with substance-related problems (misuse of, or dependency on, psychoactive substances such as medication, drugs and alcohol) were elucidated, which can provide crews with information on prevention and treatment.

Conclusion:

- The existing contact points have proved their worth in every respect in prevention and providing advice on treatment and help. They are accepted by the crews and should be increased in scope and size.

- The Task Force therefore calls on the European legislators to make such contact points a mandatory requirement. The Task Force has defined the following minimum requirements which contact points should meet and which should enable pilots to access such a contact point:

  1. Pilots are able to access a contact point around the clock if they recognise or suspect that they or a colleague are suffering from psychological problems.

  2. The contact point should preferably be integrated into the contact points that already exist for substance-related problems. It can be run by the airline internally or by external providers. What is important is that the contact point acts independently of the airline company's organisation.

  3. The contact point is staffed by personnel who have been trained in handling psychological problems and in gaining the trust of pilots.

  4. The contact point personnel must be assisted by at least one qualified psychologist or psychiatrist.

  5. The procedure to be followed when a pilot accesses the contact point:
     - Assure the pilot that his personal details with be treated confidentially.
     - Assure the pilot that all possible support services will be explained and offered with the aim of maintaining or restoring aeromedical fitness.
     - Urge the pilot to cooperate actively in order to avoid any detrimental effect on his/her fitness to fly or even loss of license/medical certification.

6. The detailed design of the contact point (items 2-4) and its procedures (item 5) must be acceptable to the employee representative.

7. The airline is firmly behind the establishment of the contact point. Empathy and support for pilots with psychological problems and ensuring operational safety are the airline's foremost priorities, and full support is given by top management. In order to minimise the risk of pilots working in an unfit state, the employer creates an environment built on the "Just Culture" principles.

8. In its daily operations, the airline promotes support for pilots with psychological problems by providing targeted information, in various places and in an open and sustained manner, about the existence of the contact point and how it functions.

9. Supervisory authorities should back this approach to supporting pilots with psychological problems.

- The BDL member airlines have already agreed on this standard and they enable their crews to access appropriate contact points.

b) The Task Force discussed the question of collecting additional medical laboratory values. The current regulations on examinations to determine medical fitness stipulate as a minimum requirement that laboratory tests should be carried out to determine haemoglobin values and the presence of protein, sugar, blood and, if applicable, sediment in the urine.

Conclusion:

- A need was identified to collect additional laboratory values (including, where applicable, the determination of carbohydrate-deficient transferrin (CDT) or liver values (gamma-GT)).

- This can be achieved without amending the regulations as the current legal framework already provides that aero-medical examiners can arrange for all the required additional examinations to be carried out on a case by case basis. A decision on this should remain – in view of the mutual trust between a physician and pilot as well – at the discretion of the assessing aero-medical examiner.

c) Today, aero-medical examiners carry out examinations of candidates' consumption of medication, drugs and alcohol as part of the initial examination for aeromedical fitness. There are no regulations currently in force on additional randomised checks for such substances carried out by government bodies during daily aviation business. In the USA the Federal Aviation Administration (FAA) monitors the prevalence of the consumption of alcohol and drug by pilots. 1587 biological samples collected at the FAA Civil Aerospace Medical Institute (CAMI) between 1999 to 2003 from US pilots killed in crashes were evaluated for traces of medication, drugs and alcohol as part of the study "Chaturvedi et al: *Toxicological findings from 1587 civil aviation accident pilot fatalities, 1999–2003"* (source: Aviation, Space, and Environmental Medicine, Volume 76, Number 12, December 2005, pp. 1145-1150). The Task Force dealt with rules and experiences, in particular of the FAA, regarding random testing for medication, drug and alcohol consumption and discussed the current legal situation in Germany and the EU.

Conclusion:

- Testing on the consumption of medication, drugs and alcohol at the initial medical examination are recommended and should be standardised.

- Testing of pilots for medication, drug and alcohol consumption at the initial and regular following aeromedical assessments as well with due case are regarded as an important instrument.

- The available studies, regulations and experiences of the FAA, amongst others, regarding random testing (introduced for medication/drugs in 1988 and for alcohol in 1995) indicate that, on average, approximately 0.05% of commercial pilots test positive for medication/drugs, and approximately 0.1% for alcohol. There has been no recognisable change in the statistics for consumption of medication, drugs and alcohol by pilots since the mid-1990s. The USA is adhering to its system of employer-designed testing for medication, drugs and alcohol, and argues that such testing serves as a deterrent.

- The position under international, European and national law, as explained by the BMVI, is that no legal basis for random testing exists at present at either European or German level.

- The EASA recommends testing for medication, drug and alcohol consumption as part of the initial medical examination. Furthermore, it recommends consultations on the introduction of random testing in accordance with the "EASA Opinion 03-2014 – Requirements for service providers and the oversight thereof".

- The Task Force critically examined the experiences and initiatives presented with regard to random testing; opinions in the Task Force were divided regarding the need for this testing.

- The BMVI/LBA representatives emphasised that the introduction of random testing could not only be a deterrent to the misuse of medication, drugs and alcohol, but would also send out a safety message to the public. Amongst the other members of the Task Force, however, there was a consensus that the introduction of random testing would be a purely regulatory matter that would have to be implemented by the public authorities.

- The Task Force recommends that the German Federal Government and the stakeholders should actively support the consultation process initiated by the European Commission and the EASA on the subject of "random testing".

Discussion point 3: Transparency of the examinations

A key part of the requirements of the quality of the assessment of medical fitness is that a complete insight and overview of the complete examination history of all examinations carried out to determine medical fitness is available at all times to the aero-medical examiners, psychologists and psychiatrists as well as the monitoring supervisory body. In implementing the European and German law, the medical documentation is pseudonymised in Germany before it is forwarded to the authorities. These procedures comply with the requirements of data protection and the maintenance of medical confidentiality. The Task Force discussed documentation, transparency and access to the examination history, that is access to the holistic overview of all previous examinations of a pilot as well as access to the procedure adopted where impairments were identified in the examination to determine medical fitness.

Conclusion:

- In order to ensure the medical fitness of pilots in a given case, all documents relating to the complete examination history must be brought to the attention of aero-medical examiners, psychologists and psychiatrists as well as the supervisory LBA and these documents must be accessible as soon as possible if required.

- In order to be able to check medical fitness in individual cases it may be necessary to be able to compare the assessment of all previous examinations.

- The pseudonymisation procedures practised in Germany were discussed and assessed in the Task Force. A suggestion was made that alternative procedures should be developed for reducing the complexity of the information flow, thereby further simplifying the carrying out of examinations and checks, while at the same time maintaining data protection and medical confidentiality.

- The discussion in the Task Force came to the same conclusion on the very complex circumstances surrounding the entry or removal of limitation of medical certificates.

Discussion point 4: Organisation of the aeromedical committee

The competent body in Germany for carrying out secondary examinations is the “aeromedical committee”, which consists of five aeromedical experts appointed by the BMVI on the basis of their suitability and experience (*section 34 of the Regulation on Aviation Personnel (LuftPersV)*). The aeromedical committee can consult other aero-medical examiners, consultants, and psychologists to clarify technical medical questions. A question was raised in the Task Force whether a state aero-medical examiner (for example from the German Military Aviation Authority) should always participate in every case in the work of the committee as well.

Conclusion:

- The Task Force asked the BMVI to invite a group of suitable representatives of the Task Force to discuss and examine this question.

4.
Result

The Task Force concluded that today's safety levels in commercial aviation, and particularly with regard to the subjects of "cockpit door" and "medical fitness", are already very high. In the view of the Task Force, the greatest potential for further improving safety lies in a greater focus on diagnostic awareness of psychological/mental health problems and the provision of "contact points", which have proven successful in the German airline companies.

The German Task Force concludes its deliberations with its recommendations set out in this report. In accordance with the Task Force’s memorandum of understanding, which provides that numerous conclusions of the deliberations cannot be implemented unilaterally by individual countries, the Task Force's conclusions are to be contributed to the consultations conducted at European and international level (European Commission, EASA, ICAO, IATA).