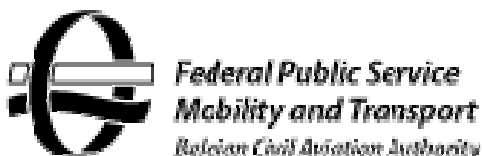




Belgian Civil Aviation Safety Programme

17/01/2011

- Decision of the Director-General: Belgian Civil Aviation Safety Policy;
- Strategic Action Plan 2011-2014 for the Improvement of Aviation Safety;
- Outline of the main aviation risks



DECISION OF THE DIRECTOR-GENERAL:

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Regarding: Belgian Civil Aviation Safety Policy

1 Introduction

One of the duties of the Belgian State is to create an environment in which the aviation sector can perform its activities at the highest possible safety level. The Belgian Civil Aviation Authority (BCAA) is responsible, on behalf of the Belgian State, for developing and maintaining the Belgian Safety Programme (BSP) in accordance with the requirements of the United Nations International Civil Aviation Organization (ICAO).

The BSP applies both to the BCAA and to the Accidents and Incidents Investigation Unit and is based to a large extent on the system of risk management.

The purpose of risk management is to prevent accidents, personal injury and material damage. An effective risk management policy ensures that potential causes of safety problems can be swiftly detected and resolved through the optimisation of regulatory and supervisory measures.

In addition, the BCAA has begun implementing one of the main elements of the Belgian Safety Programme: the implementation of the Safety Management Systems (SMS) at the Belgian Service Providers.

2 General provisions

a. Definitions

- Belgian Safety Programme (BSP): a coherent whole of regulations and activities through which the Belgian State, in its role as a regulator, aims to improve aviation safety;
- Service Providers: air traffic control and air navigation services (ATC/ANS), airport operators, air operators, flight training organizations, aero-medical centres, production organizations, maintenance organizations and maintenance training organizations.
- Safety: a situation in which the risks of physical injury and material damage are reduced to acceptable levels through a continuous process that facilitates risk identification and management;
- Safety Management System (SMS): a systematic approach to managing safety at Belgian Service Providers including the necessary organizational structures, accountabilities, policies and procedures;
- Occurrences: any accidents and incidents arising in the Belgian civil aviation sector.

b. Purpose of this document

- Inciting the Belgian aviation sector and the relevant BCAA employees to develop and maintain a culture of safety in civil aviation;
- Providing the BSP with internal management structures that ensure its implementation; identifying risks and potential dangers; and drafting and amending the Strategic Action Plan for the Improvement of Aviation Safety. These structures have been established through a series of processes and procedures.

c. Objective of the BSP

The BSP is developed to improve aviation safety by promoting close cooperation between the Belgian aviation sector and the BCAA.

3. Strategic orientation

a. BCAA Safety Culture

As safety is of primary importance at the BCAA, the latter will never yield to economic, commercial and political pressure. The BCAA is committed to integrating a safety culture into all its activities in order to ensure that aviation safety is managed as effectively as possible.

b. Regulatory and Supervisory Activities

The BCAA is dedicated to improving cooperation with the Belgian aviation sector in order to identify key safety issues and optimise its regulatory and supervisory activities.

The BCAA undertakes to modify and optimise its regulatory and supervisory activities following the introduction of SMS at Belgian Service Providers.

The BCAA undertakes to perform safety assessments on foreign airlines in order to ensure a standardised safety level within the context of European regulations.

c. Strategic Action Plan for the Improvement of Aviation Safety

The implementation of the BSP has resulted in the drafting of a Strategic Action Plan. This plan forms part of the safety policy of the Belgian State and seeks to eliminate potential sources of safety problems through the optimisation of regulatory and supervisory activities.

The Strategic Action Plan, which is valid for a period of four years, is based on a) the policy objective of the person with political responsibility at the Federal Public Service for Mobility and Transport with respect to the implementation of the BSP; and b) the specific objectives derived from the risk management system. Recommendations and guidelines of the Accidents and Incidents Investigation Unit are also incorporated into the Strategic Action Plan. The specific objectives contained in the Strategic Action Plan are developed in consultation with the Belgian Service Providers.

The Strategic Action Plan is approved by the BCAA Director-General and annually assessed and published.

d. Means and Human Resources

The allocation of means is based on the operational activities that contribute to increasing safety levels and, by extension, to the realization of the Strategic Action Plan.

As part of its training programmes, the BCAA offers training related to BSP. This training helps foster a culture of safety and clarifies the roles played by each of the parties in implementing the plan.

e. Internal quality audits

The BCAA internal audits are conducted in accordance with the processes and procedures contained in the Quality Manual. These compliance audits serve to establish whether the BCAA Departments respect the regulations and correctly execute the applicable processes, procedures and guidelines.

The internal audits are performed on the basis of an audit programme approved annually by the BCAA Director-General. The audits, which are based on the PDCA cycle ('Plan, Do, Check, Act'), contribute to the continuous improvement of the operational activities.

4. Organisation of the BSP

a. Scope of the risk management

The BCAA is responsible for collecting and managing the aviation occurrences reported to the BCAA by the service providers. Risk management relates both to aviation occurrences occurring on Belgian territory and those occurring in Belgian airspace. In addition, occurrences occurring on foreign territory and foreign airspace involving Belgian airlines are registered in the risk management system as well.

b. Procedures and processes

The BCAA has a number of processes and procedures in place designed to effectively implement the BSP. These processes and procedures are approved by the Director-General and subsequently managed by the relevant BCAA departments. The processes and procedures of the Accidents and Incidents Investigation Unit are approved by the Chairman of the Federal Public Service for Mobility and Transport in order to protect the independence of this unit.

c. Safety Committee

The Safety Committee is comprised of the Director-General, the directors of the operational departments, the risk manager and the manager of the Accidents and Incidents Investigation Unit. The Safety Committee, which convenes three times per year, is responsible for:

- discussing and selecting the aviation risks to be handled with priority;
- taking corrective actions where necessary;
- assessing, approving and modifying these corrective actions;
- validating and amending the Strategic Action Plan;
- discussing and following up on, the bimonthly reports on occurrences that require immediate action.

d. Risk manager

The risk manager is responsible for:

- collecting data on, and managing, aviation occurrences;
- participating in bimonthly meetings regarding occurrences that require immediate action;
- performing the risk analysis (i.e. preparing a list of risks to be handled with priority);
- Drafting the Strategic Action Plan, including annual changes and updates.

e. Operational Departments

The operational departments are responsible for:

- performing regulatory and supervisory activities;
- proposing, implementing and realising corrective measures in order to increase aviation safety;
- participating in bimonthly meetings regarding occurrences that require immediate action;
- investigating these occurrences if necessary.

g. Involvement of external departments

The BCAA has signed a Service Level Agreement (SLA) with the Accidents and Incidents Investigation Unit in order to ensure smooth cooperation between these two entities.

h. Coordination with international agencies

The BCAA supports the initiatives to develop a European Aviation Safety Programme and Plan at the level of the European Aviation Safety Agency (EASA), the regulatory bodies of the European Commission and the Eurocontrol Safety Regulation Commission.

i. Consultation with the Belgian aviation sector

The BCAA organises periodic consultative meetings with representatives of the Belgian aviation sector (e.g. representatives of Belgian service providers, pilots' associations, aviation clubs, etc.).

These meetings have the following objectives:

- Conducting a debate on safety levels in the Belgian civil aviation sector;
- Communicating achievements related to the Belgian Safety Programme to aviation sector representatives;
- Presenting the Strategic Action Plan to aviation sector representatives, including any modifications and updates;
- Consulting on the policy objectives of the Strategic Action Plan (including on the relevance of the risks to be handled with priority).

The Strategic Action Plan is assessed and published annually. The Belgian service providers and aviation associations receive a copy of the Strategic Action Plan each year.

j. Internal communication of the Strategic Action Plan

The employees of the BCAA and the Accidents and Incidents Investigation Unit are informed annually about the Strategic Action Plan and any amendments to this plan.

The BCAA will introduce a training course on BSP into its training programmes.

A handwritten signature in black ink, consisting of several fluid, connected strokes.

Frank Durinckx
Director-General

Strategic Action Plan for the Improvement of Aviation Safety 2011-2014

Introduction

In terms of safety, Belgium is required to comply with the Annexes of the United Nations International Civil Aviation Organization (ICAO). Each member state is required to develop, update and maintain a national safety programme, and the implementation of such a programme has prompted the BCAA to draft a Strategic Action Plan for the improvement of Aviation Safety.

The Strategic Action Plan is based on the following premises:

- the policy objective of the person with political responsibility at the Federal Public Service for Mobility and Transport with respect to the implementation of the BSP;
- the specific objectives derived from the risk management system of occurrences in civil aviation;
- the recommendations and guidelines of the Accidents and Incidents Investigation Unit.

The measures outlined in the first part of this plan are designed to implement the policy objective with respect to developing the BSP. This objective is included both in the policy document of the person with political responsibility at the Federal Public Service for Mobility and Transport and in the management plan of the BCAA Director-General.

The measures contained in the second part of this plan are specific objectives derived from the risk management system for aviation occurrences. All occurrences must be reported by the service providers to the BCAA in accordance with the Royal Decree “Reporting of Occurrences” dated 22 April 2005. The BCAA then enters these occurrences in the ECCAIRS database (ECCAIRS is an acronym for “European Co-ordination Centre for Aviation Incident Reporting System”). This database was created by the European Union for the implementation of the European Directives for reporting aviation occurrences. The BCAA analyses the occurrences reported and then identifies the main safety risks. A number of risk-mitigation measures are developed in consultation with the Belgian service providers and incorporated into this action plan.

While overall safety levels in the Belgian civil aviation sector are currently satisfactory, several accidents still occur in Belgium each year, and in addition a number of significant incidents have arisen that, while not resulting in accidents, did cause potentially dangerous situations.

The information available shows that a total of 2,121 incidents were reported in the course of 2006; in 2007 the number of reports increased to 2,353 and reached 2,906 in 2008. This represents an increase of nearly 11% compared to 2006. However, this should not lead to the conclusion that the number of aviation incidents increased and aviation safety subsequently deteriorated; it was rather related to the fact that the reporting system, which had been introduced fairly recently, was becoming increasingly widespread. In 2009 the number of incidents reported dropped to 2,608,

Part 1: Measures to further develop the BSP

The missing elements of the BSP are determined on the basis of a gap analysis. This analysis was conducted on the basis of the checklist included in ICAO Doc 9859 (Appendix 3 to Chapter 11: *Guidance on the development of a State Safety Programme*).

Measure 1: Developing an Acceptable Level of Safety (AoS)

The BCAA has a risk management system in place for aviation occurrences in order to determine an Acceptable Level of Safety (AoS) for Belgian civil aviation. The risk management system is based on the Dynamic Integrated Risk Management (DIRM) model. This model is described in more detail in the procedural manual 'Inspection Manual – Part II Risk Management Procedures'. The risk management system of the BCAA represents a structured process to establish a treatment priority for aviation risks.

However, the BCAA has not yet reached the Acceptable Levels of Safety applicable to the safety management systems (SMS) at the Belgian service providers.

Consequently, the BCAA will take the following measures:

- Systematically implement SMS at the service providers in accordance with the regulatory requirements;
- Determine safety indicators and safety targets in conjunction with the Belgian service providers;
- Actively support the initiatives to develop a European Aviation Safety Programme and Plan at the level of the European Aviation Safety Agency (EASA) and Eurocontrol.

Measure 2: Establishing a National Safety Library

The BCAA will create a central Safety Library, which will consist of the following components:

- The national legislative framework for implementing and maintaining the Belgian Safety Programme;
- The Belgian Civil Aviation Safety Policy;
- The processes, procedures, responsibilities and accountabilities for the correct implementation of the BSP;
- Data related to the number of accidents and serious incidents;
- Data related to the reported occurrences and aviation risks;
- The results of the annual risk analyses;
- The SMS reports provided by the Belgian service providers;
- The safety indicators and safety targets.

Measure 3: Developing a strategy with respect to safety training and safety promotion

The BCAA has already taken a number of important steps to improve the communication of information related to safety.

The operational departments of the BCAA have access to data related to aviation occurrences in the ECCAIRS database and, based on this information, they can launch an investigation or gather additional data.

The BCAA and the Accidents and Incidents Investigation Unit hold bimonthly meetings to discuss accidents, incidents and occurrences. This process is in line with the concept of accident prevention and helps establish potential causes and formulate any measures to be taken and safety recommendations to be made.

The reports of all accidents and serious incidents occurring in Belgian airspace or involving Belgian aircraft can be consulted on the website of the Federal Public Service for Mobility and Transport.

The Strategic Action Plan for the Improvement of Aviation Safety is communicated to both the employees of the BCAA and the Belgian aviation sector.

The BCAA will further develop safety training courses and safety promotion through the following measures:

- Developing training courses related to the BSP;
- Providing initial and recurrent training related to the BSP and SMS as part of the employees training programmes;
- Organising safety seminars in conjunction with the Belgian aviation sector and in association with the Accidents and Incidents Investigation Unit.
- Consult with the Belgian service providers in advance in order to decide on corrective measures to improve aviation safety.

Part 2: Specific measures to improve aviation safety

These measures are designed to reduce the risks derived from the risk management system for aviation occurrences. The risks to be handled were selected by the BCAA Safety Committee and the related corrective measures were further developed in conjunction with the Belgian aviation sector.

Measure 1: Establishing a Belgian Aviation Wildlife Hazard Committee and drafting a national action plan to prevent collisions with animals

Reducing risk with respect to collisions with animals is a priority, and a special focus will be to reduce the risk of bird strike. The majority of collisions occur at low heights, in the vicinity of an airport during takeoff and landing, and the Belgian State will move to establish a Belgian Aviation Hazard Committee, which will act as a coordinator in this area. This committee will act as a Focal Point for analysing these problems and as a source of information for the exchange of best practices.

The Belgian Aviation Wildlife Hazard Committee will prepare an action plan in order to reduce risk related to collisions with animals.

The BCAA will take the following measures:

- Documenting the possible operation of the Belgian Aviation Wildlife Hazard Committee, for example by performing benchmark tests;
- Appointing the potential members of this team;
- Organising preparatory meetings with the members in order to establish the Committee's objectives and procedures (i.e. Terms of Reference);
- Organising an official appointment meeting for the Committee;
- Organising meetings (number yet to be specified) which, after approximately one year, will result in a national action plan to prevent collisions with animals.

Subsequently, the Belgian Aviation Wildlife Hazard Committee will hold annual or biannual meetings. These meetings will follow the introduction of the national action plan, amending the plan where necessary and ensuring the exchange of information.

Measure 2: Resolving problems related to ground handling in partnership with the market sector

The risk analyses for 2006, 2007, 2008, 2009 and 2010 of the reported occurrences have demonstrated that problems related to ground handling are common. This represents a broad spectrum of occurrences, e.g. incorrect loading procedures and filling up fuel without the necessary authorizations, near-collisions between aircraft and ground vehicles or damage caused to an aircraft by one such ground vehicle, etc.

The Belgian State currently does not have sufficiently detailed national regulations in place with respect to ground handling.

The BCAA will take the following measures:

- Investigating the handling companies in order to gather information on their organisational structure, activities, equipment, training courses completed, etc.
- Thoroughly inspecting the procedural manuals of handling companies and airlines;
- Examining the contracts with the airlines and the internal and external audit reports;
- Drafting national regulations for ground handling.

The implementation of the measures listed above should result in lower risk levels as well as in a relative decline in the number of occurrences related to ground handling.

Measure 3: Drafting regulations with respect to unruly passengers

A certain number of occurrences are related to passengers. Two-thirds of these cases represented occurrences related to smoking in the lavatories of the aircraft, which is strictly prohibited due to fire hazard. In addition, air rage incidents are prevalent as well.

The BCAA will take the following measures:

- Instructing all airports and airlines to report occurrences related to unruly passengers to the BCAA through ECCAIRS;
- Assessing the current regulations and identifying any loopholes in the legislation;
- Amending the current regulations if necessary and drafting procedures with respect to unruly passengers;
- Systematically investigating the conclusions regarding 'Unruly Passengers' and prosecuting any violations administratively or through the courts.

Measure 4: Actively supporting the development of ANS safety indicators and ANS safety targets

The European Commission has issued a second package of the SES concerned with developing and measuring ANS safety indicators and safety targets, among other things. The European Commission has asked EUROCONTROL to develop a proposal for these issues. The BCAA will actively participate in this project.

Once these safety indicators and safety targets have been established, corrective measures will be taken at both the European and national levels. The process of establishing and measuring these indicators and targets and of formulating and taking corrective measures is scheduled for 2012. Any risk-mitigation measures against Separation Minimal Infringements, Runway Incursions, Problems with Communication between Pilots and ANS, etc. will be elaborated.

Measure 5: Annual check of the reliability of the flight controls for commercial aircraft in Belgium

The risk analyses for 2006, 2007, 2008, 2009 and 2010 have demonstrated that there have been technical problems related to flight controls.

The BCAA will take the following measures:

- Perform a detailed annual analysis of all occurrences related to flight controls for commercial aircraft in Belgium;
- Setting annual safety indicators and identifying any negative trends;
- Determining items to be addressed and taking targeted measures where necessary (this includes analysing the reliability programmes of the Belgian airlines).

The annual analysis takes into account the number of flights operated by Belgian airlines, thereby creating a similar frame of reference.

Part 3: Outline of risks in the Belgian civil aviation sector

The risk management performed by the Belgian State relates to any occurrences occurring on Belgian territory and in Belgian airspace. In addition, occurrences occurring on foreign territory and foreign airspace involving Belgian airlines are also included. The various aspects of aviation are considered, including aircraft, companies operating in the aviation sector, air traffic control services, airports, ground equipment, etc.

Any occurrences reported are entered in the ECCAIRS database, which was created by the European Union in 2003 for the implementation of the European Directives related to reporting aviation occurrences. The main safety risks can be deduced from the analysis of these occurrences, and the priorities to be set by the management in view of accident prevention can be determined.

The BCAA risk management system for aviation occurrences is based on the Dynamic Integrated Risk Management (DIRM) model. The risk level of a specific type of occurrence is determined by two factors: probability and impact.

Probability represents the likelihood that an incident will occur. In order to determine probability, the number of occurrences of a specific type is considered that occurred within a one-year period. Depending on the number of occurrences, the probability is then assigned a quote on a scale from 0 to 5.

The impact of an occurrence takes into account the possible impact on personnel, operations, equipment, the environment and public confidence, along with the media attention that an occurrence may attract. Depending on the strength of the impact, it is assigned a quote from 1 to 5. Class 1 means that there are no noteworthy effects while class 5 indicates potentially disastrous effects.

The risk level of a type of incident is established by applying a combination of probability and impact based on the formula displayed below.

RISK LEVEL = (PROBABILITY + IMPACT) / 2

The table below shows the types of occurrences with the highest risk levels.

OCCURRENCES in ECCAIRS
Warning System Triggered
Communications Pilot / ANS
Near-Collisions - Loss of Separation
Separation Provision
Explosions /Fire /Fumes /Smoke
Bird Strike
Systems / Crew Mismatch
Ground Handling
Flight Controls
Difficult Passengers
Security Generally

The Safety Committee has discussed these types of occurrences and subsequently addressed the aviation risks to be handled with priority, selected by taking into account factors such as the level of the risk-mitigation measures already in place.