European Aviation Safety Agency — Rulemaking Directorate

Notice of Proposed Amendment 2014-08

Safety Key Performance Indicators (SKPIs) (ATM performance IR)

RMT.0518 — 31.03.2014

EXECUTIVE SUMMARY

This Notice of Proposed Amendment (NPA) deals with an amendment to Decision 2011/017/R of the Executive Director of the European Aviation Safety Agency of 16th December 2011 on acceptable means of compliance (AMC) and guidance material (GM) to Section 2 of Annex I to Commission Regulation (EU) No 691/2010 laying down a performance scheme for air navigation services and network functions as amended by Commission Implementing Regulation (EU) No 1216/2011 'Acceptable Means of Compliance and Guidance Material for the implementation and measurement of safety KPIs (ATM performance IR)'.

The specific objective of this NPA is to propose AMC/GM to the safety performance indicators which will be introduced in the second reference period (RP2).

Applicability		**Process map**	
Affected regulations and decisions:	ED Decision 2011/017/R, Regulation (EU) No 390/2013	Concept Paper:	No
Affected stakeholders:	Member States, their Competent Authorities in ATM/ANS and ANSPs	Terms of Reference:	23.4.2013
Driver/origin:	Legal obligation	Rulemaking group:	Yes
Reference:		RIA type:	None
		Technical consultation during NPA drafting:	No
		Duration of NPA consultation:	8 weeks
		Review group:	Yes
		Focussed consultation:	No
		Publication date of the Opinion:	NA
		Publication date of the Decision:	2013/Q4

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1. Procedural information

1.1. The rule development procedure

The European Aviation Safety Agency (hereinafter referred to as the 'Agency') developed this Notice of Proposed Amendment (NPA) in line with Regulation (EC) No 216/2008[1] (hereinafter referred to as the 'Basic Regulation'), the Rulemaking Procedure[2] and with Regulation (EU) No 390/2013[3] (hereinafter referred to as the 'performance scheme Regulation').

This rulemaking activity is included in the Agency's Agency's 4-year Rulemaking Programme under RMT.0518[4].

The text of this NPA has been developed by the Agency based on the input of the Rulemaking Group RMT.0518 'Development of AMC/GM for safety key performance indicators (ATM performance IR) for reference period 2' (RP2). It is hereby submitted for consultation of all interested parties[5].

As it is stated in the rulemaking group's terms of reference and in NPA 2013-14[6], this NPA is a follow-up of NPA 2014-14 and proposes AMC/GM for the newly introduced safety performance indicators by the performance scheme Regulation for the second reference period.

This NPA was developed with the support of EUROCONTROL, in accordance with its working arrangements with the Agency, and in cooperation with the Performance Review Unit.

1.2. The structure of this NPA and related documents

Chapter 1 (Procedural information) of this NPA contains the procedural information related to this task. Chapter 2 (Explanatory note) explains the core technical content. Chapter 3 (Proposed amendments) contains the proposed text for the new requirements. Chapter 4 explains why Regulatory Impact Assessment was not provided for this particular task.

1.3. How to comment on this NPA

Please submit your comments using the automated **Comment-Response Tool (CRT)** available at **http://hub.easa.europa.eu/crt/**[7].

Since the proposed amendment does not introduce many novelties, **a consultation period of eight weeks** is considered to be sufficient for the stakeholders for providing comments.

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1 Regulation (EC) No 216/2008 of the European Parliament and the Council of 20 February 2008 on common rules in the field of civil aviation and establishing a European Aviation Safety Agency, and repealing Council Directive 91/670/EEC, Regulation (EC) No 1592/2002 and Directive 2004/36/EC (OJ L 79, 19.3.2008, p. 1), as last amended by Commission Regulation (EU) No 6/2013 of 8 January 2013 (OJ L 4, 9.1.2013, p. 34).

2 The Agency is bound to follow a structured rulemaking process as required by Article 52(1) of the Basic Regulation. Such process has been adopted by the Agency's Management Board and is referred to as the 'Rulemaking Procedure'. See Management Board Decision concerning the procedure to be applied by the Agency for the issuing of Opinions, Certification Specifications and Guidance Material (Rulemaking Procedure), EASA MB Decision No 01-2012 of 13 March 2012.

3 Commission Implementing Regulation (EU) No 390/2013 of 3 May 2013 laying down a performance scheme for air navigation services and network functions (OJ L121, 9.5.2013).

4 http://easa.europa.eu/rulemaking/terms-of-reference-and-group-composition.php#RMT

5 In accordance with Article 52 of the Basic Regulation and Articles 5(3) and 6 of the Rulemaking Procedure.

6 http://easa.europa.eu/rulemaking/notices-of-proposed-amendment-NPA.php.

7 In case of technical problems, please contact the CRT webmaster (crt@easa.europa.eu).

The deadline for submission of comments is **26 May 2014.**

1.4. The next steps in the procedure

Following the closing of the NPA public consultation period, the Agency will review all comments.

The outcome of the NPA public consultation will be reflected in the respective Comment-Response Document (CRD).

The Agency will publish the CRD information together with the ED Decision.

The Decision containing Acceptable Means of Compliance (AMC) and Guidance Material (GM) will be published by the Agency taking into account the input provided by the stakeholders during the consultation period.

2. Explanatory Note

The purpose of this Notice of Proposed Amendment (NPA) is to propose an amendment to ED Decision 2011/017/R[8]

Commission Regulation (EU) No 691/2010[9] should be repealed by Commission Regulation (EU) 390/2013 (hereinafter referred to as the 'performance scheme Regulation') with effect from 1 January 2015.

The performance scheme Regulation for air navigation services and network functions implements Article 11 of the Regulation (EC) No 549/2004[10] Section 1 of Annex I to the performance scheme Regulation establishes the SKPIs with EU-wide safety performance targets and Section 2 of Annex I sets out the SKPIs[11] for local target setting. These safety key performance indicators are already covered in the existing AMC/GM. As already announced in NPA 2013-14[12]this is the second NPA foreseen in the relevant rulemaking task and it proposes AMC/GM for the safety performance indicators[13] (with no EU-wide targets) as defined in paragraph 1.2 of Section 2 of Annex I to the performance scheme Regulation. These safety performance indicators are introduced in the second reference period (RP2) by the performance scheme Regulation.

In order to facilitate implementation and measurement of the safety (key) performance indicators, the Agency, in consultation with the Performance Review Body, is tasked by Article 9 of the performance scheme Regulation to adopt AMC and GM in accordance with the procedure established under Article 52 of the Basic Regulation, before the beginning of the second reference period. The work of the rulemaking group was supported by EUROCONTROL in accordance with the working arrangements with EASA.

2.1. Overview of the issues to be addressed

With regard to the Safety Performance Indicators (SPIs)[14], there are certain new performance requirements introduced by Regulation (EU) No 390/2013 for the second reference period (RP2) compared to the first reference period (RP1)[15]. For the new safety performance indicators (SPIs) introduced during the second reference period, there are no EU-wide safety performance targets. However, Member States (MS) may set targets corresponding to these SPIs. The newly introduced SPIs for RP2 are:

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8 Acceptable Means of Compliance and Guidance Material for the implementation and measurement of safety Key Performance Indicators (SKPIs). Decision as last amended by ED Decision 2013/032/R of 20 December 2013.

9 Commission Regulation (EU) No 691/2010 of 29 July 2010 laying down a performance scheme for air navigation services and network functions and amending Regulation (EC) No 2096/2005 laying down common requirements for the provision of air navigation services (OJ L 201, 3.8.2010, p. 1).

10 Regulation (EC) No 549/2004 of the European Parliament and of the Council of 10 March 2004 laying down the framework for the creation of the single European sky (the framework Regulation) (OJ L 96, 31.3.2004, p. 1.).

11 Section 2 of Annex II to the performance scheme Regulation specifies that 'For the purpose of these indicators, local means at functional airspace block level with an indication for monitoring purposes of the contribution at national level.'

12 http://easa.europa.eu/rulemaking/notices-of-proposed-amendment-NPA.php.

13 Article 2 of performance scheme Regulation - 'performance indicators' means the indicators used for the purpose of performance monitoring, benchmarking and reviewing.

14 Defined in Article 2 of the performance scheme Regulation – 'performance indicators' means the indicators used for the purpose of performance monitoring, benchmarking and reviewing'.

15 According to Article 8 of the performance scheme regulation 'The first reference period for the performance scheme shall cover the calendar years 2012 to 2014 inclusive. The second reference period shall cover the calendar years 2015 to 2019 inclusive.'

— the application by the air navigation service providers of automated safety data recording systems where available, which shall include, as a minimum monitoring of separation minima infringements and runway incursions;

— the reporting performed by the Member States and air navigation service providers on the level of occurrence reporting on an annual basis, aiming at measuring the level of reporting and addressing the issue of improvement of reporting culture; and

— the number of, as a minimum, separation minima infringements, runway incursions, airspace infringements, and ATM-specific occurrences at all air traffic services units.

2.2. Objectives

The overall objectives of the EASA system are defined in Article 2 of the Basic Regulation. This proposal will contribute to the achievement of the overall objectives by addressing the issues outlined in Chapter 2 of this NPA.

The specific objective of this proposal is to develop new AMC and GM for the SPIs introduced by the performance scheme Regulation for RP2.

2.3. Overview of the proposed amendments

GM1 SKPI General

A new definition on 'Airspace infringement' is proposed in order to clarify the text in the AMC/GM where this term is used. The definition is based on the 'European Action Plan for Airspace Infringement Risk Reduction'[16], but it also reflects some elements defined in Regulation (EU) No 923/2012[17] such as Radio Mandatory Zones and Transponder Mandatory Zones (RMZ and TMZ) and uses the terms 'airspace restriction or reservation' to be consistent with the definitions in Regulation (EC) No 2150/2005[18].

The stakeholders are invited to provide their views on the proposed definition for airspace infringement.

The table with acronyms is updated including some new acronyms used in the proposed AMC/GM.

AMC11 SPI The application by the air navigation service providers of automated safety data recording systems where available, which shall include, as a minimum monitoring of separation minima infringements and runway incursions

This AMC provides high level technical requirements for the automated safety data recording systems which are capable of detecting events like separation minima infringements (SMI) and runway incursions (RI). In addition, the processes in the automated system are presented in a figure.

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[16] http://www.skybrary.aero/bookshelf/books/1044.pdf.

[17] Commission Implementing Regulation (EU) No 923/2012 of 26 September 2012 laying down the common rules of the air and operational provisions regarding services and procedures in air navigation and amending Implementing Regulation (EU) No 1035/2011 and Regulations (EC) No 1265/2007, (EC) No 1794/2006, (EC) No 730/2006, (EC) No 1033/2006 and (EU) No 255/2010 (OJ L 281, 13.10.2012, p. 1).

[18] Commission Regulation (EC) No 2150/2005 of 23 December 2005 laying down common rules for the flexible use of airspace (OJ L 342, 24.12.2005, p. 20).

It also defines the minima information to be reported by the ANSP to their Competent Authorities (CA) with regard to this SPI and by which date the Competent Authorities should provide information to EASA/PRB for the use of automated safety data recording systems by the ANSPs under its authority.

Since this AMC contains the minima requirements for automated systems detecting different types of occurrences (such as SMI and RI), it is supported by GM16 and GM17 which provide specific guidance for SMI and RI respectively.

GM16 SPI Automated safety data recording systems for monitoring of separation minima infringements (SMIs)

This GM is focussed mainly on the automated systems detecting SMIs. It emphasises the need of such systems to be used in a Just Culture environment to improve the information used by the organisation's SMS with the sole purpose of improving safety.

It gives guidance for the practical implementation of the processes such as:

— interface with ATC operational systems such as radar data processing systems, flight data processing systems, etc.;

— filtering for genuine SMIs: the automated systems should be capable of automated filtering and also to provide possibility for further manual processing in order to automatically detect events that are due to normal operating practice also to be filtered out; and

— recording.

GM17 SPI Automated safety data recording systems for monitoring of runway incursions (RI)

During the development of this SPI, the Rulemaking Group had extensive discussions on the technical feasibility to have a system/tool capable of detecting automatically an RI. The issues, such as the need to have information for the content of the ATC clearances and instruction into the tool, are described in the GM with a view to the development of future automated systems during RP2.

Some examples for an RI are presented based on the 'European Action Plan for the Prevention of Runway Incursions'.

Like in GM16, it gives guidance for the practical implementation of the processes such as:

— interface with ATC operational systems;

— filtering for genuine SMIs; and

— recording.

GM18 SPI The reporting by the Member States and air navigation service providers on the level of occurrence reporting, on an annual basis, aiming at measuring the level of reporting and addressing the issue of improvement of reporting culture

This SPI, as defined by the performance scheme Regulation, should be measured as the proportion of reported occurrences received by the Air Navigation Service Provider (ANSP) or State occurrence reporting schemes, compared to all the occurrences that happened. This can hardly be evaluated since neither the ANSP nor its Competent Authority may be sure that all occurrences that happened are known.

This GM proposes indirect methods for evaluating the reporting levels using both qualitative and quantitative information. The GM provides an example of how such an evaluation should be structured in the relevant report of the level of occurrence reporting. When preparing the report, the MS should use the data contained in the safety performance indicator 'the number of, as a minimum, separation minima infringements, runway incursions, airspace infringements and ATM-specific occurrences' (evaluated in accordance with AMC13).

The GM provides an example for the document outline for the annual assessment of the level of occurrence reporting which includes:

— an introduction containing qualitative information relevant to occurrence reporting;

— data analysis with quantitative information including some examples of the use of rate of occurrences of other data (e.g. number of RI/number of arrivals and departures); and

— conclusions containing the assessment of the level of occurrence reporting.

It should be noted that the examples given in this GM do not prevent the ANSPs or their Competent Authorities from using different ways of estimating the existing levels of occurrence reporting.

AMC12 SPI The reporting by the Member States and air navigation service providers on the level of occurrence reporting, on an annual basis, aiming at measuring the level of reporting and addressing the issue of improvement of reporting culture

This AMC provides the minimum content of the reports on the level of occurrence reporting on an annual basis, aiming at measuring the level of reporting and addressing the issue of improvement of reporting culture. These reports should include:

— quantitative and qualitative analysis of the reporting level (examples are given in GM18 SPI); and

— actions identified to improve reporting culture.

GM19 SPI Process for submitting the number of, as a minimum, separation minima infringements, runway incursions, airspace infringements, and ATM-specific occurrences at all air traffic services units

This GM is developed to provide information on the process of evaluating the relevant performance indicator.

EASA and the Performance Review Body (PRB) should have the data available in order to be able to evaluate the safety performance indicator 'The number of, as a minimum, separation minima infringements, runway incursions, airspace infringements, and ATM-specific occurrences at all air traffic services units'. This data should be made available through the existing reporting mechanisms such as the Annual Summary Template (AST) mechanism and/or the European Central Repository (ECR).

Based on the data available, an analysis report of the data submitted by them will be sent by EASA/PRB to the MS by the end of April each year. The analysis of EASA/PRB may contain some observations regarding the quality of the data that the State submitted.

The MS should check the report provided by EASA/PRB, confirm the numbers presented in the report and respond to the observations.

AMC13 SPI The number of, as a minimum, separation minima infringements, runway incursions, airspace infringements, and ATM-specific occurrences at all air traffic services units.

This AMC follows the logic in the process as described in GM19 SPI, providing means of compliance for the MS as follows:

— to validate the numbers presented in the report and advise of any identified discrepancies;

— to respond to all the observations in the report; and

— to send a confirmation of the numbers presented and responses to the observations to EASA by the end of May each year.

3. Proposed amendments

The text of the amendment is arranged to show deleted text, new or amended text as shown below:

(a) deleted text is marked with ~~strike through~~;

(b) new or amended text is highlighted in grey;

(c) an ellipsis (…) indicates that the remaining text is unchanged in front of or following the reflected amendment.

3.1. Draft Acceptable Means of Compliance and Guidance Material

GM 1 SKPI General

(...)

C. Definitions and Abbreviations

Definitions

'Airspace infringement' is a flight into notified airspace without previously requesting and obtaining approval from the controlling authority of that airspace in accordance with international and national regulations. Notified airspace includes controlled airspace (ICAO airspace classes A to E, such as TMAs, and CTRs), restricted airspaces (e.g. Prohibited, Restricted and Danger Areas, Temporary Reserved Airspace) and transponder mandatory zones (TMZ) or radio mandatory zones (RMZ) as implemented by the Member States.

(…)

Abbreviations

ACC	Area Control Centre
A/D MAN	Arrival/Departure Manager
AMC	Acceptable Means of Compliance
ANS	Air Navigation Service
ANSP	Air Navigation Service Provider
APP	Approach Control Unit
A-SMGCS	Advanced Surface Movement Guidance & Control System
ATC	Air Traffic Control
ATCO	Air Traffic Control Officer
ATM	Air Traffic Management
ATS	Air Traffic Services
CA	Competent Authority
CISM	Critical Incident Stress Management
CWP	Controller Working Position
EoSM	Effectiveness of Safety Management

FAB	Functional Airspace Block
JC	Just Culture
IFR	Instrument Flight Rules
GM	Guidance Material
KPI	Key Performance Indicator
MO	Management Objective
MTCD	Medium Term Conflict Detection
NSA	National Supervisory Authority
PI	Performance Indicator
PRB	Performance Review Body
QMS	Quality Management System
RAT	Risk Analysis Tool
RF	Reliability Factor
RI	Runway Incursion
RP	Reference Period
RMZ	Radio Mandatory Zone
SA	Study Area
SFMS	Safety Framework Maturity Survey
SI	Standardisation Inspection
SIA	civil aviation Safety Investigation Authority
SKPI	Safety Key Performance Indicator
SLA	Service Level Agreement
SMI	Separation Minima Infringement
SMS	Safety Management System
SSP	State Safety Programme
STCA	Short Term Conflict Alert
TCAS RA	Traffic Collision Avoidance System Resolution Advisory
TMA	Terminal Manoeuvring Area
TMZ	Transponder Mandatory Zone
TWR	Tower Control Unit
VFR	Visual Flight Rules

(…)

IV Safety Performance Indicators

AMC11 SPI The application by the air navigation service providers of automated safety data recording systems where available, which shall include, as a minimum monitoring of separation minima infringements and runway incursions

The automated safety data recording systems used for monitoring and recording of separation minima infringements and runway incursions should be reported under this safety performance indicator, where the system has, as a minimum, the following basic functional capabilities:

— Interface with ATC operational systems for detection of candidate events;

— Filter (automatic and manual) to extract only relevant events, based on pre-determined technical and operational criteria; and

— Recording of retained encounters in a local database for further analysis and reporting.

Those functions are captured in Figure xx below and detailed in the associated guidance material.

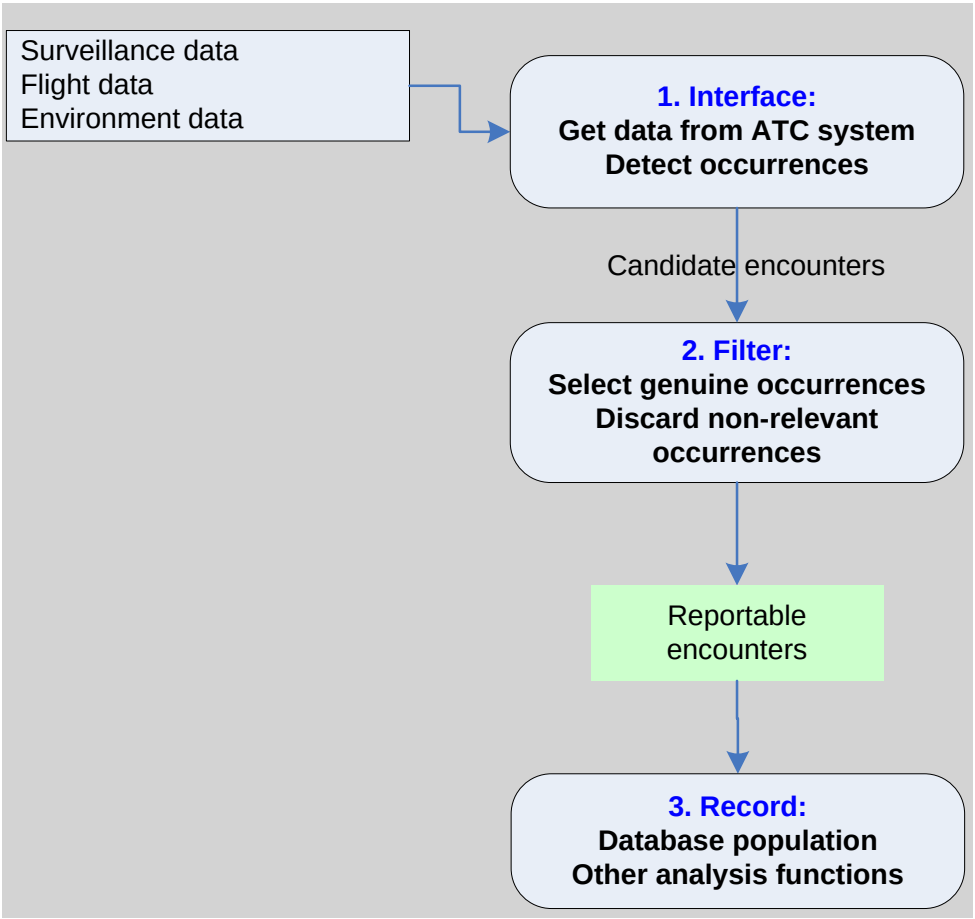

Figure xx — Automated monitoring of separation minima infringements and runway incursions

ANSPs should report to their Competent Authorities, on an annual basis, the application of automatic safety data recording systems at their individual ATS units. If such systems are in use, the ANSPs should report, as a minimum, the following data:

— The unit at which the system is used (which ACC, APP, TWR, etc.);

— Type of reportable occurrences recorded and associated definitions for each type, which should include, but may not be limited to, the minimum required by the performance scheme Regulation; and

— The number of reportable occurrences recorded in the local databases by type (SMI, RI, etc.);

The Competent Authorities should:

— collect the reports submitted by the ANSPs;

— review the data contained in the reports from the ANSPs; and

— provide the information to EASA/PRB for this safety performance indicator for the preceding year by the end of May each year.

GM16 SPI Automated safety data recording systems for monitoring of separation minima infringements (SMIs)

General

The automated occurrence recording systems should be used in a Just Culture environment to improve the information and analysis used by the organisation's SMS.

It should be recognised, where appropriate, that for various reasons (e.g. the automated system failed to capture some occurrences which were reported by other lines) the number of occurrences captured and reported against this performance indicator did not necessarily coincide with the number manually reported in the PI, namely 'the number of, as a minimum, separation minima infringements, runway incursions, airspace infringements, and ATM-specific occurrences at all air traffic services units'.

The systems should operate to detect candidate SMIs in the ANSP's designated airspace. To ensure the systems focus on SMIs, the system should be configured to filter out events which can be attributed to standard operating practice. The remaining occurrences, after filtering, should be considered as genuine and should be reported under this PI.

Recorded data in one ATS unit is not comparable and should not be used for benchmarking with those of another ATS unit because each unit has its specific method of operations, procedures and policies.

General description of automated safety data recording systems

In order for such systems to detect reportable occurrences, there are several functionally distinct processes as defined in AMC11 SPI.

1. Interface with the ATC operational systems for detection of candidate events

   The automated safety data recording system should interface with ATS operational systems (surveillance, flight data processing, etc.). According to the implemented algorithm, this system should detect candidate SMIs in the airspace concerned.

2. Filter for genuine SMIs

The filtering process should discard those events that are not considered genuine.

All candidate SMIs should be processed to determine if they fall within a pre-determined set of operational rules and procedures permitting identification of true SMIs. This should include both automated and manual filtering and should discard spurious events such as bad plots/tracks or not relevant (i.e. operationally correct).

Automatic filtering should be focussed on risk bearing events and should limit automatically recorded events. Parameters for separation minima infringement detection of the airspace concerned may be eroded by certain values such as the vertical and/or lateral dimensions of the minima (e.g. the error or the resolution capabilities of the surveillance system implemented).

Manual filtering should further discard the automatically recorded events that are not considered genuine. Automatically detected events that are due to normal operating practice should also be filtered out. Normal operating practice may include events such as aircraft encounters in the vicinity of an airport which may not be subject to standard separation, encounters with military aircraft or aircraft employing VFR operations. These operational practices and procedures should be pre-defined.

3. Recording SMIs

The reportable occurrences after both automatic and manual filtering should be recorded in a database. For the purpose of this performance indicator, the database should be capable of providing, as a minimum, a list of recorded encounters for a specified period of time and the related data extracted from the system interfaces.

GM17 SPI Automated safety data recording systems for monitoring of runway incursions (RI)

GENERAL

The automatic detection and monitoring of runway incursions is a complex technical task. The reasons for this are that both the presence and contents of an ATC clearance are essential factors in determining whether an event can be classified as a runway incursion and these are typically not available in an electronic format.

Article 2(14) of the performance scheme Regulation transposes the ICAO definition of runway incursion as:

'any occurrence at an aerodrome involving the incorrect presence of an aircraft, vehicle or person on the protected area of a surface designated for the landing and take-off of aircraft'.

Some typical situations for an RI may be that:

— the aircraft lands/takes off without clearance;

— the controller incorrectly clears an aircraft to land or take-off;

— the aircraft, vehicle or pedestrian enters the runway at the incorrect holding point; and

— the aircraft lines-up out of instructed sequence.

What makes automated detection of an RI even more complex is the fact that different operations and the relevant interpretation of 'incorrect presence' may lead to cases when similar situations may be considered as an RI in one instance and as normal operation in another instance.

As a consequence, this GM is written with a view to the development of future automated systems. Similar to the systems for automated detection of SMIs, a future system that automatically detects RIs should comprise three functionally distinct processes as defined in AMC11 SPI.

The automated occurrence recording system should be used in a Just Culture environment to improve the information used by the organisation's SMS for the purpose of improving safety.

Recorded data in one ATS unit is typically not comparable to those of another ATS unit because each unit may have its specific method of operations, procedures and even policies.

In order for systems to detect RIs there are several functionally distinct processes as defined in AMC11 SPI.

1. Interface with the ATC operational systems for detection of candidate events

   The automated safety data recording systems for monitoring of RIs should interface with ATS operational systems (surveillance, flight data processing including ATC clearances, etc.). The system should analyse the position of every aircraft on the airfield relative to every other aircraft and/or vehicle in its vicinity, and ATC aircraft specific clearance information to determine the presence or not of a RI occurrence.

   This still may leave unresolved the issue of the presence of a pedestrian on the runway, which may not be detectable.

   A number of events scenarios will then need to be defined and incorporated into the system to enable the detection of candidate events. It should be noted that developing the events scenarios requires careful consideration. The scenarios need to take into account the airfield layout, the type of operation taking place (ILS CAT I, II or III), the status of each aircraft (cleared to take off, cleared to cross the runway, cleared to line up, conditionally cleared to line up, cleared to land, etc.), each aircraft's position, the status of all stops bars (when in use), and the sequence with which the clearances have been issued. This will enable the criteria for each runway incursion to be established. This is necessary because there are no consistent criteria that can be used to identify a runway incursion. They can occur with a single aircraft, vehicle or person on the runway and do not necessary occur with a simultaneous presence of aircraft, vehicle or persons on the runway.

2. Filter for genuine RIs

   During this step, the system should filter out genuine events that are due to normal operating practice. Spurious and/or false targets also need to be filtered out by the system. This filtering function should be fulfilled by an automatic filtering followed by manual filtering, given the complexity of potential situations at an airport and the differences between airports in Europe. Each event should be reviewed against applicable scenarios suitable for the operations which are in accordance with the airport policy. Normal operating practice may include events

such as the issuing of 'land after' instructions where the pilot is responsible for separation with the aircraft on the ground rather than the controller, the use of conditional clearances where aircraft are cleared to line up once the preceding aircraft has commenced the departure roll, etc.

3. Recording RIs

The reportable occurrences after both automatic and manual filtering should be recorded in a database. For the purpose of this performance indicator, the database should be capable of providing, as a minimum, a list of recorded encounters for a specified period of time and the related data extracted from the interfaces.

GM18 SPI The reporting by the Member States and air navigation service providers on the level of occurrence reporting, on an annual basis, aiming at measuring the level of reporting and addressing the issue of improvement of reporting culture

General

The level of occurrence reporting should be defined as the proportion of reported occurrences received by the ANSP or State occurrence reporting schemes, compared to all the occurrences that happened. Where this cannot be directly calculated, indirect methods should be used to estimate the level of occurrence reporting. As a general principle, it should be recognised that the level of occurrence reporting may be related to a number of different variables, such as the implementation of Just Culture principles, ease of report submission and feedback given to reporters after investigation. Direct comparisons or benchmarking of organisations using the number of occurrence reports are particularly misleading for this reason and, therefore, should not be used.

In order to report on the level of occurrence reporting, ANSPs and States should prepare a written assessment of the level of occurrence reporting on an annual basis. The ANSP analysis should be submitted for review to the relevant Competent Authority, and State analysis should be submitted to EASA for review.

At State level, preparation of this report should take into account the safety performance indicator, 'the number of, as a minimum, separation minima infringements, runway incursions, airspace infringements and ATM-specific occurrences' (GM19 SPI and AMC13 SPI). Therefore, the data definition used for both performance indicators should be the same.

At both ANSP and State level, the analysis of the level of occurrence reporting should be a combination of quantitative assessment of occurrences and a qualitative assessment of the successes and limitations of reporting within the ANSP or State (as applicable). In addition, the State level analysis should include an overview of the combined ANSP analysis of the level of occurrence reporting, which should be dis-identified.

Example: Document outline for the annual assessment of the level of occurrence reporting

Introduction (Qualitative Information)

A brief introduction should provide basic information as to the nature of the reporting scheme, such as:

— a description of the methods of collecting data and the ways in which reporters can submit occurrence reports;

— whether voluntary reports are incorporated as well as mandatory occurrence reports (for State level assessments); and

— a brief description of the functionality of the database for collection storage and analysis of safety data, system in use, how long it has been in place and who can submit reports.

Data Analysis (Quantitative Information)

The overall rate of ANS occurrences, which should be broken down into categories showing the occurrence type and severity classification:

— For severity classification, the results using the RAT methodology should be presented for, as a minimum, separation minima infringements, runway incursions and ATM-specific occurrences.

— Where other severity classification methodologies are in use, the results may also be presented separately or with an indication that the severity was not evaluated by using RAT methodology.

— Appropriate units of measurement should be used, wherever available, to calculate the rate. For example:

  - the rate of runway incursions should be calculated using the number of all IFR/VFR movements under control of the TWR unit (e.g. number of RI/number of arrivals and departures);
  - the rate of separation minima infringements should be calculated using the number of IFR flight hours (e.g. number of SMI/number of IFR flight hours);
  - for the airspace infringements (AI), due to its complex definition, it is difficult to propose a proper rate. However, it is possible to divide AI into AI of a restricted airspace and other AI or to use the rate number of AI/number of IFR flight hours;
  - the rate of ATM-specific occurrences should be calculated using the number of operating hours of the relevant ATS unit (e.g. number of ATM-specific/number of operating hours). In case some functions (e.g. FDPS, RDPS) are serving several ATS units, the rate of ATM specific occurrences related to that function number of IFR flight hours could be considered as more suitable

— A comparison of the number of high-severity occurrences and low-severity occurrences should be made, since logically in a system with a high level of reporting there should be many times more low-severity occurrences than high-severity occurrences. Low-severity occurrences are defined as severities C and E,

high severity occurrences are defined as severities A and B for SMI and RI, and AA, A and B for ATM specific occurrences.

— The variation in the reporting rate between the major reporters should be measured. For example, the different ANSPs reporting to a State scheme or the different units or sectors within an ANSP. The information should be dis-identified since it is the variation that is of note, not the rates themselves.

Conclusions: Assessment of the Level of Occurrence Reporting

A brief summary of the main conclusions should be provided, including the limitations of the data and the perceived impact of variables applicable to the ANSP/State on the results presented.

Using the data analysis results and any gaps in reporting identified in the qualitative information, an assessment should be provided of the level of occurrence reporting, as well as a list of actions that should be initiated to improve reporting as at State level these actions should be generally valid for all ANSPs under the CA authority and at ANSP level should be specific taking into account size of the ANSP, services provided, etc. The list of actions provided should include those recently completed, those that are underway and new actions. Timescales for the initiation and completion of the action should be included.

AMC 12 SPI The reporting by Member States and air navigation service providers on the level of occurrence reporting, on an annual basis, aiming at measuring the level of reporting and addressing the issue of improvement of reporting culture

States and air navigation service providers should prepare a quantitative and qualitative assessment of the level of occurrence reporting, on an annual basis. The scope of the assessment should be the same as that used for performance indicator 'the number of, as a minimum, separation minima infringements, runway incursions, airspace infringements and ATM-specific occurrences'. The assessment should contain, as a minimum:

— an estimate of the level of occurrence reporting, including both quantitative and qualitative analysis. At State level, this should include an aggregated, qualitative description of the level of occurrence reporting by their ANSPs; and

— details of actions identified to improve reporting culture, including actions that have been completed, those that are underway and newly identified actions.

ANSPs should agree with their State the deadline for submitting their report.

States should combine the preparation of this report with the process of validating the performance indicator 'the number of, as a minimum, separation minima infringements, runway incursions, airspace infringements, and ATM-specific occurrences at all air traffic services units', ensuring that the final report is submitted by the end of May.

GM 19 SPI Process for submitting the number of, as a minimum, separation minima infringements, runway incursions, airspace infringements, and ATM-specific occurrences at all air traffic services units

The purpose of this GM is to explain the process by which the number of occurrences will be measured, including as a minimum, separation minima infringements, runway

incursions, airspace infringements, and ATM-specific occurrences at all air traffic services units.

It is anticipated that Member States will submit occurrence reports of separation minima infringements, runway incursions, airspace infringements and ATM-specific occurrences via existing reporting mechanisms, that is the Annual Summary Template (AST) mechanism or the European Central Repository (ECR). Hence, EASA and the PRB will have the data available in order to be able to evaluate the safety performance indicator 'The number of, as a minimum, separation minima infringements, runway incursions, airspace infringements, and ATM-specific occurrences at all air traffic services units.'

This safety performance indicator is defined in the performance scheme Regulation, therefore, the Commission is entitled to publish the relevant information.

States should anticipate that they will receive an analysis report sent by EASA/PRB of the data submitted by them, by end of April each year, containing the number of applicable occurrences in their State per the previous year with the following scope:

— Only occurrences within the territory of a State;

— Only occurrences applicable to the performance scheme Regulation;

— The type of occurrence (as minimum, separation minima infringement, runway incursion, airspace infringement, ATM-specific occurrence).

The number of occurrences for the State will be shown both in total and broken down by type of occurrence. Observations will also be included regarding the quality of the data that the State submitted.

States should, therefore, be prepared to: receive this analysis report, confirm the numbers presented in the report and respond to the observations. To confirm the numbers presented in the report, States may limit this confirmation to a 'gross error check' instead of re-calculating the numbers themselves. Where data has been submitted, which is preliminary and subject to change, States should retain a record of the preliminary data in order to perform this gross error check.

AMC 13 SPI The number of, as a minimum, separation minima infringements, runway incursions, airspace infringements, and ATM-specific occurrences at all air traffic services units

To facilitate the implementation of this safety performance indicator, the Competent Authority of each Member State should nominate to EASA and PRB a national focal point.

When receiving from EASA/PRB an analysis report of the reported occurrences data measuring this performance indicator for the preceding year, the Member State should:

— validate the numbers presented in the report and advise of any identified discrepancies;

— respond to all the observations in the report; and

— send a confirmation of the numbers presented and responses to the observations to EASA by the end of May each year.

4. Regulatory Impact Assessment (RIA)

1. The purpose of a Regulatory Impact Assessment (RIA) is to assess the impacts and consequences of rules and requirements which are being proposed. The assessment, thus, would aim to support the decision making process (e.g. among all the possible regulatory options which is the one with the least overall impact on the regulated persons/organisations) in the implementation of the Basic Regulation.

2. In order to conduct a RIA, several regulatory options should be identified and assessed in terms of safety, environmental, economic, social and regulatory harmonisation of the impacts to the regulated persons and organisations. However, in this case, there were no alternative options to be assessed because Regulation (EU) No 390/2013 already specifies the way the safety key performance indicators should be developed.

3. For the reasons above, a RIA has not been conducted for this NPA. Still, the Agency would also like to highlight that the amendments to the AMCs and GM are not substantial but aim at facilitating the implementation of the safety KPIs. The amendments proposed are based on the experience of safety KPIs implementation during the first reference period and the main goal is to further facilitate the stakeholders.

4. In addition, it is important to underline that the purpose of the new proposed GM is to help with the implementation of the performance scheme Regulation and also to harmonise the way the Implementing Rule is applied.

5. Finally, the purpose of the performance scheme is to improve the performance of the European ATM system in terms of safety, capacity, cost-effectiveness and environment. Therefore, the overall impact is expected to be positive.

5. References

5.1. Affected CS, AMC and GM

Decision 2011/017/R of the Executive Director of the European Aviation Safety Agency of 16th December 2011 - Acceptable Means of Compliance and Guidance Material for the implementation and measurement of safety KPIs (ATM performance IR)'

5.2. Reference documents

No.