



Notice of Proposed Amendment 2015-16

Maintenance of the acceptable means of compliance and guidance material on the safety (key) performance indicator ‘Use of risk analysis tool’ for the air traffic management performance scheme

RMT.0692 — 29.10.2015

EXECUTIVE SUMMARY

This notice of proposed amendment (NPA) addresses a regulatory coordination issue related to changes to the risk analysis tool (RAT) guidance and to the definitions developed by the RAT User Group (UG).

The RAT methodology has been developed by EUROCONTROL and it serves to assign severity levels to reported incidents. The relevant EASA acceptable means of compliance (AMC) and guidance material (GM) cover the methodology used by RAT in order to harmonise the severity classification applied when reporting occurrences.

The Air Traffic Management (ATM)/Air Navigation Services (ANS) Thematic Advisory Group (TAG) identified an issue because of changes to the RAT guidance and definitions, and encouraged EASA to amend its AMC and GM accordingly.

The specific objective of this NPA is to amend the AMC/GM of ED Decision 2014/035/R in order to avoid inconsistencies that may prevent stakeholders from meeting the agreed targets of the air traffic management (ATM) performance scheme. Other relevant feedback provided by stakeholders via TAG will also be addressed.

Applicability		Process map	
Affected regulations and decisions:	ED Decision 2014/035/R ‘AMC & GM for the implementation and measurement of Safety (Key) Performance Indicators (S(K)PIs)’	Concept paper:	No
Affected stakeholders:	Air navigation service providers (ANSPs); competent authorities	Terms of reference:	23.10.2015
Driver/origin:	Efficiency/proportionality	Rulemaking group:	No
Reference:	1-2015 ATM/ANS TAG meeting of April 2015; Performance Review Body meeting of June 2015	RIA type:	Light
		Technical consultation during NPA drafting:	No
		Duration of NPA consultation:	4 weeks
		Review group:	No
		Focused consultation:	No
		Publication date of the opinion:	N/A
		Publication date of the decision:	2015/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 NPA in line with Regulation (EC) No 216/2008¹ (hereinafter referred to as the 'Basic Regulation') and the Rulemaking Procedure².

This rulemaking activity is included in the Agency's [4-year Rulemaking Programme](#) under RMT.0692.

The text of this NPA has been developed by the Agency based on the input of the ATM/ANS TAG. It is hereby submitted for consultation of all interested parties³.

The process map on the title page contains the major milestones of this rulemaking activity to date and provides an outlook of the timescale of the next steps.

1.2. The structure of this NPA and related documents

Chapter 1 of this NPA contains the procedural information related to this task. Chapter 2 (Explanatory Note) explains the core technical content. Chapter 3 contains the proposed text for the new requirements. Chapter 4 contains the regulatory impact assessment (RIA) showing which options were considered and what impacts were identified, thereby providing the detailed justification for this NPA.

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/>⁴.

The deadline for submission of comments is **27 November 2015**.

1.4. The next steps in the procedure

The Agency will publish the related comment-response document (CRD) together with the Decision.

The Decision, containing AMC and GM, will be published by the Agency and shall take into account the input provided by the stakeholders during the NPA public consultation period.

¹ Regulation (EC) No 216/2008 of the European Parliament and of 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).

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 01-2012 of 13 March 2012 concerning the procedure to be applied by the Agency for the issuing of Opinions, Certification Specifications and Guidance Material (Rulemaking Procedure).

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

⁴ In case of technical problems, please contact the CRT webmaster (crt@easa.europa.eu).



2. Explanatory Note

The purpose of this NPA is to propose amendments to ED Decision 2014/035/R⁵.

With Commission Implementing Regulation (EU) No 390/2013⁶, the ATM performance scheme requires Member States and ANSPs to demonstrate that they meet the agreed EU targets that were published by the European Commission. As regards safety, the way to achieve this is by means of safety (key) performance indicators (S(K)PIs).

The ATM/ANS TAG identified an issue with respect to one of these S(K)PIs, namely the RAT S(K)PI. The RAT methodology has been developed by EUROCONTROL and it serves to assign severity levels to reported incidents. The Agency's relevant AMC/GM cover the methodology used by RAT in order to harmonise the severity classification applied in occurrence reporting.

The Agency's AMC/GM on RAT severity classification are now required to be amended because of changes to the RAT guidance and definitions. The ATM/ANS TAG indicated this inconsistency and encouraged the Agency to amend the related AMC/GM accordingly.

In doing so, the Agency aims to ensure through this NPA that all the stakeholders that are within the scope of the ATM performance scheme are consulted regarding the proposed changes, and that they are all aware of any changes that will be subsequently implemented.

In addition to the changes to the RAT methodology, Regulation (EU) No 376/2014⁷ shall apply from 15 November 2015. When Directive 2003/42/EC⁸ was repealed by Regulation (EU) No 376/2014, changes were made to the occurrence reporting requirements. Therefore, the Agency proposes that, while updating the AMC/GM, the reference to Directive 2003/42/EC be replaced with a reference to Regulation (EU) No 376/2014.

Due to the reasons explained above and due to potential implementation feedback, an NPA is proposed for the maintenance of the AMC/GM to the ATM performance scheme Regulation.

2.1. Overview of the issues to be addressed

The objective of this NPA is to update the Agency's AMC/GM on severity classification using the RAT methodology in order to stay aligned with the latest developments of the RAT UG. The proposed changes do not aim to modify the methodology and the related AMC, but to further explain the scoring criteria in order to achieve better harmonisation among users.

The Agency is also taking the opportunity to propose updates to AMC8 SKPI in order to replace the references to Directive 2003/42/EC on occurrence reporting with Regulation (EU) No 376/2014. In the

⁵ Decision 2014/035/R of 16 December 2014 of the Executive Director of the Agency adopting Acceptable Means of Compliance and Guidance Material for point 1 of Section 2 of Annex I to Regulation (EU) No 390/2013 and repealing Decision 2011/017/R of the Executive Director of the Agency of 16 December 2011.

⁶ Commission Implementing Regulation (EU) No 390/2013 of 3 May 2013 laying down a performance scheme for air navigation services and network functions (OJ L 128, 9.5.2013, p. 1).

⁷ Regulation (EU) No 376/2014 of the European Parliament and of the Council of 3 April 2014 on the reporting, analysis and follow-up of occurrences in civil aviation, amending Regulation (EU) No 996/2010 of the European Parliament and of the Council and repealing Directive 2003/42/EC of the European Parliament and of the Council and Commission Regulations (EC) No 1321/2007 and (EC) No 1330/2007 (OJ L 122, 24.4.2014, p. 18).

⁸ Directive 2003/42/EC of the European Parliament and of the Council of 13 June 2003 on occurrence reporting in civil aviation (OJ L 167, 4.7.2003, p. 23).



same section, the reference to Commission Regulation (EU) No 691/2010⁹ is replaced with Regulation (EU) No 390/2013.

For more detailed analysis of the issues addressed by this proposal, please refer to the RIA Section 4.1. 'Issues to be addressed'.

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 amend the AMC/GM of ED Decision 2014/035/R in order to rectify inconsistencies that may prevent stakeholders from meeting the agreed targets of the ATM performance scheme. Other relevant feedback which has been provided by stakeholders at the ATM/ANS meeting in April 2015 will also be addressed.

2.3. Summary of the RIA

The RIA concluded that the proposed changes affect the severity classification. An analysis was performed to understand the effects of the proposed changes on severity classification, and these were found to be minimal in most cases.

2.4. Overview of the proposed amendments

The objective of the proposed amendment is to clarify and improve the guidance on severity classification of ATM-related occurrences (separation minima infringements (SMIs), runway incursions (RIs), and ATM-specific occurrences) using the RAT methodology in accordance with the provisions of the performance scheme Regulation.

The criteria for separating technical failures from those that qualify as ATM-specific occurrences have been better explained in order to make sure that Member States with similar traffic levels will report consistent numbers of such occurrences.

The proposed changes do not affect the scoring principles, but provide users with more granularity on the criteria that could only be beneficial for achieving harmonisation among them.

- Regarding the AMC/GM on the application of the RAT methodology to SMIs and RIs, the changes proposed are editorial refinements of the current wording and are designed to achieve a more harmonised scoring of those occurrences among users. The affected parts are:
 - **AMC4 SKPI Severity classification based on the risk analysis tool methodology — General**
 - **AMC5 SKPI Severity classification based on the risk analysis tool methodology — Methodology for Separation Minima Infringements**

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).



- **GM8 SKPI Severity classification based on the risk analysis tool methodology — Methodology for Separation Minima Infringements — Controllability score determination**
 - **AMC6 SKPI Severity classification based on the risk analysis tool methodology — Methodology for Runway Incursions**
- Regarding the methodology for ATM-specific occurrences, the proposed changes are more fundamental (e.g. entry criteria for RAT assessment); however, these changes have been found to have no impact on the outcome of the S(K)PI. The affected parts are:
- **AMC7 SKPI Severity classification based on the risk analysis tool methodology — Methodology for ATM-specific occurrences**
- The AMC/GM address the use of the RAT methodology for the severity assessment of reported occurrences. In this part, the entry criteria provide the process to distinguish between ATM-specific occurrences and other technical events, and the cases where the RAT methodology should be applied or not depending on whether an operational function is affected.
- This part also introduces the term ‘ATS supported by ATC automation’.
- Clarification on several criteria is provided.
- **GM11 SKPI Severity classification based on the risk analysis tool methodology — Methodology for ATM-specific occurrences**
- The text of this part has been modified in order to reflect the changes made to AMC7 SKPI ‘Severity classification based on the RAT methodology — Methodology for ATM-specific occurrences’.
- In the examples (scenarios A, B and C), an explanation has been added to clarify that when an event goes beyond T1, then severity shall be higher than ‘E’. It is assumed that if the event does not reach T1 (T0–T1), then the severity shall be ‘E’ and there is no need to apply the methodology any further.
- With regard to Appendix 1 to GM11 – *Look-up Table for Severity Classification of ATM-specific occurrences*, ‘Air Traffic Services’ is replaced with ‘Air Traffic Services supported by automation’.



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 AMC and GM

AMC4 SKPI Severity classification based on the risk analysis tool methodology — General

GENERAL DESCRIPTION

The severity part of the risk analysis tool methodology dedicated to operational occurrences should follow the principle of evaluating several criteria and allocating a certain score to each criterion, depending on how severe each criterion is evaluated to be.

Each criterion should have a limited number of options with corresponding scores. Some criteria have an ATM Ground and an ATM Airborne component, and both scores should be counted when evaluating the ATM Overall score. Other criteria should be only relevant either for ATM Ground or ATM Airborne.

The overall score for the severity of an occurrence should be the sum of the scores allocated to each applicable individual criterion.

The overall score for the severity of an occurrence should be ~~built from~~ the sum of the score allocated to the risk of collision/proximity (itself a sum of the score allocated to the separation and the score allocated to the rate of closure) and the degree of controllability over the occurrence.

The severity of the ATM-specific occurrences should refer to the service provider's capability to provide safe ATM/CNS services. The criteria which should be considered are: the service ~~affected,~~ ~~service/function~~ provided, operational function, type of failure, extent of the failure, scope and duration.

The severity of the occurrences reported by Member States should be the ATM Overall. For ATM-specific occurrences, the ATM Overall coincides with the ATM Ground severity.

The scoring system defines a range of points that should be used for each scored criterion. Default scores are shown for each criterion (e.g. 0, 3, 5). However, the default scores should be adapted according to the circumstances of the occurrence.

Member States should ensure that arrangements are in place for the reporting of the ATM Overall severity score.

AMC5 SKPI Severity classification based on the risk analysis tool methodology — Methodology for Separation Minima Infringements

(...)

A. Risk of collision

The risk of collision should be determined by the sum of the scores for the following sub-criteria:

1. Separation — based solely on the minimum distance achieved between aircraft or aircraft and obstacles. The greatest value between the horizontal and vertical in percentage of the applicable separation should be considered.



2. Rate of closure — based on the vertical and horizontal speed, measured at the moment the separation is infringed. The greatest of the predefined intervals for each of the horizontal and vertical speeds should be considered for the evaluation, if the separation is lost after the crossing point (i.e. if the aircraft are on diverging headings when the separation is lost, then the rate of closure is considered 'none/NONE').

The following table should be used to determine the scores of the criteria 'separation' and 'rate of closure'.

	Risk of collision	ATM gGround	ATM aAirborne	ATM eOverall	RF weight
Separation	Minimum separation achieved	0	0	0 to 10 ATM Ground OR ATM aAirborne	20
	Separation > 75 % minimum	1	1		
	Separation > 50 %, < = 75 % minimum	3	3		
	Separation > 25 %, < = 50 % minimum	7	7		
	Separation < = 25 % minimum	10	10		
Rate of closure	Rate of closure NONE	0	0	0 to 5 ATM Ground OR ATM aAirborne	10
	Rate of closure LOW (< = 85 knots, < = 1 000 ft/mn)	1	1		
	Rate of closure MEDIUM (> 85 and < = 205 knots, > 1 000 and < = 2 000 ft/mn)	2	2		
	Rate of closure HIGH (> 205 and < = 700 knots, > 2 000 and < = 4 000 ft/mn)	4	4		
	Rate of closure VERY HIGH (> 700 knots, > 4 000 ft/mn)	5	5		

For the risk of collision, either ATM Ground or ATM Airborne severity should be scored, not both. The ATM Airborne severity ~~should be used only in cases where ATC is not responsible for providing separation (i.e. certain classes of airspaces; e.g. close encounter between IFR and VFR flights in Class E airspace)~~ is to be scored for events where ATM Ground contribution is None or Indirect (Aggravating). The ATM Ground severity is to be scored when the ATM Ground contribution is Direct (Causal) or Indirect (Contributing).

B. Controlability

(...)

Conflict detection should refer to ATM Ground detection; therefore, the ATM Overall score should have the same score as ATM Ground. ATM Airborne should not be scored here. There are three possible scenarios:

- 'Potential conflict DETECTED' includes cases where the conflict is detected but ATC decided to accept the situation.
- 'Potential conflict detected LATE' when there is not enough time to make and/or execute the plan. It should not be scored whenever separation is lost; consideration should be taken with regard to the circumstances involved. In units with short term conflict alert (STCA) with 'look-ahead' time (predictive STCA) the conflict could be detected due to the predictive STCA. If ATCO



became aware of the conflict only through the predictive STCA, then it should be scored as 'Potential conflict detected LATE'.

- The score 'Potential conflict NOT detected' is self-explanatory.
- When 'Conflict NOT detected' is scored, then also 'NO Plan' and 'NO Execution' should be scored.

In cases such as level busts or other incidents where ATC cannot form prior plan, conflict detection should not be applicable and a zero should be scored to maintain the Reliability Factor (RF) tracked as explained in Section D.

		ATM gGround	ATM aAirborne	ATM eOverall	RF weight
Detection	Potential conflict DETECTED	0		0 to 5 ATM Gground	10
	Potential conflict detected LATE	3			
	Potential conflict NOT detected	5			

Planning refers to the ATM Ground plan and, therefore, the ATM Overall score should have the same score as ATM Ground. ATM Airborne should not be scored here. The performance, the timing and efficiency of the ATM Ground planning should be assessed. The plan refers to the first plan developed by ATC to solve the potentially hazardous/conflict situation detected in the previous step maintain the intended separation/safety margins. This plan should be referred to in the subsequent execution steps but not necessarily in the recovery step.

- When the planning is either late or does not lead to a timely and effective resolution of the conflict, then 'Plan INADEQUATE' should be scored.
- ~~When 'Conflict NOT detected' is scored, then also 'NO Plan' and 'NO Execution' should be scored.~~
- Whenever conflict detection is not applicable (such as level bust cases), then the planning sub-criterion is not applicable and a zero should be scored to maintain the Reliability Factor tracked as explained in Section D.

		ATM gGround	ATM aAirborne	ATM eOverall	RF weight
Planning	Plan CORRECT	0		0 to 5 ATM Gground	10
	Plan INADEQUATE	3			
	NO plan	5			

Execution refers in general to ATM Ground execution in accordance with the developed plan but it should have ATM Ground and ATM Airborne components. Execution refers to the execution of the first plan developed by ATC to solve the detected hazardous/conflict situation maintain the intended separation/safety margins. When assessing the execution, the time and efficiency of that execution should be assessed. Airborne execution of the received instructions/clearances should be scored as ATM Airborne.

(...)



Recovery from the actual incident is the phase requiring immediate action to restore the safety margins (e.g. separation) or at least to confine the hazard. Recovery starts from the moment the safety margins have been breached (potentially due to an inadequate or missing initial plan to ~~solve the hazardous situation~~ maintain the intended separation/safety margins). This sub-criterion applies to both ATM Ground and ATM Airborne. Therefore, ATM Overall should be **the sum** of the ATM Ground and ATM Airborne values.

GM8 SKPI Severity classification based on the risk analysis tool methodology — Methodology for Separation Minima Infringements — Controllability score determination

The score of controllability may be used to facilitate an evaluation of the amount of hazard or entropy. If the situation is controlled, even if separation is lost, it is nevertheless recovered by the ATM system and not by chance. For this step, the typical defence barriers as they apply chronologically may be followed.

The ATM Ground elements may be used to evaluate whether and how ATC ('ATC' means not only the ATCO, but the ATCO supported by the ATM system) worked the conflict situation between the aircraft later involved in the actual occurrence. The global picture should be considered and not only the two aircraft between which the standard separation was lost. In certain cases while trying to work an aircraft pair, ATC could generate an occurrence between another pair. All aircraft relevant to the occurrence under analysis should be considered.

AMC6 SKPI Severity Classification based on the risk analysis tool methodology — Methodology for Runway Incursions

(...)

A. Risk of collision

(...)

2. Rate of closure — based on the vertical and horizontal speed, measured at the moment the safety margin is considered to have been lost. The greatest of the predefined intervals for each of the horizontal and vertical speeds ~~is~~ are to be considered for the evaluation.

Depending on the situation, speed intervals should be applied as follows:

- More than one aircraft — no standard separation defined; and
- Aircraft with ground movement.

In cases of unauthorised entry on the runway when no other aircraft/vehicle/person ~~is~~ was present, the rate of closure should be 'NONE'.



	More than one aircraft — no standard separation defined	Aircraft with ground movement	ATM gGround	ATM aAirborne	ATM eOverall	RF weight
Rate of closure	Rate of closure NONE	Rate of closure NONE	0	0	0 to 5 ATM Ground OR ATM aAirborne	10
	Rate of closure LOW (<= 50 knots, <= 500 ft/mph)	Rate of closure LOW (<= 20 knots)	1	1		
	Rate of closure MEDIUM (> 50 and <= 100 knots, > 500 and <= 1 000 ft/mph)	Rate of closure MEDIUM (> 20 and <= 40 knots)	2	2		
	Rate of closure HIGH (> 100 and <= 250 knots, > 1 000 and <= 2 000 ft/mph)	Rate of closure HIGH (> 40 and <= 80 knots)	4	4		
	Rate of closure VERY HIGH (> 250 knots, > 2 000 ft/mph)	Rate of closure VERY HIGH (> 80 knots)	5	5		

For the risk of collision, *either* ATM Ground *or* ATM Airborne severity should be scored, and not both ATM Ground and ATM Airborne. The ATM Airborne severity should be used only in cases where ATC is not responsible for providing separation is to be scored for events where ATM Ground contribution is None or Indirect (Aggravating). The ATM Ground severity is to be scored when the ATM Ground contribution is Direct (Causal) or Indirect (Contributing).

B. Controllability

The scoring for controllability should follow the same logic as in AMC5 Section B, with only a few exceptions, as follows:

- STCA is not appropriate for this encounter, hence it should be replaced by more general aerodrome ground safety nets, such as RIMCAS (Runway Incursion Monitoring and Collision Avoidance System (RIMCAS));
- Airborne Safety Nets (TCAS) is not normally available when Runway Incursions occur, therefore only pilot see-and-avoid action should be considered. Lack of see-and-avoid should be scored in the case of low visibility and IMC conditions.
- All other sections are identical with the previous scenario, with the exception of the Safety Nets where A-SMGCS (Advanced Surface Movement Guidance & Control System (A-SMGCS)) or RIMCAS should be considered, and the see-and-avoid part where driver action should also be taken into account, alongside that of the pilot.

The controllability score should be defined by the following aspects:

1. Conflict detection;
2. Planning;
3. Execution;
4. General ground safety nets; (e.g. A-SMGCS);
5. Recovery;



6. Airborne Safety Nets (see-and-avoid);
7. Pilot/driver execution of see-and-avoid.

The controllability scoring should be identical in all aspects with Section B of AMC5 SKPI.

C. Final scores

The final scoring should be identical in all aspects with Section C of AMC5 SKPI.

D. Reliability Factor

The Reliability Factor evaluation should be identical to the description in Section D of AMC5 SKPI.

E. ATM Ground performance

The ATM Ground (i.e. ANSP) performance is particularly important in case of complex events involving several ANSPs. This part of the assessment determines whether the 'Risk of Collision' values should be placed under ATM Ground or ATM Airborne in the marksheet. The following options are available for scoring the ATM Ground performance:

Direct (Causal)

Where at least one ATM Ground contribution was judged to be DIRECTLY in the causal chain of events leading to an incident. Without that ATM Ground contribution, it is considered that the occurrence would not have happened.

Indirect (Contributing)

Where no ATM Ground event was judged to be DIRECTLY in the causal chain of events leading to an incident, but where at least one ATM event contributed to the level of risk or played a role in the emergence of the occurrence encountered by the aircraft. Without such ATM Ground contribution, it is considered that the occurrence might still have happened.

Indirect (Aggravating)

Where no ATM Ground event was judged to be DIRECTLY in the causal chain of events leading to an incident, but where at least one ATM event increased the level of risk or worsened the occurrence encountered by the aircraft. Without such ATM Ground contribution, it is considered that the occurrence might still have happened.

None (No involvement)

When no ATM Ground contribution was judged to be either direct or indirect in the causal chain of events leading to an incident.

In such case, a State authority reporting the application of the RAT methodology via the Annual Summary Template (AST) mechanism shall map the ATM Ground severity of the event (N) against one of the categories given in Section F below.

Not assessed

Self-explanatory.

F. Severity Classification Scheme

The following Severity Classification Scheme is applicable for the following operational occurrences:

1. A — Serious incident

An incident involving circumstances indicating that an accident nearly occurred.



2. B — Major incident

An incident associated with the operation of an aircraft, in which safety of aircraft may have been compromised, having led to a near collision between aircraft, with ground or obstacles (i.e. safety margins not respected which is not the result of an ATC instruction).

3. C — Significant incident

An incident involving circumstances indicating that an accident, or a serious or major incident could have occurred if the risk had not been managed within safety margins, or if another aircraft had been in the vicinity.

4. E — No safety effect

An incident which has no safety effect.

5. D — Not determined

Insufficient information was available to determine the severity, or inconclusive or conflicting evidence precluded such determination (RF < 70 %).

AMC7 SKPI Severity classification based on the risk analysis tool methodology — Methodology for ATM-specific occurrences

A. Overview

The ATM-specific occurrences severity evaluation should be based on a combination of criteria. For each criterion, a number of options should be available.

The combination of the chosen options for each criterion should provide the severity of an ATM-specific occurrence.

The following criteria should be considered when determining the severity of an ATM-specific occurrence:

1. ~~Service affected~~ Entry Criteria;
2. Service/Function provided;
3. Operational function;
4. Type of failure;
5. ~~Extension~~ Service affected;
6. ~~Scope~~ Extension; and
7. ~~Duration~~ Scope.

B. Options for ATM-specific occurrences

The following options should be considered when evaluating each criterion in AMC7 SKPI Section A:

1. ~~Criterion 'Service affected' — the effect of the system failure should be assigned to one of the following services:~~
 - a. ~~(Upper) Area Control Centre — ATC service for controlled flights in a block of airspace;~~
 - b. ~~Approach Control — ATC service for arriving or departing controlled flights;~~
 - c. ~~Aerodrome Control — ATC service for aerodrome traffic;~~



- d. Oceanic Control — ATC service for controlled flights over the high seas; and
- e. Flight Information Service — service provided for the purpose of giving advice and information useful for the safe and efficient conduct of flights.

1. Criterion 'Entry Criteria' — a RAT score must be applied when the event being scored has **operational consequences**, defined as when:

a) ATC or pilot has to apply mitigating measures in order to restore or maintain safe operations as a result of the ATM-specific occurrence;

OR

b) it is determined that no such mitigating measures were available (i.e. no action possible);

OR

c) ATC or pilot concludes that mitigating measures were not required on this occasion due to the current operational conditions (e.g. favourable weather, low traffic levels, etc.);

OR

d) it is determined that ATC or pilot had been unknowingly operating with corrupt information.

There is no requirement to apply the RAT methodology for technical events where an operational function is not affected. However, when an operational function is affected but the event does not have any operational consequences, the severity should automatically be 'E' — No safety effect.

The following flow chart shows how to determine whether a technical failure should be scored as an ATM-specific event and classify its severity using the RAT methodology in accordance with the provisions of the performance scheme Regulation.



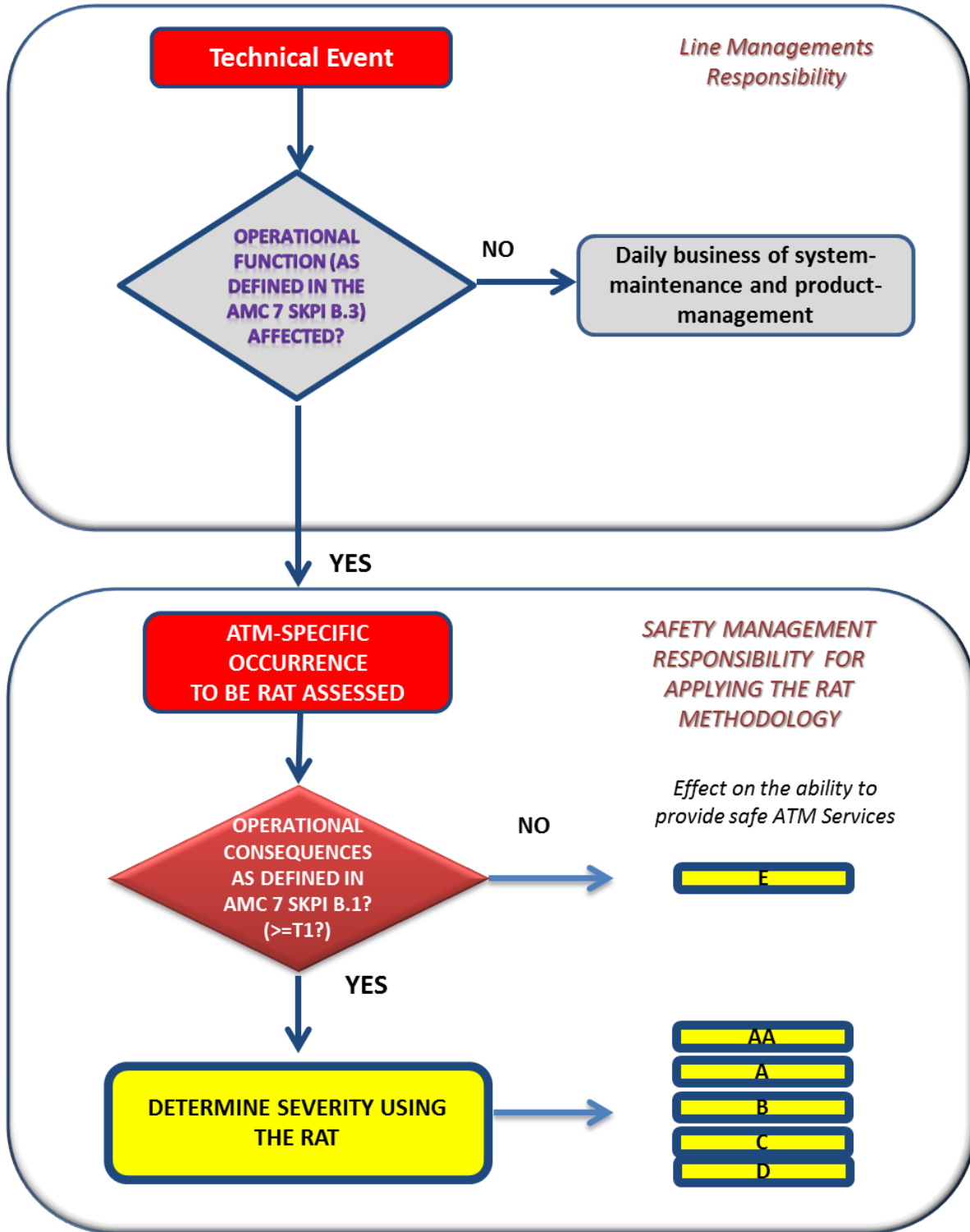


Figure 4: ATM-specific occurrences — Flow chart to determine RAT applicability

2. Criterion ‘Service/Function provided’ — the following options should be available for the Service/Function criterion:
 - a. Communication — aeronautical fixed and mobile services to enable ground-to-ground, air-to-ground and air-to-air communications for ATC purposes;

- b. Navigation — those facilities and services that provide aircraft with positioning and timing information;
 - c. Surveillance — those facilities and services used to determine the respective positions of aircraft to allow safe separation;
 - d. Air Traffic Services (ATS) supported by ATC automation — the various flight information services, alerting services, air traffic advisory services and ATC services (area, approach and aerodrome control services);
 - e. Airspace management — a planning function with the primary objective of maximising the utilisation of available airspace by dynamic time-sharing and, at times, the segregation of airspace among various categories of airspace users on the basis of short-term needs;
 - f. Air Traffic Flow and Capacity Management — the air traffic flow management is a function established with the objective of contributing to a safe, orderly and expeditious flow of air traffic by ensuring that ATC capacity is utilised to the maximum extent possible, and that the traffic volume is compatible with the capacities declared by the appropriate air traffic service providers; and
 - g. Information Service — a service established within the defined area of coverage responsible for the provision of aeronautical information and data necessary for the safety, regularity and efficiency of air navigation;
3. Criterion 'Operational function' — the selected option for the criterion 'Service/Function provided' should be considered when selecting the option for the criterion 'Operational function'. The following options should be available:
- a. For Communication services:
 - Air/G-ground communication — two-way communication between aircraft and stations or locations on the surface of the Earth;
 - Ground/G-ground communication — two-way communication between stations or locations on the surface of the Earth.
 - b. For Navigation service:
 - Navigation fFunction.
 - c. For Surveillance service:
 - Air sSurveillance — those facilities and services used to determine the respective positions of aircraft in the air to ensure safe separation;
 - Ground sSurveillance — those facilities and services used to determine the respective positions of aircraft on the ground to allow the detection of conflicts;
 - Surface mMovement gGuidance and cControl — a function providing routing, guidance and surveillance for the control of aircraft and vehicles in order to maintain the declared surface movement rate under all weather conditions within the aerodrome visibility operational level while maintaining the required level of safety.
 - d. For ATS supported by ATC automation:
 - Flight Plan—Information and surveillance processing — specified information provided to air traffic service units, relative to an intended flight or portion of a flight of an aircraft;



- ~~Flight Information and Alert provision of Flight Information (e.g. last position in support to alerting services);~~
 - ~~Ops Operations rRoom mManagement cCapability~~ — the functions which enables to combine/split sectors, assign roles on controllers working position;
 - ~~Decision-mMaking sSupport tTools~~ — such as ~~mMedium-tTerm cConflict dDetection, aArrival/dDeparture mManager, cCollaborative dDecision-mMaking;~~ and
 - ~~Safety nNets~~ — a (ground-based) safety net is a functionality within the ATM system that is assigned by the ANSP with the sole purpose of monitoring the environment of operations in order to provide timely alerts of an increased risk to flight safety which may include resolution advice.
- e. For Airspace Management:
- ~~Real-tTime aAirspace eEnvironment~~ — the display on the executive air traffic controller Controllers Working Position of the entire airspace configuration at a given time (e.g. restricted/danger areas).
- f. For Air Traffic Flow and Capacity Management:
- ~~Tactical & Real Time~~ — the function that provides traffic prediction, flow monitoring and warning.
- g. For Support Information Services:
- ~~Aeronautical Information~~ — provision of aeronautical information and data necessary for the safety, regularity and efficiency of air navigation;
 - ~~Meteorological Information~~ — meteorological report, analysis, forecast and any other statement relating to existing or expected meteorological conditions.
4. Criterion 'Type of failure' — the following options should be available for the 'Type of failure' criterion:
- a. Total loss of service/function — the service/function is not available to the controller or pilot;
 - b. Partial loss of service/function — not all of the service/function is ~~is~~ available to ATC or pilot (e.g. loss of one or several sub-functions);
 - c. Redundancy reduction — loss of a technical backup. There are fewer technical ways to provide the service/function;
 - d. Undetected corruption of service/function — data presented is incorrect but is not detected and used as being correct — if the corruption is detected, it means the function will have to be removed totally (total loss of function) or partially (partial loss of function);
 - e. Loss of supervision¹⁰ — unable to control or monitor the function. If this means that the main function has to be removed, then this would be a total loss;
 - f. Corruption of supervision¹⁰ — undetected corruption of supervision. It has no impact unless a second action takes place. If left alone, there will be no impact. If an operator does something in response to an incorrect indication, then a different type of failure could occur.

¹⁰ These types of failures shall not be scored in the framework of the performance scheme Regulation and not reported via the Annual Summary Template.



5. ~~Criterion 'Extension' — the physical extension of the failure should be categorised as one of the following options:~~
- ~~a. ~~Controller Working Position — one Controller Working Position (CWP);~~~~
 - ~~b. ~~Sector suite — a set of CWPs which work together to control a sector(s);~~~~
 - ~~c. ~~Multiple suites — self-explanatory;~~~~
 - ~~d. ~~Unit — as applicable, the entire ACC/UAC/APP operations room, the whole Tower, etc.~~~~
5. Criterion 'Service affected' — the effect of the system failure should be assigned to one of the following services:
- a. (Upper) Area Control Centre — ATC service for controlled flights in a block of airspace;
 - b. Approach Control — ATC service for arriving or departing controlled flights;
 - c. Aerodrome Control — ATC service for aerodrome traffic;
 - d. Oceanic Control — ATC service for controlled flights over the high seas;
 - e. Flight Information Service — service provided for the purpose of giving advice and information useful for the safe and efficient conduct of flights.
6. ~~Criterion 'Scope' — the operational scope of the effect should be classified as one of the following options:~~
- ~~a. ~~One — one frequency, one aircraft as applicable;~~~~
 - ~~b. ~~Some — as applicable more than one frequency, more than one a/c, etc., and less than all;~~~~
 - ~~c. ~~All — all frequencies, all aircraft as applicable.~~~~
6. Criterion 'Extension' — the physical extension of the failure should be categorised as one of the following options:
- a. Controller Working Position (CWP) — one (CWP);
 - b. Sector suite — a set of CWPs which work together to control a sector(s);
 - c. Multiple suites — self-explanatory;
 - d. Unit — as applicable, the entire ACC/UAC/APP operations room, the whole tower, etc.
7. ~~Criterion 'Duration' — T1 is the time interval between the initiation of the technical event and the moment when it triggers actual or potential operational consequences either for the air traffic controller (ATCO) or the pilot.~~
- ~~e. ~~Duration less than T1 — this option should be chosen when the technical failure did not last long enough to trigger actual or potential operational consequences on the air traffic controller or the pilot. In such a case the severity of the ATM-specific occurrence should have no impact on the air traffic services and should be classified with severity E. Consequently, there is no need for the user to further apply the RAT methodology for this technical failure (just record the severity E);~~~~



- f. Duration greater than or equal to T1 — this option should be selected when the technical failure lasted longer than or equally to T1 and triggered actual or potential operational consequences on the air traffic controller or the pilot.
- 7. Criterion ‘Scope’ — the operational scope of the effect should be classified as one of the following options:
 - a. One — one frequency-ATCO-pilot communication, one aircraft, as applicable;
 - b. Some — as applicable, more than one frequency-ATCO-pilot communication, more than one aircraft, etc., and less than all;
 - c. All — all frequencies-ATCO-pilot communication(s), all aircraft, as applicable.

C. Severity

(...)

GM11 SKPI Severity classification based on the risk analysis tool methodology — Methodology for ATM-specific occurrences

A. Examples of some criteria for evaluating ATM-specific occurrences

Criterion ‘type of failure’

(...)

Figure 45 — Total loss and redundancy reduction in air-ground communication

Criterion ‘extension’

(...)

Figure 56 — ATC unit, sectors and suites

Criterion ‘Scope’

The table below gives an indication of what ‘one/some/all’ represents for different operational functions (criterion ‘scope’).

Services	Operational functions	Scope (how many ... were impacted)
Communication	Air/G-ground Communication	Communication(s) ATCO/pPilot
Communication	Ground/G-ground Communication	Communication(s) ATCO/ATCO
Navigation	Navigation	Pilots(s)
Surveillance	Air Surveillance	Displayed Radar Track(s)
Surveillance	Ground Surveillance	Displayed Radar Track(s)
Surveillance	Surface Movement Guidance and Control	Aircraft(s)/Vehicle(s)
ATS supported by ATC automation	Flight and Surveillance Processing	Flight Plans(s)
ATS supported by ATC automation	OPS Room Management	N/A (extension should be sufficient)
ATS supported by ATC automation	Decision-Making Support	Flight(s)



ATS supported by ATC automation	Safety Nets	Conflict(s)
ATS supported by ATC automation	Real-Time Airspace Environment	Route(s), Area(s), ...
Air Traffic Flow Capacity Management	Tactical & Real Time	Flight(s)
Information Services	Aeronautical Information	Information Type(s)
Information Services	Meteorological Information	Information Type(s)

Criterion 'Duration'

When criterion 'Duration' is evaluated, T1 should be used for separating technical glitches with no operational consequences from failures that impact the ANSP ability to provide ATM services.

Some of the values of T1 may be predefined, for example when they are part of the SLA between the technical and operational units (departments) or when they are part of the ATS unit safety case. When the value of T1 is predefined by the ANSP, it should be done based on inputs provided by the ATCOs and/or pilots. Alternatively, if a T1 is not predefined at the moment of the investigation, the evaluation of the 'duration' criterion may be done by determining if a particular occurrence/failure triggered actual or potential operational consequences (the criterion should be scored greater than or equal to T1).

This value cannot be established at European level as it is dependent on the functionalities of the ATM provider's system architecture, airspace complexity, traffic load and concept of operations. When choosing the option 'less than T1' or 'greater than or equal to T1' there is no need to know exactly the duration of the event but whether it has a potential or real operational impact, i.e. is greater, or not, than the T1 value established locally.

Typical examples of operational impact where 'Duration' is greater than or equal to T1:

- ATC/Pilot had to do something different;
- ATC/Pilot is presented with incorrect, reduced or no information;
- Workload increase;
- Capacity reduction;
- Reduced ability to provide safe services;
- ATCO can no longer cope with the situation.

Criterion 'Entry Criteria'

In order to ease the understanding of operational consequences, the following four scenarios complemented by examples, illustrate the ATM/ANS system both in a steady state and in failure modes.

It is acknowledged that 'redundancy reduction' and 'loss/partial loss/corruption of supervision' are types of technical events that do not qualify for an ATM-specific occurrence and, therefore, their severity should not be assessed using the RAT methodology in the framework of Regulation (EU) No 390/2013 (the performance scheme Regulation).

— Steady state of the technical system (no failure)

The chart below illustrates a steady state where the ATM system delivers all operational functions as expected.



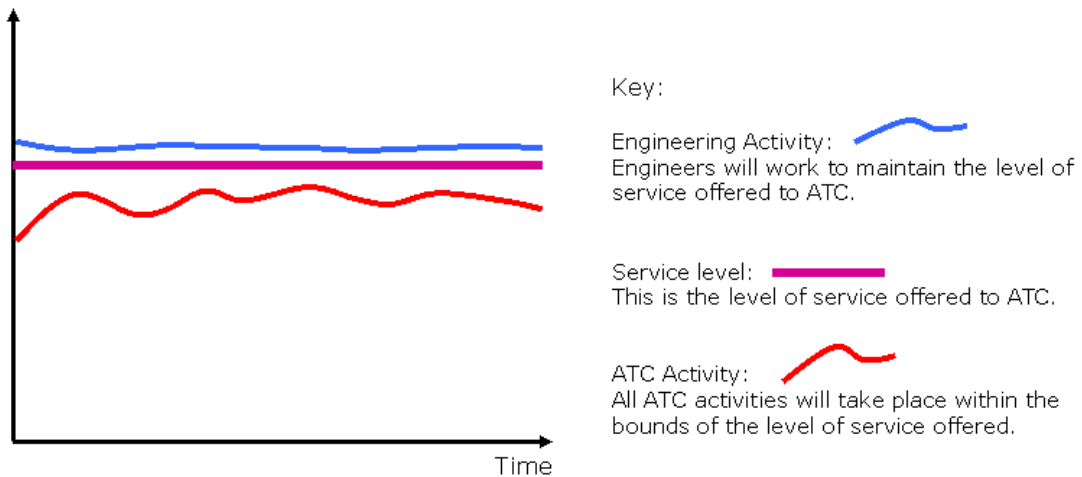


Figure 7: ATM-specific occurrences — ATM system in a steady state

— **ATM specific technical event with a potential or real operational impact. Scenario A: ATC or pilot has to apply mitigating measures in order to restore or maintain safe operations as a result of the ATM-specific occurrence.**

Example 1: Technical event with an immediate operational consequence.

The chart below provides the occurrence timeline in case of a total failure of an operational function. In the given example the failure has an operational impact on the ability to provide ATM services (this could be the case in a total failure of the air-ground communication function, or total failure of surveillance function; see examples 1 and 3 below).

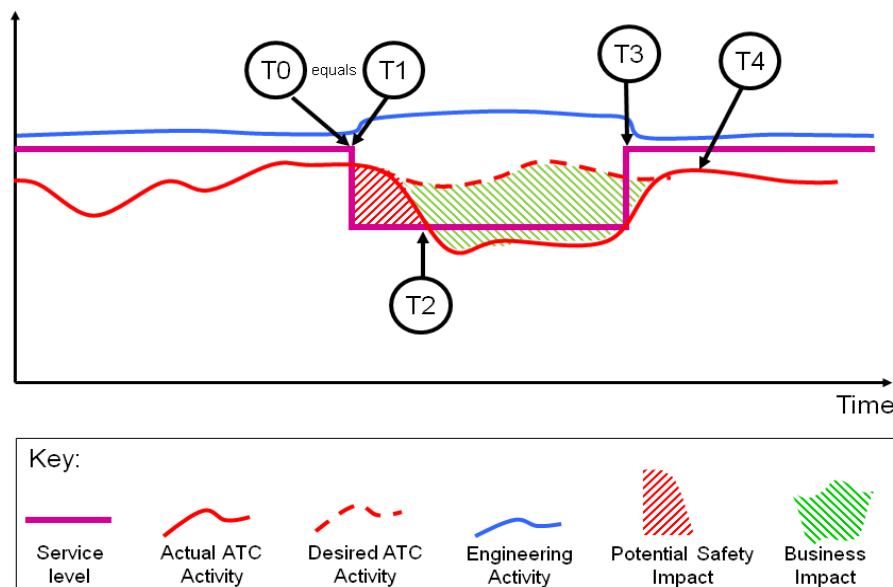


Figure 8: ATM-specific occurrences — Immediate operational consequence

The following moments are depicted on the timeline of the occurrence:

- T0 Technical event commences. This could be a total or partial loss of service.
- T1 Technical event triggers operational consequences on ATCO or pilot immediately and requires a RAT score higher than E.
- T1 to T2 Potential safety impact on ATC or pilot.
- T2 ATC or pilot now is operating with reduced but safe level of service.
- T3 The technical event finishes.
- T2 to T4 Business effect on ATC or pilot (e.g. regulations applied).
- T4 ATC/pilot returns to the desired level of activity.

ATM specific technical event with a potential or real operational impact

The chart below provides the occurrence timeline in case of a total failure of an operational function. In the given example the failure has an operational impact on the ability to provide ATM services (this could be the case in a total failure of the air-ground communication function, total failure of surveillance function; see examples 1 and 3 below).

Example 2: Technical event with a delayed operational consequence.

The chart below provides the occurrence timeline in case of a failure which, after a period of time, results in an operational consequence.

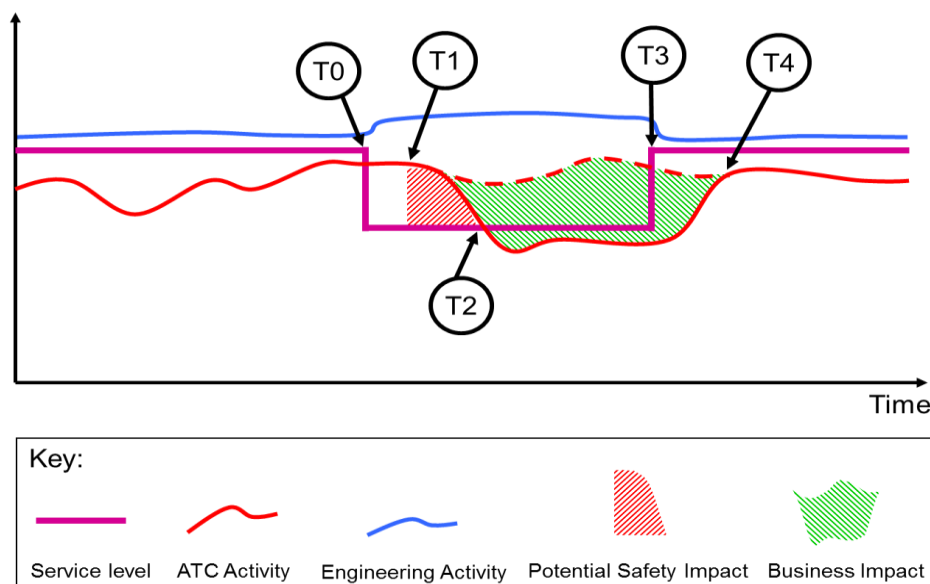


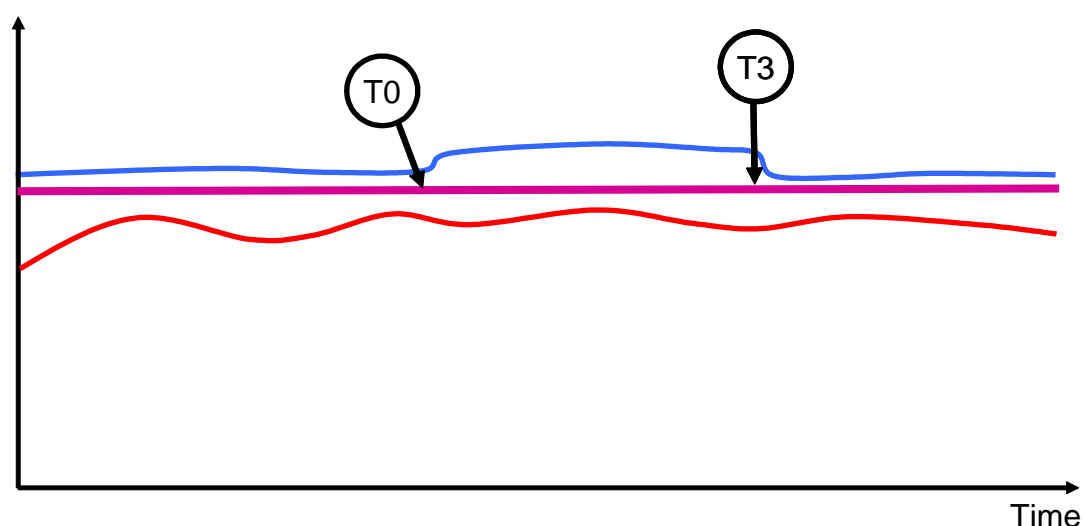
Figure 9: ATM-specific occurrences — Delayed operational consequence

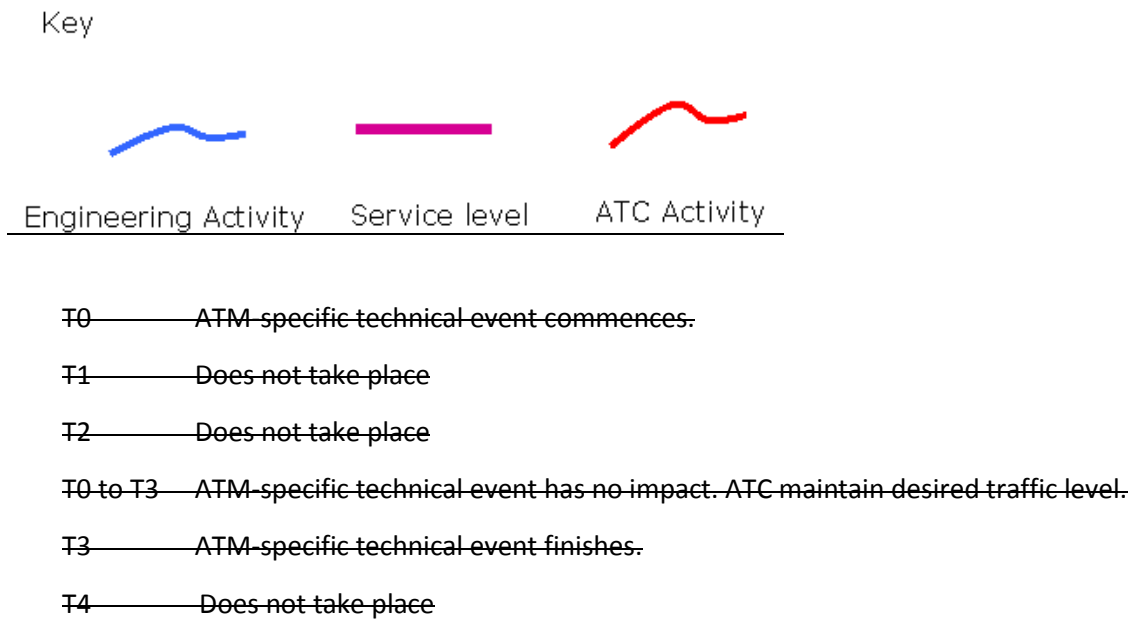
The following moments are depicted on the time-line of the occurrence:

- T0 ~~ATM-specific technical event~~ Technical event commences. This could be a total or partial loss of service.
- T0 to T1 ~~ATM-specific technical event has no operational impact as the ATC maintain desired traffic level~~ ATC or pilot have no visibility of the event, or deal with it with no operational consequences.
- T1 ~~ATM-specific technical event triggers operational consequences on ATC controller or pilot~~ ATC or pilot can no longer tolerate the technical event. Operational consequences commence. At this point the event becomes an ATM-specific occurrence and requires a RAT score higher than E.
- T1 to T2 Potential safety impact on ATC or pilot.
- T2 ATC or pilot now is operating with reduced but safe level of service.
- T3 ~~The ATM-specific technical event~~ The technical event finishes.
- T1 to T4 Business effect on ATC or Pilot (e.g. regulations applied).
- T4 ATC returns to the desired traffic levels.

Redundancy reduction

~~The chart below illustrates the occurrence timeline in the case of a redundancy reduction, Corrupted Supervision or Loss of Supervision where ATC or Pilot need to act differently, resulting in an Operational Consequence.~~





— **Scenario B: It is determined that no such mitigating measures were available (i.e. no action possible).**

Example 3: Technical event has operational consequences, but ATC or pilot have no mitigating measures available.

The chart below illustrates a technical event which engineering, ATC and pilot are aware of but are unable to mitigate.

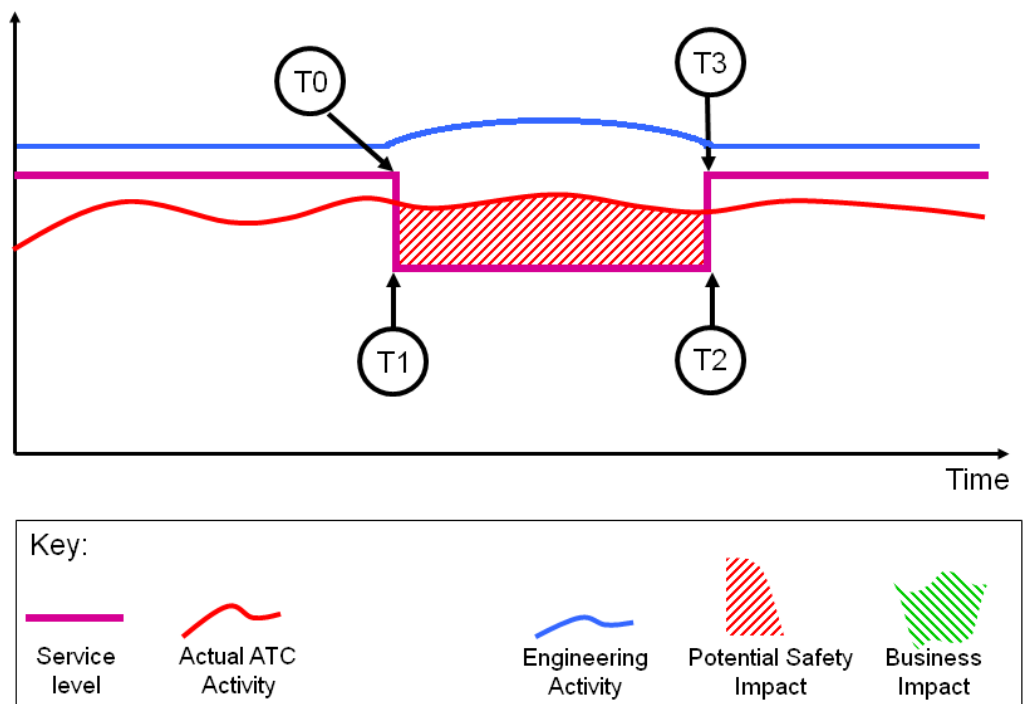


Figure 10: ATM-specific occurrences — Operational consequences with no mitigation

The following moments are depicted on the timeline of the occurrence:

- T0 Technical event commences.
- T1 ATC and pilot operate with no mitigation. A RAT score higher than E is required.
- T1 to T2 Potential safety impact on ATC or pilot.
- T3 The ATM-specific technical event finishes.

— **Scenario C: ATC or pilot concludes that mitigating measures were not required on this occasion due to the current operational conditions (e.g. favourable weather, low traffic levels, etc.).**

Example 4: Failure with no operational consequence at the time.

The chart below illustrates the occurrence timeline in the case of a failure where ATC or pilot concludes that mitigating measures were not required on this occasion due to the current operational conditions (e.g. favourable weather, low traffic levels, etc.).

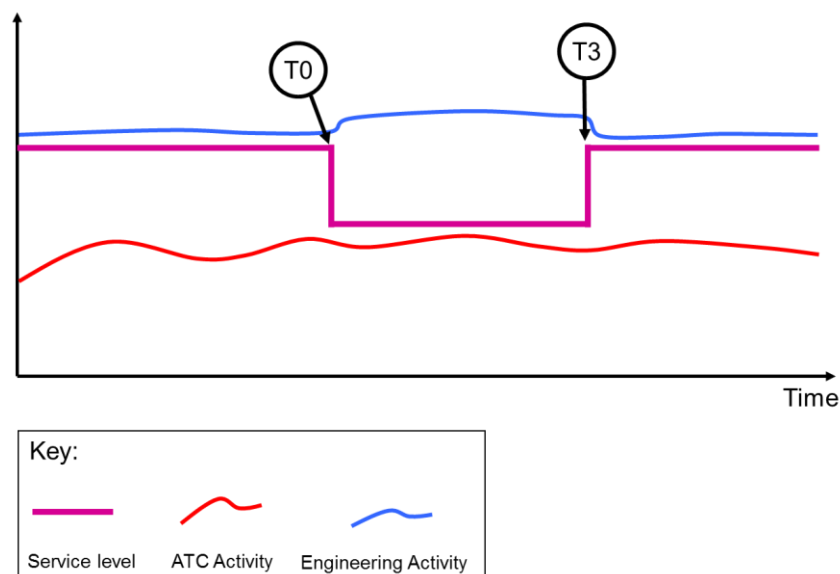


Figure 11: ATM-specific occurrences — Failure with no operational consequence at the time

The following moments are depicted on the timeline of the occurrence:

- T0 Technical event commences.
- T1 Does not take place because the desired level of activity can be maintained.
- T2 Does not take place.
- T0 to T3 Although the technical event has no operational consequence at the time, a RAT score higher than E is required because there would be consequences under other operational conditions.
- T3 Technical occurrence finishes.
- T4 Does not take place.

— **Scenario D: It is determined that ATC or pilot had been unknowingly operating with corrupt information.**

Example 5: Technical event provides misleading information.

The chart below illustrates a technical event which is at the time unknown to engineering, ATC or pilot, and provides corrupt information to ATC or pilot which they believe to be correct.

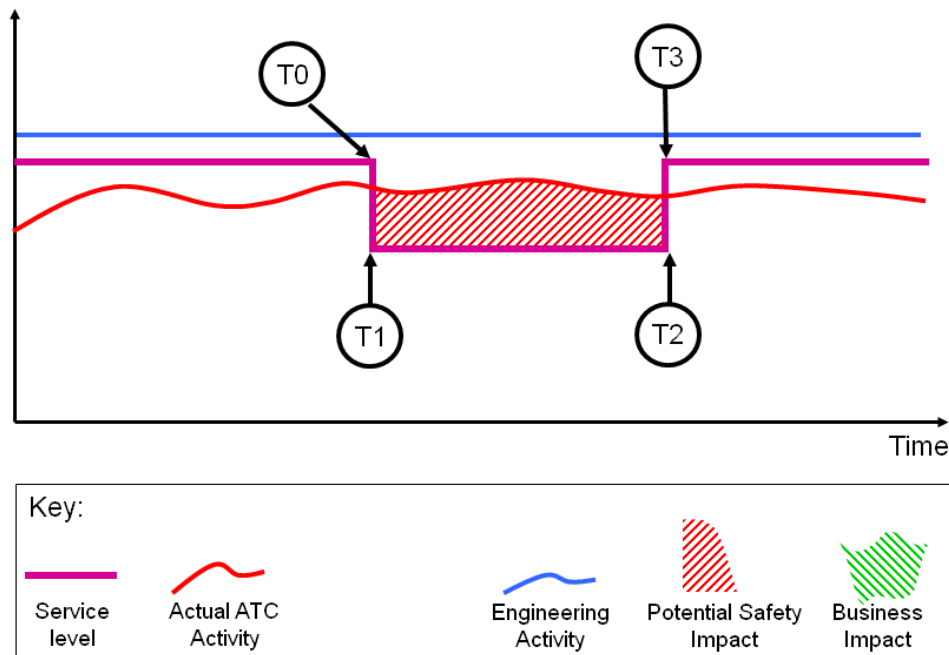


Figure 12: ATM-specific occurrences — Operating with corrupt information

The following moments are depicted on the timeline of the occurrence:

- T0 Technical event commences.
- T1 ATC or pilot operate unaware of the misleading information being provided. A RAT score higher than E is required.
- T1 to T2 Potential safety impact on ATC or pilot.
- T3 The ATM-specific technical event finishes.

B. Look-up table

(...)

Figure 613—: Extract of look-up table in Appendix 1 to GM11 SKPI

C. Examples for ATM-specific occurrences

In some cases the time at which operational consequences are encountered are predetermined by the ANSP in their safety cases. This aligns to T1 as described in the charts above.

Example 1

All communications with aircraft were lost in the sector South in the ACC X. The failure lasted 1 min 12 sec.

The service provided was 'cCommunication'. As the communication was lost with the aircraft, the operational function affected is 'aAir-gGround cCommunication'.

No communication with the aircraft in the sector was possible during that time; therefore, the type of failure is 'Total loss of function'. Service affected is 'Area Control Centre'. The sector South was only ACC sector affected by the failure. As such, the extension is 'Sector Suite'. In this case the communication with all aircraft in the sector was lost and therefore the scope is 'All'.

In ACC x, the time at which the operational consequences occur, i.e. T1 on the charts above, is predefined for the total loss of air-ground communication function as being T1 = 20 seconds.

In the ACC x, the T1 is predefined for Total loss of Air-Ground communication function as being T1 = 20 seconds.

As the total duration of failure is 1 min 12 sec, the duration is higher than T1 and, therefore, the RAT look-up table may be used.

For these selected options, the corresponding combination in the look-up table is as follows:

Code	Service aAffected	Services	Operational functions	Type of failure	Extension	Scope	Duration	T1	Severity
AR-AGC/120	Area control services	Communication	Air-Ground communication	Total loss of function	Sector suite	All	> T1	~20 s	A

Therefore, the sSeverity for the failure in Example 1 is 'A — Serious inability to provide safe ATM services'.

Example 2

~~Due to telecom failure there is loss of redundancy of some frequencies affecting several sectors in APP Z. There were two such occurrences at APP Z: one on day D which lasted 5 minutes and the other on day D+2 which lasted two hours.~~

~~The service provided was 'communication'. As the redundancy is for radio communication with the aircraft, the operational function affected is 'air-ground communication'.~~

~~The type of failure is 'redundancy reduction' and affects several sectors and several frequencies; therefore, the extension is 'multiple suites' and scope 'some'.~~

~~In the APP Z, the local procedure requires that in case of loss of back up frequencies (i.e. redundancies), capacity limitations are put in place after 30 minutes, which is our T1.~~



Therefore, duration of the failure on day D is less than T1 is directly classified as 'E — No effect on ATM services' and there is no need to use the look-up table.

For the failure on day D+2 the duration is greater than or equal to T1 and therefore. The look-up table might be used and the corresponding combination is:

Code	Service Affected	Services	Operational functions	Type of failure	Extension	Scope	Duration	T1	Severity
AR-AGC/120	Area control services	Communication	Air/Ground communication	Total loss of function	Sector suite	All	>T1	~20s	A

Therefore the severity for the failure in Example 2 on day D+2 is 'C — Ability to provide safe but degraded ATM services'.

Example 23

Total failure of the radar data processing system (normal and back-up) in an ACC (duration 2 minutes).

Service affected = Area control services.

The service is 'surveillance' and the operational function is 'air surveillance in the area control services'. It is a total loss of function which extends to the whole unit and affects all targets.

For the combination above, T1 is set to ~ 40s, therefore, Duration is > T1 and, therefore, the look-up table might be used and the corresponding combination is:

There is no predetermined T1 time for this failure at this particular ACC; however, operational consequences were encountered as defined above. Therefore, the look-up table might be used and the corresponding combination is as follows:

Code	Service affected	Services	Operational functions	Type of failure	Extension	Scope	Duration	T1	Severity
AP-AGC/31	Approach control services	Communication	Air/Ground communication	Redundancy reduction	Multiple suites	Some	>T1	180-5	€

Code	Service affected	Services	Operational functions	Type of failure	Extension	Scope	Duration	T1	Severity
AR-ASV/100	Area control services	Surveillance	Air surveillance	Total loss of function	Unit	All	> T1	Not specified	A

Therefore, the Severity for the failure in Example 2 is 'A — Serious inability to provide safe ATM services'.



AMC8 SKPI RAT methodology — Monitoring mechanism

The Member States' points of contact, established in accordance with ~~Directive 2003/42/EC~~ Regulation (EU) No 376/2014¹¹ and ~~Commission Regulation (EC) No 1330/2007~~, should collect verified information regarding the application of the RAT methodology for the reported occurrences within the scope of Commission Regulation (EU) No ~~691/2010~~390/2013 as amended by Regulation (EU) No ~~1216/2011~~.

When the Member States report on the monitoring of the performance plans and targets in accordance with Article ~~17~~18 of Commission Regulation (EU) No ~~691/2010~~390/2013, they should report the percentage of occurrences the severity of which has been evaluated by the application of the RAT methodology.

For the application of the severity classification on an individual basis for all occurrences within the scope of the Regulation, Member States should provide the data by making use of existing safety data reporting mechanisms, that is, either the European Central Repository and/or the Annual Summary Template (AST) mechanism, with enhancements where needed.

¹¹ Regulation (EU) No 376/2014 of the European Parliament and of the Council of 3 April 2014 on the reporting, analysis and follow-up of occurrences in civil aviation, amending Regulation (EU) No 996/2010 of the European Parliament and of the Council and repealing Directive 2003/42/EC of the European Parliament and of the Council and Commission Regulations (EC) No 1321/2007 and (EC) No 1330/2007 (OJ L 122, 24.4.2014, p. 18).



4. Regulatory impact assessment (RIA)

4.1. Issues to be addressed

The performance scheme for air navigation services and network functions (Commission Implementing Regulation (EU) No 390/2013) sets out a series of S(K)PIs and associated targets to be met by Member States and ANSPs. The scheme is divided into 'reference periods', with the current reference period (i.e. 'RP2') running from 2015 until 2019.

One S(K)PI is the requirement to classify the severity of RIs, SMIs and ATM-specific (technical) occurrences using the RAT methodology.

The tool has been developed by EUROCONTROL and is maintained and updated by the RAT UG. However, it is also captured within the AMC and GM associated with the implementation of the ATM performance scheme.

The Agency's AMC/GM on the RAT methodology have to be updated to stay aligned with the latest developments of the RAT UG. It has to be noted that the objective of the proposed changes is not to modify the methodology and the related AMC, but to further explain the scoring criteria in order to achieve better harmonisation among users.

In addition, the criteria for separating technical failures from those that qualify as ATM-specific occurrences have been better explained in order to make sure that Member States with similar traffic levels will report consistent numbers of such occurrences. To determine whether the change has an impact on the performance targets to be met by the Member States in RP2 (2015–2019), the impact of the change has been assessed on two stakeholders of different size and complexity.

The ATM/ANS TAG identified this inconsistency and advised the Agency to align its AMC/GM with the latest developments of the RAT methodology.

Therefore, a rulemaking task has been initiated for the maintenance of the AMC/GM to the performance scheme Regulation to align the methodology and the current Agency's AMC/GM on the use of the RAT methodology to be applied by all Member States during RP2.

In doing so, this NPA aims to ensure that all stakeholders which are within the scope of the performance scheme are consulted regarding the proposed changes, and that they are all aware of any changes that will be subsequently implemented.

4.1.1. Safety risk assessment

The objective of the proposed amendment is to clarify and improve the guidance on the severity classification of ATM-related occurrences (SMIs, RIs, and ATM-specific occurrences) using the RAT methodology in accordance with the provisions of the performance scheme Regulation.

With respect to the operational occurrences, this RIA concludes that there is no risk as the proposed changes do not affect the scoring principles but provide users with more granularity on the criteria that could only be beneficial for achieving harmonisation among them.

The clarification of these criteria will facilitate a better identification of this type of occurrence and will ensure a more harmonised scoring among users. Changes to the criteria of what should be categorised



as ‘ATM-specific occurrence’ means that there is a potential reduction of the number of ATM-specific occurrences improving the quality of the data.

4.1.2. Who is affected?

ANSPs and competent authorities that fall within the scope of Regulation (EU) No 390/2013, and in particular the parts of these organisations that are responsible for the application of severity classification via the RAT methodology.

4.1.3. How could the issue/problem evolve?

If no action is taken at this stage, the differences between the AMC/GM (with reference to severity classification using the RAT methodology) and the current practices as agreed upon by the RAT UG (and documented in the associated RAT Guidance Material) will remain. Considering that the proposed changes are designed to harmonise occurrence reporting, any failure to fully implement those changes in the AMC/GM will result in further reporting differences inconsistently as some reporters will apply the RAT UG guidance while others will apply the Agency’s AMC/GM.

4.2. Objectives

The objective of this NPA is to amend the AMC/GM of ED Decision 2014/035/R in order to rectify discrepancies that may prevent stakeholders from meeting the agreed targets of the ATM performance scheme.

4.3. Policy options

The options are to either ignore the discrepancies between the AMC/ GM and the RAT UG document or to incorporate the changes into the AMC/GM.

Any amendment to the Agency’s rules implies a transparent and thorough consultation process. In this particular case, it is fully justified because of the impact on the performance scheme and the targeted S(K)PI. Incorporation of the changes cannot be done by simply accepting the proposed changes from the RAT UG and updating the AMC/GM.

Although the RAT UG has a broad membership (e.g. the FAA), it is not the same as the stakeholders falling within the scope of the performance scheme. Therefore, because these stakeholders will have to adopt the changed methodology, with legally binding targets, the Agency recommends that the AMC/GM be harmonised, incorporating the relevant changes proposed by stakeholders.

4.4. Methodology and data

4.4.1. Applied methodology

Regarding the AMC/GM on the application of the RAT methodology to SMIs and RIs, the changes proposed are editorial refinements of the current wording and are designed to achieve a more harmonised scoring of those occurrences among users.

This takes into account the experience gained in scoring those occurrences during RP1, and also documents some scoring practices that were not clearly explained in the current version of the methodology. Therefore, for these types of occurrences no data comparison was made as there was no risk identified in Section 4.1.1 above.



Regarding the methodology for the ATM-specific occurrences, the proposed changes are more fundamental (e.g. introduction of the 'entry criteria' to take into account the new examples and scenarios for separating ATM-specific occurrences from other technical failures); however, these changes have been found to have no impact on the outcome of the RAT S(K)PI.

Safety data was collected from two Member States to address the safety risk identified in Section 4.1.1 above. The sample collected concerned the evolution of the number and severity of the ATM-specific occurrences reported by two Member States in a given month of 2014 when considering both the old and the revised entry criteria.

4.4.2. Data collection

To substantiate the lack of impact that the amended guidance has on the severity allocation, data on the ATM-specific occurrences' severity classified with the RAT methodology in 2014 was collected.

State 1: Large and complex from the aviation system prospective — several ANSPs

ATM-specific occurrences reported in March 2014 considering the existing entry criteria:

- Total number of ATM-specific occurrences reported and RAT analysed: 23.

Severity of the reported events:

- Ability to provide safe but degraded ATM services (C): 3,
- No effect on the ATM services (E): 20.

Taking into account the entry criteria in the proposed amendment, the same number of occurrences and severities would be reported, hence no change to the targets for RP2.

State 2: Small and less complex from the aviation system prospective — one ANSP

ATM-specific occurrences reported in November 2014

Filing #	Occurrence #	Date	RAT score	RAT score (revised)	T1
66	DPR105	5 Nov	E5	E5	>
62	DPR107	6 Nov	E4	E4	>
63	SUR110	11 Nov	C5	C5	>
75	SUR112	14 Nov	C5	C5	>
73	NAV116	25 Nov	E5	E5	<

Taking into account the entry criteria in the proposed amendment, the same number of occurrences and severities would be reported, hence no change to the targets for RP2.



4.5. Analysis of the impacts

As it has been already identified in the previous sections of the RIA, the proposed changes do not affect the RAT methodology itself, thus posing no risk to the users especially with regard to the targets established for RP2 for the severity assessment of the reported SMIs and RIs.

The possible impact on ATM-specific occurrences has been analysed and based on the collected data received from two Member States it was concluded that there is no safety risk associated with the change of the entry criteria.

The objective of the changes is to harmonise the classification of occurrences across Member States; however, in order to ensure consistent occurrence reporting within each year of the ATM performance scheme, it is proposed that they be implemented as of 1 January 2016.

4.5.1. Safety impact

The proposed amendment is not expected to have a safety effect and ensures a better harmonisation with regard to scoring the severity of the same type of ATM-related occurrences among users.

It helps users to better understand how the scoring criteria shall be interpreted and documents some of the practices that had been standardised during RP1.

The potential reduction of the number of ATM-specific occurrences classified as such has been addressed in the previous sections. Based on the sample of data received from two Member States, it was concluded that there is no likely impact on safety.

4.5.2. Environmental impact

Nil.

4.5.3. Social impact

Nil.

4.5.4. Economic impact

The proposed changes will reduce administrative burden and help avoid an unnecessary increase in workload for stakeholders that would result from maintaining discrepancies between the AMC/GM and the RAT UG guidance.

4.5.5. General Aviation and proportionality issues

Nil.

4.5.6. Impact on 'better regulation' and harmonisation

The objective of the changes is to harmonise the AMC/GM with the RAT UG guidance. This activity cannot be performed at State level and does not affect ICAO obligations nor third-country requirements.



4.6. Comparison and conclusion

4.6.1. Comparison of options

The options are to either ignore the discrepancies between the AMC/GM and the RAT UG document or to incorporate the changes into the Agency's AMC/GM. It has to be noted that due to the consultation process, the Agency cannot simply accept the proposed changes from the RAT UG document and update the AMC/GM without consulting its stakeholders. Because of the impact on the performance scheme and the targeted S(K)PI, the Agency has to consult its stakeholders on the changes proposed by the RAT UG document. Although the RAT UG has a broad membership, it is not the same as the stakeholders falling within the scope of the performance scheme. Therefore, since these stakeholders will have to adopt the changed methodology, with legally binding targets, the Agency recommends that the AMC/GM be harmonised, incorporating the relevant changes proposed by stakeholders.

4.6.2. Monitoring and ex post evaluation

The Agency will consult its stakeholders via the usual coordination processes for the performance scheme in order to monitor the implementation of the updated AMC/GM over the course of 2016. Changes to the severity classification criteria can be measured to a certain extent via comparison of occurrence reporting of the RAT S(K)PI in 2015 and 2016.



5. References

5.1. Affected regulations

N/A

5.2. Affected CS, AMC and GM

- ED Decision 2014/035/R of 16 December 2014 of the Executive Director of the Agency adopting Acceptable Means of Compliance and Guidance Material for point 1 of Section 2 of Annex I to Regulation (EU) No 390/2013 and repealing Decision 2011/017/R of the Executive Director of the Agency of 16 December 2011

5.3. Reference documents

- Commission Implementing Regulation (EU) No 390/2013 of 3 May 2013 laying down a performance scheme for air navigation services and network functions (OJ L 128, 9.5.2013, p. 1)
- Regulation (EU) No 376/2014 on the reporting, analysis and follow-up of occurrences in civil aviation, amending Regulation (EU) No 996/2010 of the European Parliament and of the Council and repealing Directive 2003/42/EC of the European Parliament and of the Council and Commission Regulations (EC) No 1321/2007 and (EC) No 1330/2007 (OJ L 122, 24.4.2014, p. 18)
- NPA 2013-08 'Requirements for ATM/ANS providers and the safety oversight thereof'



6. Appendices

N/A

