



Opinion No 05/2013

Sterile flight deck procedures

RELATED NPA/CRD: 2012-06 — RMT.0416 (OPS.009(A)) AND RMT.0417 (OPS.009(B)) — 10/06/2013

EXECUTIVE SUMMARY

This Opinion addresses a safety issue related to flight deck procedures. The safety recommendations linked to this issue were assessed during the development of this proposal.

The specific objective of this Opinion is to mitigate the risks linked to errors due to disturbance or distraction of the flight crew during phases of flight where the flight crew must be able to focus on their duties.

This Opinion proposes to introduce the concept of a sterile flight deck, to consider the taxi phase of aeroplanes as a safety-critical activity, and to introduce procedures for taxiing to enhance runway safety.

The proposed changes are expected to increase safety during critical phases of flight (for helicopters per definition this includes taxiing), for aeroplanes during taxiing, and for flight below 10 000 feet, except cruise flight. With the proposed changes, ICAO compliance is ensured.

Applicability		Process map	
Affected regulations and decisions:	Commission Regulation (EU) No 965/2012, Decisions 2012/017/R and Decision 2012/018/R	Concept Paper:	No
		Terms of Reference:	12/09/2011
		Rulemaking group:	Yes
		RIA type:	Light
		Technical consultation during NPA drafting:	No
		Publication date of the NPA:	11/07/2012
		Duration of NPA consultation:	3 months
		Review group:	No
Affected stakeholders:	Operators	Publication date of the CRD:	13/02/2013
Driver/origin:	Safety	Review group:	No
Reference:	N/A	Focussed consultation:	No
		Publication date of the Decision:	2015/Q3

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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 Opinion in line with Regulation (EC) No 216/2008 (hereinafter referred to as the 'Basic Regulation')¹ and the Rulemaking Procedure².

This rulemaking activity is included in the Agency's Rulemaking Programme for 2012 – 2015 under RMT.0416 (OPS.009(a)) and RMT.0417 (OPS.009(b)). The scope and timescale of the task was defined in the related Terms of Reference (see process map on the title page).

The draft text of this Opinion has been developed by the Agency supported by the Rulemaking Group RMT.0416 (OPS.009(a)) and RMT.0417 (OPS.009(b)). All interested parties were consulted through the Notice of Proposed Amendment (NPA) 2012-06³. 134 comments were received from interested parties, including industry and National Aviation Authorities.

The Agency has addressed and responded to the comments received on the NPA. The comments received and the Agency's responses are documented in the Comment-Response Document (CRD) 2012-06⁴.

The final text of this Opinion (i.e. Explanatory Note and draft Regulation) has been developed by the Agency.

The process map on the title page summarises the major milestones of this rulemaking activity.

1.2 Structure of the Opinion and related documents

Chapter 1 of this Opinion contains the procedural information related to this task. Chapter 2 'Explanatory Note' explains the core technical content, including the objectives, summarises the Regulatory Impact Assessment provided in the NPA, gives information on the stakeholders' concerns, and provides an overview of the proposed amendments. Chapter 3 contains the references. The draft rule text proposed by the Agency is published as a separate document on the Agency website⁵.

1.3 The next steps in the procedure

This Opinion contains proposed changes to Union Regulations. The Opinion is addressed to the European Commission, which uses it as a technical basis to prepare a legislative proposal.

The Decision containing the related Acceptable Means of Compliance (AMC) and Guidance Material (GM) will be published by the Agency when the related Implementing Rules are adopted by the Commission.

For information, the Agency has published the draft text for the related Agency Decision containing AMC and GM within CRD 2012-06.

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 (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.

³ In accordance with Article 52 of the Basic Regulation and Articles 5(3) and 6 of the Rulemaking Procedure; NPA available under <http://easa.europa.eu/rulemaking/r-archives.php>.

⁴ Available under <http://easa.europa.eu/rulemaking/r-archives.php>.

⁵ Available under <http://easa.europa.eu/agency-measures/opinions.php>.

2 Explanatory Note

2.1 The issues to be addressed

Overview on the technical content

Over the years, it has been identified that an accident or an incident may occur when the flight crew divert their attention from the task at hand and get occupied with activities not directly related to the current phase of the flight. Such activities are extraneous conversations, cabin crew calls on non-essential matters, non-pertinent radio calls, public address announcements, etc. Clearly, the chance of error increases when the flight crew are disturbed or distracted from their main responsibilities. Consequences that could result from such a disturbance or distraction include altitude deviations, course deviations, runway transgressions, and take-offs or landings without clearance.

In light of the safety risk, the flight crew must be able to focus on their duties without being disturbed or distracted by non-flight related matters, whenever necessary, during movement of the aircraft. This holds especially for safety-critical phases of the flight. Implementing Rules and associated Acceptable Means of Compliance (AMC) and Guidance Material (GM) for air operations are in force (Commission Regulation (EU) No 965/2012⁶) or will be in force in the foreseeable future (when the Agency's Opinions No 01/2012⁷ and No 02/2012⁸ have been adopted by the Commission). However, even then, the following elements will not be included in the regulatory framework:

- a. the concept of a **sterile flight deck**;
- b. the taxi phase of aeroplanes as a **safety-critical activity**; and
- c. **procedures for taxiing** to enhance runway safety.

The need for considering these elements has been briefly described above and has been explained in detail in NPA 2012-06. The Agency summarised the present rulemaking tasks under the header 'Sterile flight deck procedures'. These tasks are focused on air operations. One major aim is to enhance runway safety through the introduction of operational procedures and best practices for the taxi phase, including sterile flight deck procedures. Implementing Rules, AMC, and GM are proposed to provide elements to be considered by the operator when establishing its procedures as relevant to flight, cabin and technical crew for the following phases of flight:

- All critical phases of flight (for helicopters per definition this includes taxiing);
- For aeroplanes during taxiing; and
- Below 10 000 feet above the aerodrome of departure after take-off and the aerodrome of destination before landing, except for cruise flight.

⁶ Commission Regulation (EU) No 965/2012 of 5 October 2012 laying down technical requirements and administrative procedures related to air operations pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council (OJ L 296, 25.10.2012, p. 1).

⁷ Opinion No 01/2012 of the European Aviation Safety Agency of 1 February 2012 for a Commission Regulation establishing the Implementing Rules for air operations 'Air Operations – OPS (Part-NCC and Part-NCO)'. This Opinion contains Part-NCC (non-commercial operations of complex motor-powered aircraft) and Part-NCO (non-commercial operations of other-than-complex motor-powered aircraft) relevant to the present rulemaking activity. Available under <http://www.easa.europa.eu/agency-measures/opinions.php>.

⁸ Opinion No 02/2012 of the European Aviation Safety Agency of 16 April 2012 for a Commission Regulation establishing the Implementing Rules for air operations 'Air Operations – OPS (Part-SPO)'. This Opinion contains Part-SPO (specialised operations) relevant to the present rulemaking activity. Available under <http://www.easa.europa.eu/agency-measures/opinions.php>.

Taxiing as safety-critical activity for aeroplane operations

One of the major items of the rulemaking tasks on sterile flight deck procedures was to come to a conclusion concerning the 'status' of taxiing of aeroplanes. Consequently, the Agency asked stakeholders in NPA 2012-06 to respond to the following question:

Question: Should taxiing of aeroplanes be:

- a. treated as a safety-critical activity, but not be defined as a critical phase of flight in the Implementing Rules;
- b. defined as a critical phase of flight, with no restrictions to cabin crew activities (i.e. as of today cabin crew could provide service to passengers); or
- c. defined as a critical phase of flight, restricting cabin crew to carry out safety-related duties only?

Out of all 25 commentators, 15 commentators responded explicitly to the question asked. 12 out of these 15 commentators preferred 'Answer a' ('taxiing as a safety-critical activity') as response to the question. This is clearly the majority of the commentators responding to the question. These commentators did not, in addition to the reasoning discussed in NPA 2012-06, provide additional reasoning to support their view. It should be noted that 'Answer a' describes the option based on which the proposed regulatory text was drafted in the NPA.

'Answer b' ('taxiing as a critical phase of flight with no restrictions to cabin crew activities') was preferred by three commentators (plus one commentator who agreed to 'Answer a and b'). The main items raised by the commentators in favour of 'Answer b' were:

- 'Corporate and VIP operations specifically need the taxi time for preparation.'
- 'On board of large aircraft, cabin crew activities must not be restricted. Free cabin crew movement during the taxi-phase is a positive contribution to flight safety as a whole and has a positive effect on passengers.'
- This option 'would provide a fully consistent and coherent picture to the pilots'.

Finally, none of the commentators preferred 'Answer c' ('taxiing as a critical phase of flight with restrictions to cabin crew activities').

Based on the responses received, the Agency concluded that, as proposed in NPA 2012-06, taxiing of aeroplanes should be treated as a safety-critical activity, but should not be defined as a critical phase of flight. Nevertheless, the Agency is of the opinion that no restrictions to cabin crew during taxiing might lead to a higher safety risk of the occupants of the aeroplane as the cabin crew could be distracted by other tasks from safety critical activities. Therefore, the Agency might initiate a rulemaking task in the future considering to restrict activities of the cabin crew during taxiing to safety critical activities.

Safety Recommendations

When linked to a rulemaking task, the Agency has the obligation to address safety recommendations in its deliberations during the rulemaking process. The investigation of the accident involving a McDonnell Douglas DC-9-82 at Madrid-Barajas Airport on 20 August 2008 led to several safety recommendations. The following safety recommendations are linked to the present rulemaking tasks:

- a. *SPAN-2011-021: It is recommended that the European Aviation Safety Agency (EASA), in keeping with ICAO initiatives, introduce in its regulations the **concept of critical phases of flight** and define those activities considered acceptable during said phases.*

- b. SPAN-2011-022: It is recommended that the European Aviation Safety Agency (EASA) and national civil aviation authorities, when evaluating operator training programmes, ensure that:
- The **concept of sterile cockpit** is highlighted;
 - The importance of adhering to said concept is stressed, along with the consequences of even minor disturbances; and
 - Examples and accidents are included in which non-compliance with regulations involving the sterile cockpit was a relevant factor.

It can be stated that the 'concept of critical phases of flight' is already embedded in the existing rules on air operations and also in future Implementing Rules, e.g. as follows:

- Definitions of 'critical phases of flight' are provided in Annex I (Definitions) of Commission Regulation (EC) No 965/2012; and
- Implementing Rules for activities considered acceptable during critical phases of flight are provided in Part-ORO⁹ and in Part-CAT¹⁰ of Commission Regulation (EC) No 965/2012, and are foreseen in Part-NCC¹¹, Part NCO¹² and in Part-SPO¹³.

The present rulemaking tasks address the safety recommendations SPAN-2011-021 and SPAN-2011-022 even further with the following measures:

- Introducing the definition of 'sterile flight deck';
- Establishing the relationship between 'sterile flight deck' and 'critical phases of flight';
- Establishing the taxi phase as a safety-critical activity of flight and providing procedures for taxiing;
- Providing AMC on training of crew members concerning sterile flight deck procedures; and
- Providing GM on activities considered acceptable and considered not acceptable during times of sterile flight deck.

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 overall objectives by addressing the issues outlined in section 2.1. The specific objective of this proposal is, therefore, to mitigate the safety risk by introducing sterile flight deck procedures and procedures for taxiing.

2.3 Summary of the Regulatory Impact Assessment

The options identified in the Regulatory Impact Assessment (RIA)¹⁴ were as follows:

- a. Option 0: Baseline option (no change; risks remain as outlined in the issue analysis).
- b. Option 1: No rulemaking, but encouraging operators to establish procedures, as needed.
- c. Option 2: Rulemaking for sterile flight deck procedures for all critical phases of flight, for taxiing of aeroplanes and for flight below 10 000 feet, except cruise flight, by amending Implementing Rules, AMC, and GM, as appropriate.

⁹ ORO.GEN.110(f) of Annex III (Part-ORO).

¹⁰ CAT.GEN.MPA.105(a)(9) and CAT.OP.MPA.210(b) of Annex IV (Part-CAT).

¹¹ NCC.GEN.105(b) of Annex VI (Part-NCC) of the Agency's Opinion No 01/2012.

¹² NCO.GEN.105(b) of Annex VII (Part-NCO) of the Agency's Opinion 01/2012.

¹³ SPO.GEN.105(b) of Annex VIII (Part-SPO) of the Agency's Opinion 02/2012.

¹⁴ For details of the RIA, see section C of NPA 2012-06.

Taxiing of aeroplanes is treated as a safety-critical activity, but it is not defined as a critical phase of flight.

- d. Option 3: Rulemaking for sterile flight deck procedures for all critical phases of flight and for flight below 10 000 feet, except cruise flight, by amending Implementing Rules, AMC, and GM, as appropriate.

Taxiing of aeroplanes is defined as a critical phase of flight.

The most important impacts identified in the RIA for each option are the safety, the economic and the harmonisation impact. In the RIA it was concluded that Option 2 is the preferred option. The main reason is that this option leads to a high reduction of the safety risk with a reasonable impact on costs. The costs of Option 3 are expected to be significantly higher than the ones of Option 2 due to the additional burden of defining taxiing as a critical phase of flight, while the reduction of the safety risk is only slightly lower. In addition, Option 2, in contrast to Options 0 and 1, does not deviate from international acknowledged manuals and action plans¹⁵. It should be noted, however, that Option 2 means no full harmonisation with the U.S. Regulation¹⁶.

2.4 Stakeholder concerns

As mentioned above, after the end of the comment period of NPA 2012-06, the Agency has received 134 comments from stakeholders. Some very valuable proposals for changes of the proposed AMC and GM have been suggested by the commentators. However, no major revision of the text was needed. Concerning the Implementing Rules, only minor suggestions for changes have been proposed. A detailed description of the changes is provided in CRD 2012-06.

After the publication of CRD 2012-06, the commentators had a timeframe of two months to react to the changes incorporated in the CRD. In total, the Agency received five reactions. However, concerning the Implementing Rules, no proposals to modify the text were made.

2.5 Overview of the proposed amendments

Rulemaking proposal No 1: For the present rulemaking activity concerning sterile flight deck procedures, the Agency took into consideration the rulemaking proposal towards the Agency of the Joint Aviation Authority (JAA) 'Operations Procedures Steering Group' (OPSG), the ICAO Doc 9870, the European Action Plan for the Prevention of Runway Incursions, and the U.S. Regulation on sterile flight deck procedures. In order to avoid any misunderstanding as regards the term 'sterile flight deck'¹⁷, the Agency decided that a definition of this term is needed. The Agency proposes the following definition to be incorporated in the Implementing Rules in Annex I (Definitions) in the air operations Regulation:

'Sterile flight crew compartment' means any period of time when the flight crew members are not disturbed or distracted, except for matters critical to the safe operation of the aircraft or the safety of the occupants.'

The wording of this definition is similar to the one proposed in the ICAO Doc 9870 and in the European Action Plan. The only differences are that the phrases 'or distracted' and 'or the safety of the occupants' have been added. These changes are based on proposals made during the review process.

¹⁵ International Civil Aviation Organisation Doc 9870 (AN/463), 'Manual on the Prevention of Runway Incursions', First Edition, 2007, and European Action Plan for the Prevention of Runway Incursions, Edition 2.0. Available under <http://www.eurocontrol.int/articles/runway-safety>.

¹⁶ Flight crew member duties as prescribed in paragraph 121.542 of Part 121 and in paragraph 135.100 of Part 135 of Title 14 of the U.S Code of Federal Regulations. The FAA established the 'sterile flight deck rule' defining taxiing as a critical phase of flight, not as a safety-critical activity.

¹⁷ In the proposed text for amending the Implementing Rules, AMC, and GM, the term 'sterile flight crew compartment' instead of 'sterile flight deck' is used to be consistent with the term used in Commission Regulation (EU) No 965/2012.

Rulemaking proposal No 2: Aside from the definition of the sterile flight deck, procedures have to be laid down. The Agency came to the conclusion that the operators themselves are most competent in doing so. Therefore, it is proposed to amend Part-ORO, namely paragraph ORO.GEN.110(f), of the Implementing Rules by demanding the operators to establish procedures which observe the sterile flight deck concept.

Rulemaking proposal No 3: The Agency felt the need to address in the Implementing Rules procedures for taxiing of aircraft. The Agency came to the conclusion that the operator should be obliged to establish such procedures to ensure safe operation and to enhance runway safety. Consequently, such a rule is proposed for Part-CAT (CAT.GEN.MPA.125), for Part-NCC (NCC.GEN.120), and for Part-SPO (SPO.GEN.120). The Agency is of the opinion that such a rule is not needed for Part-NCO, since this would mean to overregulate taxiing of non-commercial operations of other-than-complex motor-powered aircraft¹⁸.

Cologne, 10 June 2013

P. GOUDOU
Executive Director
(signed)

¹⁸ Although no Implementing Rule is proposed for Part-NCO, the Agency is of the opinion that GM for taxiing of Part-NCO aeroplanes should be introduced. This will be done in the Executive Director Decision which will be published by the Agency when the related Implementing Rules are adopted by the Commission. For the draft text for the GM, see CRD 2012-06.

3 References

3.1 Affected regulations

Commission Regulation (EU) No 965/2012 of 5 October 2012 laying down technical requirements and administrative procedures related to air operations pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council (OJ L 296, 25.10.2012, p. 1).

3.2 Affected decisions

Decision 2012/017/R of the Executive Director of the Agency of 24 October 2012 on Acceptable Means of Compliance and Guidance Material to Commission Regulation (EU) No 965/2012 of 5 October 2012 laying down technical requirements and administrative procedures related to air operations pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council; 'Acceptable Means of Compliance and Guidance Material to Part-ORO'. Available under <http://easa.europa.eu/agency-measures/agency-decisions.php>.

Decision 2012/018/R of the Executive Director of the Agency of 24 October 2012 on Acceptable Means of Compliance and Guidance Material to Commission Regulation (EU) No 965/2012 of 5 October 2012 laying down technical requirements and administrative procedures related to air operations pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council; 'Acceptable Means of Compliance and Guidance Material to Part-CAT'. Available under <http://easa.europa.eu/agency-measures/agency-decisions.php>.