



Terms of Reference

for a rulemaking task

Portable Electronic Devices (PEDs)

RMT.0637 & RMT.0061 (25.063) – ISSUE 1 – 6.4.2014

Applicability		Process map	
Affected regulations and decisions:	AMC/GM to Part-ORO, Part-CAT, Part-NCC, Part-NCO and Part-SPO, CS-25, CS-23, CS-27, CS-29	Rulemaking lead:	R3
Affected stakeholders:	Operators, aircraft designers, crew members, and NAAs.	Concept Paper:	No
Driver/origin:	Technological Development	Rulemaking group:	No
Reference:	N/A	RIA type:	Light
		Technical consultation during NPA drafting:	No
		Publication date of the NPA:	Task 1:2014/Q2 Task 2:2014/Q4
		Duration of NPA consultation:	Task 1:6 weeks Task 2:3 months
		Review group:	TBD
		Focussed consultation:	Yes
		Publication date of the Opinion:	N/A
		Publication date of the Decision:	Task 1:2014/Q4 Task 2:2015/Q4

1. Issue and reasoning for regulatory change

Portable Electronic Devices (PEDs) are any kind of electronic devices brought on board the aircraft by crew members, passengers or as Part-of the cargo, and that are not included in the approved aircraft configuration. The use of PEDs on board aircraft by crew members and passengers or included in the cargo presents a source of uncontrolled electromagnetic radiation with potential risk of adverse interference effects to aircraft systems.

PEDs fall into two main categories; non-intentional transmitters and intentional transmitters (or T-PEDs). The first category includes, but is not limited to, computing equipment, cameras, radio receivers, audio and video reproducers, electronic games and toys, together with portable, non-transmitting devices. Intentional transmitters are transmitting devices such as remote control equipment (which may include some toys), two-way radios, mobile phones, satellite phones, GPS cargo tracking devices and others. For both categories, these devices may assist crew members in their duties or be used for medical purposes.

Commission Regulations (EU) Nos 965/2012 and 800/2013, as well as the proposed rules for Specialised Operations make it the operators responsibility to demonstrate that any PED use on board is safe and does not affect adversely the performance of the aircraft systems and equipment. Associated Acceptable Means of Compliance (AMC)/Guidance Material (GM) for CAT and NCC operations contain detailed considerations and reference to technical standards. GM to Part-NCO and GM to draft Part-SPO include explanations of terms and general considerations to be observed.

The Agency has started reviewing the PED policy, recognising the wide proliferation of PEDs and the wish of passengers to use them everywhere, as well as accounting for new certification standards.

The FAA Aviation Rulemaking Committee (ARC) made recommendations and provided guidance on allowing additional PED use (i.e. during all phases of flight) without compromising the continued safe operation of the aircraft¹. As a result, the FAA Administrator released an Operator Informational Letter in October 2013 with a method for expanding the allowance of PED use throughout various phases of flight.

At a first stage, the European Aviation Safety Agency (hereinafter referred to as the 'Agency') published SIB 2013-21 containing guidance on the use of non-transmitting devices during any phase of flight and amended AMC1 to CAT.GEN.MPA.140 accordingly. At a second stage, the Agency is launching this rulemaking activity to update the AMC and GM in accordance with the SIB, to introduce PEDs as items to be considered during aircraft certification, and to review the issue of transmitting devices.

In this context, one may observe that:

- aircraft avionic systems are becoming more and more complex while executing more and more functions;
- PEDs are increasing in number and type, and their electromagnetic characteristics are not always precisely known (for both non-transmitting and T-PEDs);
- comprehensive electromagnetic testing may not be feasible by an aircraft operator, not only because of insufficient technical knowledge, licensing requirements for RF transmitters used in testing, human safety concerns during high power level airplane testing, and dynamic changes in cellular frequency spectrums or any other resources, but also because of the huge number of PEDs on the commercial market and of the

¹ http://www.faa.gov/about/initiatives/ped/media/PED_ARC_FINAL_REPORT.pdf

practical impossibility of replicating all possible electromagnetic configurations in a reasonable time; and

- in any case, if tests were executed, duplicate testing could be required also by other operators.

2. Objectives

Task 1

The objective of task 1 is to enable the expanded use of PEDs during various flight phases by reviewing and updating the operational provisions related to PED policy.

Task 2

The objective of task 2 is to introduce PEDs, primarily as sources of radio frequency (RF) radiation, as items to be considered during aircraft certification.

The effects of PEDs should be taken into account when scoping the aircraft internal operating environment within which required aircraft equipment and systems will need to show that they can continue to perform their intended function during PED use. The operating environment of PEDs should be considered so that, if acceptable, PED use may be permitted on affected aircraft types.

The requirement to ensure that 'required' equipment performs its intended function is covered, for large aeroplanes, by CS-25.1301 and CS-25.1309(a). The AMC material within Book 2 of CS-25 identifies that in considering the environment within which the aircraft equipment must be shown to perform its intended function, both the aircraft external and internal environments must be considered.

In this, the provision to consider PEDs as a contributing factor to the shaping of the aircraft environment is considered; but to ensure that it is recognised and adequately addressed, it will be necessary to provide specific mention of PEDs. In addition, it could also be considered to link the PED threat to CS 25.1431 or to the upcoming High Intensity Radiated Fields (HIRF) requirement. Factors such as test levels, modulations, frequency ranges, and duration of the RF environment (steady-state vs transient) will need to be evaluated.

Consideration will be given whether there is a need to address existing aircraft types already in operations or in production (retrofit).

3. Activities

Task 1

Review AMC and GM to Part-CAT, Part-NCC and possibly Part-ORO, and update them to reflect extended use of PEDs during all phases of flight. Such review should include:

- transmitting and non-transmitting devices;
- PEDs used in the flight deck, passenger areas and cargo compartment;
- cabin safety procedures to be applied by the crew including:
 - standardised information to passengers, e.g. via standard public announcements, safety briefing cards;
 - stowage of PEDs;
 - normal, abnormal and emergency procedures; and

- passenger handling;
- crew training;
- crew communication, crew resource and workload management;
- crew detection and reporting of suspected PED interference and investigation and monitoring of such PED reports by the operator;
- standardised PED terminology;
- identifying devices that cannot be used on board under any circumstances; and
- information to be made available to passengers by the operator.

Amendments of the AMC/GM to Part-CAT and Part-NCC may be related to, but are not limited to, the PED policy, passenger briefing, stowage, operations manual contents and crew training.

With regard to Part-NCO and Part-SPO, the intent is to update GM to reflect the consistent PED policy and use of common terminology. There is no intention to introduce new aspects.

As far as possible, harmonisation with the FAA's and other international aviation regulatory bodies' (proposed) rules and/or guidance on the subject will be sought so as to avoid passenger confusion.

Task 2

- Consider whether the existing certification review items (CRIs) used so far for certifying aircraft to be PED tolerant are appropriate for applying to all new CS-25 certification projects. Consider expanding the environment as defined for protecting aircraft systems from High Intensity Radiated Field to include PED resistance;
- Consider, based on a review of the needs and practice in the field, whether the new provisions should also apply to CS-29, CS-27 and CS-23;
- Draft an NPA with the results of the above considerations, including entry-into-force provisions, if needed; and
- Seek harmonisation as much as possible with international aviation regulatory bodies regarding rules and/or guidance on the subject.

4. Deliverables

Task 1

NPA and ED Decision amending ED Decision 2012/017/R (AMC and GM to Part-ORO), 2013/028/R (AMC and GM to Part-CAT), 2013/021/R (AMC and GM to Part-NCC), 2013/022/R (AMC and GM to Part-NCO), draft Decision on Part-SPO.

Task 2

Decision amending CS-25 and/or its AMC and, if considered appropriate, also amending CS-23, CS-27 and CS-29.

5. Interface issues

Coordination between Task 1 and Task 2 to ensure consistency.

6. Technical and focussed consultation

It is foreseen to work with the TAG and SSCC nominated Focal Points (FPs) on an ad hoc basis during the NPA drafting process.

A focussed consultation is foreseen after the closure of NPA public consultation period. The focussed consultation will be open to TAG and SSCC representatives.

7. Annex I: Reference documents

7.1. Affected regulations

N/A

7.2. Affected decisions

- ED Decision 2012/017/R (Part-ORO), as last amended
- ED Decision 2013/028/R (Part-CAT)
- ED Decision 2013/021/R (Part-NCC)
- ED Decision 2013/022/R (Part-NCO)
- draft Decision on Part-SPO
- CS-25 and possibly CS-23, CS-27 and CS-29

7.3. Reference documents

- DO-294C 'Report on electromagnetic compatibility between passenger carried PEDs and aircraft systems'
- ED-130 'Guidance for the use of portable electronic devices (PEDs) on board aircraft'
- DO-307 with change 1 'Aircraft Design and Certification for Portable Electronic Device (PED) Tolerance'
- EASA SIB 2013-21 - Use of Portable Electronic Devices during Commercial Air Transport Aircraft Operation
- CAP756 'Portable Electronic Device Generated Electro-magnetic Fields on board a Large Transport Aeroplane'
- A report from the portable electronic devices (PEDs) aviation rulemaking committee to the FAA
- FAA InFO Letter 13010 and 13010SUP 'Expanding Use of Passenger Portable Electronic Devices (PED)'
- Preliminary RIA issued in 2006 (Task Nr. CS-25.XX - Consideration of Portable Electronic Devices (PEDs) RF Radiation during aircraft certification)