



## Part-NCO AMC/GM - Issue 2 - Amendment 1

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| <b>Description:</b>                                                             | Part-NCO AMC-GM - Issue 2 -<br>Amendment 1 (Annex to Decision<br>2014-031-R) |
| <b>Language:</b>                                                                | English                                                                      |
| <b>Acceptable Means of<br/>Compliance and<br/>Guidance Materials<br/>group:</b> | Part-NCO                                                                     |
| <b>Explanatory Note:</b>                                                        | ED Decision 2014/031/R - Explanatory<br>note                                 |
| <b>Related ED Decision:</b>                                                     | ED Decision 2014/031/R                                                       |

## Annex to Decision 2014/031/R

### ‘AMC and GM to Part-NCO – Issue 2, Amendment 1’

The Annex to Decision 2014/016/R<sup>1</sup> is hereby amended as follows:

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

1. deleted text is marked with ~~strike through~~;
2. new or amended text is highlighted in grey; and
3. an ellipsis (...) indicates that the remaining text is unchanged in front of or following the reflected amendment.

GM1 NCO.GEN.125 is amended as follows:

#### **GM1 NCO.GEN.125 Portable electronic devices**

##### **DEFINITIONS**

##### **(a) Definition and categories of PEDs**

PEDs are any kind of electronic device, typically but not limited to consumer electronics, 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. All equipment that is able to consume electrical energy falls under this definition. The electrical energy can be provided from internal sources as batteries (chargeable or non-rechargeable) or the devices may also be connected to specific aircraft power sources.

PEDs ~~fall into~~ include the following two categories:

- (1) Non-intentional transmitters can non-intentionally radiate RF transmissions, sometimes referred to as spurious emissions. This category includes, but is not limited to, computing equipment, calculators, cameras, radio receivers, audio and video reproducers, players, electronic games and toys; when these devices are not equipped with a transmitting function. In addition, portable, non-transmitting devices provided to assist crew members in their duties are included in this category. The category is identified as PED.
- (2) Intentional transmitters can radiate RF transmissions on specific frequencies as part of their intended function. In addition, they may radiate non-intentional transmissions like any PED. The term ‘transmitting PED’ (T-PED) is used to identify the transmitting capability of the PED. Intentional transmitters are transmitting devices such as RF-based remote control equipment, which may include some toys, two-way radios (sometimes referred to as private mobile radio), mobile phones of any type, satellite phones, computers with mobile phone data connection,

<sup>1</sup> Decision 2014/016/R of the Executive Director of the Agency of 24 April 2014 adopting Acceptable Means of Compliance and Guidance Material to Part-NCO of Commission Regulation (EU) No 965/2012 and repealing Decision 2013/021/R of the Executive Director of the Agency of 23 August 2013.

~~wireless fidelity (WIFI)~~ wireless local area network (WLAN) or Bluetooth capability. After deactivation of the transmitting capability, e.g. by activating the so-called 'flight mode' or 'flight safety mode', the T-PED remains a PED having non-intentional emissions.

(b) Definition of the switched-off status

Many PEDs are not completely disconnected from the internal power source when switched off. The switching function may leave some remaining functionality e.g. data storage, timer, clock, etc. These devices can be considered switched off when in the deactivated status. The same applies for devices having no transmitting capability and are operated by coin cells without further deactivation capability, e.g. wrist watches.

GM2 NCO.GEN.125 is amended as follows:

**GM2 NCO.GEN.125 Portable electronic devices**

GENERAL

- (a) PEDs can pose a risk of interference with electronically operated aircraft systems. Those systems could range from the electronic engine control, instruments, navigation or communication equipment, autopilots to any other type of avionic equipment on the aircraft. The interference can result in on-board systems malfunctioning or providing misleading information and communication disturbance. These can also lead to an increased workload for the flight crew.
- (b) Interference may be caused by transmitters being part of the PED's functionality or by unintentional transmissions from the PED. Due to the likely proximity of the PED to any electronically operated aircraft system and the generally limited shielding found in small aircraft, the risk of interference is to be considered higher than that for larger aircraft with metal airframes.
- (c) During certification of the aircraft, when qualifying the aircraft functions consideration may only have been made of short-term exposure to a high radiating field, with an acceptable mitigating measure being a return to normal function after removal of the threat. This certification assumption may not be true when operating the transmitting PED on board the aircraft.
- (d) It has been found that compliance with the electromagnetic compatibility (EMC) Directive 2004/108/EC and related European standards, as indicated by the CE marking, is not sufficient to exclude the existence of interference. A well-known interference is the demodulation of the transmitted signal from GSM (global system for mobile communications) mobile phones leading to audio disturbances in other systems. Similar interferences are difficult to predict during the PED design and protecting the aircraft's electronic systems against the full range of potential interferences is practically impossible. Therefore, not operating PEDs on-board aircraft is the safest option, especially as effects may not be identified immediately but under the most inconvenient circumstances.
- (e) Guidance to follow in case of fire caused by PEDs is provided by the International Civil Aviation Organisation, 'Emergency response guidance for aircraft incidents involving dangerous goods', ICAO Doc 9481-AN/928.

GM3 NCO.GEN.125 is deleted:

**~~GM3 NCO.GEN.125 – Portable electronic devices~~**

**~~FIRE CAUSED BY PED~~**

~~A detailed discussion of fire caused by PEDs can be found in CAA UK CAP 789 edition 2, chapter 31, section 6 Fires in the cabin caused by PEDs<sup>2</sup> and CAA PAPER 2003/4, Dealing With In Flight Lithium Battery Fires in Portable Electronic Devices, M.J. Lain, D.A. Teagle, J. Cullen, V. Dass<sup>3</sup>.~~

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<sup>2</sup> <http://www.caa.co.uk/docs/33/CAP%20789.pdf>.

<sup>3</sup> <http://www.caa.co.uk/docs/33/CAPAP2003-04.PDF>.