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InFO

Information for Operators

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An InFO contains valuable information for operators that should help them meet certain administrative, regulatory, or operational requirements with relatively low urgency or impact on safety.

Subject: Expanding Use of Passenger Portable Electronic Devices (PED)

Purpose: This InFO provides aircraft operators with a method for expanding the allowance of PED use throughout various phases of flight.

Background: Current Federal Aviation Administration (FAA) regulations require an aircraft operator to determine that radio frequency interference from PEDs are not a flight safety risk before the operator authorizes them for use during certain phases of flight. Even PEDs that do not intentionally transmit signals can emit unintentional radio energy. This energy may affect aircraft safety because the signals can occur at the same frequencies used by the plane's highly sensitive communications, navigation, flight control and electronic equipment. An airline must show it can prevent potential interference that could pose a safety hazard. Based on these potential risks, the FAA has previously recommended that operators not allow PEDs to be used during critical phases of flight. As discussed below, based on the information provided within the ARC as well as discussions and recommendations of the ARC, the FAA believes that sufficient risk mitigation can occur to allow for safe operation of PEDs during critical phases of flight.

On January 7, 2013, the Administrator of the FAA established the Portable Electronic Devices (PED) Aviation Rulemaking Committee (ARC) to provide a forum for the U.S. aviation community and government regulatory groups to review this PED policy and guidance. The ARC was tasked to make recommendations to further clarify and provide guidance on allowing additional PED usage without compromising the continued safe operation of the aircraft.

The ARC reviewed current available data submitted by the FAA, other federal agencies, including the Federal Communications Commission (FCC), industry associations, and ARC member subject matter experts. The ARC also reviewed current guidance material and information on PEDs, including documents developed by the FAA, RTCA Inc. (formerly known as Radio Technical Commission for Aeronautics), and FCC. The ARC spent 9 months completing a report that details the considerations to expand PED use and outlines recommendations and suggested guidance for the FAA and operators to follow. The FAA has reviewed the ARC's recommendations and has developed the following guidance that air carriers may use to allow for expanded passenger use of PEDs in flight.

Discussion: The ARC submitted its final report, (viewable at <http://www.faa.gov/news/>) and recommendations to the FAA on September 30, 2013. The report contains recommendations that can be implemented in the very near term, as well as changes in policy and guidance that need additional time to consider and implement. Based on the report, this InFO provides a near term method for an operator to determine if it can safely expand PED use to additional phases of flight and what actions it should take when making that determination. If followed, this InFO provides an acceptable method of expanding PED

use while staying in compliance with Title 14 of the Code of Federal Regulations (14 CFR) §§ 91.21, 121.306, 125.204, or 135.144.

PED Use Determination: Sections 91.21, 121.306, 125.204, and 135.144 establish the regulatory requirements for the use of PEDs. The regulations permit the unrestricted use of portable voice recorders, hearing aids, heart pacemakers, and electric shavers. Additionally, the regulations permit the use of “any other portable electronic device that the operator of the aircraft has determined “will not cause interference with the navigation or communication system of the aircraft on which it is to be used.” With the exception of the four devices listed above, the aircraft operator is solely responsible for determining which PEDs may be used on its aircraft. Each operator’s PED policy identifies what types of devices may be used during which phase(s) of flight. Crewmembers are responsible for informing passengers about the aircraft operator’s PED policy.

PED Use Expansion: Both technical and operational conditions must be addressed when expanding PED use. An aid for operators (link provided below) provides a tool for operators to use when determining if expanded PED use is appropriate. The paragraphs below outline the general areas to be addressed:

1. Technical: By regulation, an operator needs to determine that PEDs “...will not cause interference with the navigation or communication system of the aircraft on which it is to be used.”¹ These steps provide an acceptable method of compliance for this requirement.

a. Airplane Mode. The operator should continue to require passengers to place their PEDs in “Airplane Mode” (cellular transmitters off) from the time the aircraft takes off until it lands. If the aircraft is equipped with on-board wireless services, the operator should address the acceptable times for when the passengers may turn on their PEDs and connect to the wireless services. Aircraft equipped with wireless systems have been tested to ensure that they will not interfere with the aircraft’s avionics.

Note: FCC regulations (47 CFR 22.925) prohibit the use of cellular services while in flight to protect against interference to systems on the ground. “Airplane Mode” turns off all of the transmitters in the device and will help prevent violation of the FCC regulations. PEDs such as smart phones, some e-readers and some tablets may be operated in Wi-Fi mode through appropriate settings in the device set-up menu.

b. Expanding PED Use. The ARC report Appendix F, contains a safety risk assessment of typical avionics systems installed on airplanes and their functions to determine potential interference to avionics receiver systems. This assessment outlines the mitigations and controls that an operator needs to adopt to expand PED use into various phases of flight. The operator must review this assessment and:

- Determine which of the listed avionics functions are applicable to the operation.
- Establish procedures to adopt the mitigations and controls necessary for those functions. If an operator doesn’t use a function, then no action is necessary.
- Evaluate operations to identify unique avionics systems or functions not covered by this assessment. If any are identified, the operator should review those operations that have major, hazardous or catastrophic failure following the approach established by this assessment and adopt the necessary mitigations and controls for those systems.
- Incorporate the validation concepts into their operation to continuously monitor the impact that expanded use of PEDs may have on an operator’s system safety operation.

¹ Excerpt from 14 CFR 121.306(b)(5)

c. Documentation of Mitigations and Controls. An operator must manage the changes caused by adopting expanded PED use, to ensure that a clear, consistent message is provided to the flightcrews. To do this, crew procedures may need to be revised and notifications/training may need to be done as necessary to address the changes.

2. PED Stowage Requirements: The ARC Stowage Safety Assessment section of the report provides considerations for an operator to use when revising their approved carry-on baggage program to allow for expanded PED use. An operator must provide instructions for stowing or securing PED items during critical phases of flight. An operator's instructions should address the following:

a. PED Identification. Identify in guidance to passengers (safety cards, safety information briefings, websites, inflight magazines, etc.) the times during the flight when PEDs may be ON and in Airplane Mode.

b. Take-off and Landing. Identify in guidance to passengers what PEDs may be used during takeoff and landing. To prevent personal injury from projectiles and to ensure passenger egress, the instructions should consider the size and weight of PEDs that are acceptable to be secured either on their person or in an approved stowage location. The operator should identify and encourage the stowage of all loose items during the take-off or landing (as applicable) phases of flight. These instructions should provide clear, concise descriptions of the acceptable PEDs that can be used. An operator must take into consideration seat design and stowage compartment weight limitations when establishing the acceptable size/weight limitations for stowage in those areas.

c. PED Stowage. Items that do not meet an operator's acceptance criteria for use during takeoff and landing must be stowed in accordance with their approved carry-on baggage program. See 14 CFR part 121 § 121.589(e).

Note: For those operators that do not have an approved carry-on baggage program, additional restrictions may apply (e.g. reference AC 120-27, applicable to weight and balance and control)

d. Passenger Announcements. An operator should make a passenger announcement, prior to takeoff and landing, instructing passengers to secure PEDs and other loose items, in a bag under their seat or on their person. These items should remain stowed or secured until the aircraft is airborne, approximately 2-3 minutes after takeoff or after landing during taxi in to the gate. An operator's flight attendants are not expected to conduct a compliance check to ensure PEDs are stowed or secured and should remain seated in their jump seat with their seatbelt and shoulder harness fastened in preparation for takeoff or landing.

3. Documentation. Expanding use of PEDs will likely result in revisions to an operator's programs. The operator should submit these revisions; such as revisions to crewmember manuals, checklists, approved programs, safety information cards or training programs to its CHDO following established guidelines for these programs. Additionally, Flight Standards has designated a group of experts from the Air Transportation Division, AFS-200 and the Aircraft Maintenance Division, AFS-300; who are familiar with the work of the PED ARC, to assist with implementation of expanding PEDs use throughout various phases of flight. FAA CHDO and Regional Offices will be able to consult with this group during the review and approval process.

Recommended Action: Directors of Safety, Directors of Operations and In-Flight Services, and Crewmember Training Managers should review this guidance when considering expanded PED use on

their aircraft. See the [Aid for Operators](#) for more specific guidance. They should ensure that manual procedures and training are provided and clearly address:

- PEDs approved for use on board their aircraft;
- Times when approved PEDs can and cannot be used;
- How and when PEDs must be secured or stowed;
- PED 's modes of operation that can and cannot be used;
- How and when to inform passengers of the aircraft operator's PED policies and procedures;

Additional Information: Additional information for PED use allowance can be found by clicking on following links:

- ARC Report: http://www.faa.gov/about/initiatives/ped/media/PED_ARC_FINAL_REPORT.pdf
- Guidance on the expanded use of PED: <http://www.faa.gov/about/initiatives/ped/>
- Aid for Operators: http://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/info/all_infos/media/2013/InFO13010SUP.pdf

Contact: Questions or comments regarding this InFO should be directed to the Aircraft Maintenance Division, AFS-300, telephone (202) 385-6435 for technical issues or the Air Transportation Division AFS-200, telephone (202) 267-8166 for operational issues.