U.S. Department
of Transportation
**Federal Aviation
Administration**

NOV - 7 2011

Robert Sweet
[redacted]

Dear Mr. Sweet:

This is in response to your July 23, 2008 request for a legal interpretation. The answer to your question has taken longer than anticipated due to the need to clarify internal safety policies surrounding this issue.

In your letter, you requested a clarification of 14 C.F.R. § 121.137 which requires that certificate holders furnish a copy of the general operations manual to crewmembers. You first question whether providing the manual in a .pdf format complies with the regulation. Then you ask who is responsible for providing the means to view the .pdf file and bear the costs of printing the manual: the certificate holder or the crewmember.

Section 121.137(a) states, in relevant part, that each certificate holder shall furnish a copy of the appropriate sections of the manual required by section 121.133 (and any changes or additions thereto) to ground operations and maintenance personnel, crewmembers, and representatives of the Administrator assigned to the certificate holder. Section 121.137(b) states, in relevant part, that each person to whom a manual is issued shall keep it up-to-date with changes and additions and shall have appropriate sections of the manual accessible while performing assigned duties.

An electronic version of the manual is sufficient and satisfactory provided that there is a means to view it during the performance of assigned duties. Also, an up-to-date paper version must be available when necessary. A certificate holder may utilize a variety of methods to supply its manual to crewmembers provided that "it has clearly-established procedures describing the method to be used, the method for keeping the manual current and the method for verifying that the manual is current before each flight (including which crewmember(s) is responsible for the verification) *see,* Interpretation 1988-7 (Mar. 10, 1988) (approving use of manual copies in "ship's library" provided in lieu of personal manual copies).

Additionally, the use of an electronic manual requires operational approval through the issuance of Operations Specification A061 by the certificate holder's Principal Operations Inspector (POI) for Class I, II and III Electronic Flight Bags (EFB). *See generally,*

- AC 25.1581-1, Airplane Flight Manual (Jul.14, 1997)(providing guidance on the use of electronic airplane flight manuals);
- AC 120-78, Acceptance and Use of Electronic Signatures, Electronic Recordkeeping Systems, and Electronic Manuals (Nov. 29, 2002)(providing guidance on the requirements and approval process for electronic manuals);
- AC 120-76A, Guidelines for the Certification, Airworthiness and Operational Approval of Electronic Flight Bag Computing Devices (Mar. 17, 2003)(providing guidance on the use of an electronic flight bag, including the use of electronic manuals), and
- AC 91-78: Use of Class 1 and Class 2 Electronic Flight Bag (EFB) (July 7, 2007) (providing guidance on the use of electronic flight bags in part 91 operations).

Non-EFB Portable Electronic Devices (PED) may be used to view electronic manuals. 14 CFR § 91.21, § 121.306, § 125.204, and § 135.144 place restrictions on the in-flight use of PEDs. In addition, when using PEDs to view electronic manuals, the Certificate Holder must outline the requirements of the regulations in their manuals, procedures etc. There is no Operations Specification paragraph tied to a PED. *See generally*,

- AC No: 91-21.1B – Use of Portable Electronic Devices
- InFO10009 - Portable Electronic Devices

Regarding your second question, the certificate holder must provide sufficient technological resources to crewmembers to allow them "to review effectively the applicable portions of the manual while performing their duties." Letter to Gregory Winton, from Rebecca B. MacPherson (Mar. 6, 2008). This means that if the manual is provided in an electronic format, the certificate holder must provide the means to view that manual during the crewmember's performance of assigned duties. As discussed above, the certificate holder must have clearly-established procedures regarding the use of electronic manuals, including procedures to update all paper and electronic copies of the manual to ensure consistency.

This response was prepared by Robert Hawks, an Attorney in the Regulations Division of the Office of Chief Counsel and Robert H. Frenzel, Manager, Operations Law Branch in the Regulations Division and coordinated with the Air Carrier Operations Branch of FAA Flight Standards Service. We hope this response has been helpful to you. If you have additional questions regarding this matter, please contact us at your convenience at (202) 267-3073.

Sincerely,

Rebecca B. MacPherson
Assistant Chief Counsel for Regulations, AGC-200