

NOTICE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

N 8900.332

National Policy

Effective Date:
10/13/15

Cancellation Date:
10/13/16

SUBJ: OpSpec A323, Liquid Water Equivalent System (LWES)

- 1. Purpose of This Notice.** This notice provides new guidance for Federal Aviation Administration (FAA) certificate-holding district offices (CHDO) and principal operations inspectors (POI) assigned to operators conducting airplane operations under Title 14 of the Code of Federal Regulations (14 CFR) parts 121 and 121/135 regarding the use of Liquid Water Equivalent Systems (LWES).
- 2. Audience.** The primary audience for this notice is FAA CHDOs and POIs assigned to operators conducting airplane operations under parts 121 and 121/135. The secondary audience includes Flight Standards Service (AFS) divisions and branches in the regions and in headquarters (HQ).
- 3. Where You Can Find This Notice.** You can find this notice on the MyFAA employee Web site at https://employees.faa.gov/tools_resources/orders_notices. Inspectors can access this notice through the Flight Standards Information Management System (FSIMS) at <http://fsims.avs.faa.gov>. Operators can find this notice on the FAA's Web site at <http://fsims.faa.gov>. This notice is available to the public at http://www.faa.gov/regulations_policies/orders_notices.
- 4. Background.** An LWES is an automated weather measurement system that determines the Liquid Water Equivalent (LWE) rate in frozen or freezing precipitation. The system then uses the LWE rate to determine the holdover time (HOT) and/or the check time (CT) for an anti-icing fluid. The HOT is used to decide how long a fluid will provide protection in given weather conditions, and the CT is used to decide if the fluid is still providing protection in given weather conditions. LWESs are currently being used in Canada to aid operators and flightcrews in determining an accurate HOT of the anti-icing fluid applied to the aircraft. Instead of using visibility to determine precipitation intensity, using the LWE rate eliminates the need for the flightcrew to determine different variables in selecting the correct information from the HOT tables and to adjust the HOTs by combining information from different cells under some weather conditions. This results in the LWES producing a more accurate and useful measurement of fluid performance—expressed as a HOT or a CT—than does the use of paper HOT charts. This increased accuracy improves the safety of the operation and may provide a reduction in the use of deicing and anti-icing fluids, while giving flightcrews and flight operations supervisory activities better information on fluids protection.

5. Guidance. The Air Transportation Division (AFS-200), in cooperation with the Flight Technologies and Procedures Division (AFS-400), William J. Hughes Technical Center, and industry members of the Operations Specifications Working Group (OSWG), developed this notice. It should be noted that operations specification (OpSpec) A323 is not a standalone document but is used in conjunction with the operator's part 121, § 121.629 annual icing plan and OpSpec A023, Use a Program During Ground Icing Conditions. This notice contains the sample OpSpec A323 template in Appendix A that applies to parts 121 and 121/135 certificate holders.

6. Action. POIs should review the guidance for issuance of OpSpec A323, located in Volume 3, Chapter 27, Section 5. POIs should provide this notice to the operators for whom they are responsible, alerting them to updated operating procedures as well as required pilot knowledge and training. This authorization is mandatory, with a compliance date 60 days prior to the use of the LWES in winter operations.

7. Disposition. We will incorporate the information in this notice into FAA Order 8900.1 before this notice expires. Direct questions concerning the information in this notice to AFS-200 at 202-267-8166.

ORIGINAL SIGNED by

/s/ John S. Duncan
Director, Flight Standards Service

**Appendix A. Sample OpSpec A323, Liquid Water Equivalent System (LWES):
14 CFR Part 121 and Part 121/135**

- a. The certificate holder is authorized to conduct operations using a Liquid Water Equivalent System (LWES) during ground icing conditions under 14 CFR part 121, § 121.629(c)(3)(ii), or 14 CFR part 135, § 135.227(b)(2).
- b. Policies and Procedures. The certificate holder is authorized to conduct operations using the approved LWES providers and methods as listed in Table 1 below.

Table 1 – Approved LWES

LWES Provider (Drop-down check box)	Method (Drop-down check box)
SUREW _x	Modified Holdover Time
Vaisala	Check Time, Holdover Time

- c. Limitations and Provisions:

(1) The certificate holder is authorized to conduct LWES at authorized airports listed in Table 2 below.

Table 2 – Airports With Approved LWESs

Airport Name / Identifier	Special Limitations