Federal Aviation Administration

Memorandum

Date: 18 September 2023

To: Lawrence Fields, Acting Executive Director, Flight Standards Service, AFX-1

From: Laura Megan-Posch, Assistant Chief Counsel for Regulations, AGC-200

Prepared by: Paul Greer, Senior Attorney, Airworthiness Law Team, AGC-200

LAURA JANE MEGAN-POSCH Digitally signed by LAURA JANE MEGAN-POSCH Date: 2023.09.18 08:38:53 -04'00'

Subject: Request for a Legal Interpretation of the Applicability of Title 14, Code of Federal Regulations (14 CFR) Part 43 to Unit Load Devices (ULDs)

This legal interpretation is in response to your request for clarification regarding the application of 14 CFR part 43 to ULDs.[1] In your request, you asked this office to respond to a request that the Aircraft Maintenance Division's Commercial Aviation Group received from Mr. John Posey, Manager, United Parcel Service (UPS), Certificate Management Office (CMO). Specifically, the UPS CMO asked: (1) whether part 43 applies to both "certified" and "noncertified" ULDs;[2] and (2) whether a ULD qualifies as a component part of an aircraft. If the ULD is determined to be a component part of the aircraft, the UPS CMO requested to know whether "it would then be bound to all part 43 requirements, specifically maintenance performance and recording requirements." If not, he then asked how maintenance performed on ULDs should be recorded.

In the background information you provided, you state that the UPS CMO would like to classify ULDs as "parts of such aircraft" and that they be maintained in accordance with part 43. You note that in 2002, Mr. William D. Scott, the Principal Maintenance Inspector for UPS at that time, petitioned this office for a legal definition of a ULD that would classify ULDs as appliances (which accordingly would result in the imposition of part 43 requirements). On February 4, 2002, the Assistant Chief Counsel for Regulations (AGC-200), issued an information memorandum "*Legal Definition of Unit Load Device,*" responding to that request. The memorandum stated that AGC-200 conducted a review of issues surrounding the use of non-certified cargo containers, nets, and pallets and that the term "ULD" was understood to mean containers, pallets/net, and 'igloo'/net combinations. This office further noted that the enforcement problems faced at that time could be attributed to the use of directly regulated, certified ULDs alongside unregulated, non-certified ULDs. Accordingly, this office stated that

[1] A ULD is a device for grouping, transferring, and restraining cargo for transit. It may consist of a pallet and net, or it may be a container. A ULD may or may not meet the minimum performance standards specified in Technical Standard Order (TSO)-C90, *Cargo Pallets, Nets, and Containers (Unit Load Devices)*.

[2] This office interprets "certified ULDs" to more appropriately mean ULDs approved in accordance with the provisions of TSO-C90, and "noncertified ULDs" to more appropriately mean ULDs that have not been approved in accordance with the provisions of that TSO.

the result has been a double standard and recommended undertaking general rulemaking as the best means of creating a legally enforceable definition of ULD to achieve specific safety objectives. Recognizing that ULDs were not considered appliances[3] by the agency, this office further stated that defining all ULDs as appliances through an interpretation would need to be accomplished through an Interpretive Rule in accordance with the Administrative Procedure Act. Our office further noted that such action would still leave a void in regulatory standards for the use and maintenance of those ULDs for which compliance with the Technical Standard Order (TSO) (or International Air Transport Association (IATA) standards) would not be appropriate. You further note that rulemaking was not pursued, and that the UPS CMO stated that "classifying a ULD as a part applicable to part 43 would continue to ensure ULDs are maintained to their original type design and would not require rulemaking."

You state that the Office of Safety Standards does not believe that a ULD is part of an aircraft's type design. You assert that at the moment an airplane is eligible to receive a certificate of airworthiness under § 21.183, it must conform to its type design, as set forth in § 21.130. You further note that ULDs are not part of the type design requirements and that, at the time the certificate of airworthiness is issued for an aircraft, ULDs are neither physically installed nor defined in the drawings and specifications referenced in § 21.31.

Additionally, you note that a type certificate (TC)/ supplemental type certificate (STC) holder must make available the airplane flight manual (AFM) that defines the operating limitations of the airplane. For transport category airplanes, you note that some of the operating limitations may be contained in a separate weight and balance manual (WBM), which contains the weight and loading distribution information specified by § 25.1583. You further note that operators must follow the WBM operating limitations as required by § 91.9(a) and that these WBMs, which permit the carriage of ULDs, identify the ULDs by type. You assert that although ULD types are listed in the WBM, this does not mean ULDs are part of the aircraft's type design. You further state that the cargo loading system (CLS), which is part of the aircraft's type design, restrains ULDs, and that inclusion of the cargo loading system in the aircraft's type design does not mean that ULDs are either installed or attached to the airplane, as this would require a change to the aircraft's type design.

You further note that your office collaborated with AGC-200 to remove all references to part 43 in the revision of Advisory Circular (AC) 120-85A, *Air Cargo Operations,*[4] and are concerned that if part 43 applies to ULDs, then it would have to apply in its entirety, resulting in the operator being responsible for a magnitude of tasks beyond the maintenance and repair of the ULD. You assert that it would become onerous for an air carrier to make maintenance record entries for each ULD loaded and unloaded from the airplane. Additionally, if ULDs were deemed to be a component part of the aircraft and part 43 applied, you further assert that FAA-certificated personnel would be required to inspect and sign each aircraft's maintenance logbook,

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[3] 14 CFR 1.1 states that, "Appliance means any instrument, mechanism, equipment, part, apparatus, appurtenance, or accessory, including communications equipment, that is used or intended to be used in operating or controlling an aircraft in flight, is installed in or attached to the aircraft, and is not part of an airframe, engine, or propeller."

[4] This office notes that Advisory Circulars cannot impose compliance requirements and that the FAA's removal of references to part 43 in AC 120-85A was intended to remove and had the effect of removing compliance requirements not supported by the regulations.

revise the aircraft's basic equipment list, and revise the aircraft's basic operating weight accordingly.

You note that some ULDs may be "certified" (i.e. approved) to the minimum performance standards specified in Technical Standard Order (TSO)-C90, *Cargo Pallets, Nets, and Containers (Unit Load Devices),* and that the aircraft's WBM will identify those ULDs that meet those standards. For ULDs that are approved to TSO-C90 standards, the TSO specifies that maintenance instructions necessary for the ULD to continue to meet the TSO standards be provided. You further reiterate your position that a ULD meeting the provisions of TSO-C90 is not a part of the aircraft's type design and is not required to be maintained in accordance with part 43.

You conclude by noting that some ULD manufacturers and operators may elect to adopt some of the principles and standards outlined in part 43 to maintain ULDs; however, you contend, while this practice is permissible, it is not required.

The Office of the Chief Counsel agrees with these statements and with your assessment of the applicability of part 43 to ULDs. This office concurs that part 43 does not apply to the maintenance, preventive maintenance, or alteration of a ULD unless the ULD is included in the type design of the aircraft. This office further notes that a cargo loading system (CLS) that is part of the aircraft's type design and installed on the aircraft for the purpose of restraining ULDs against ground and flight loads is subject to the maintenance, preventive maintenance, and alteration requirements of part 43.[5]

The applicability of part 43 is specified in § 43.1. With certain limited exceptions, § 43.1(a) states that part 43 prescribes rules governing the maintenance, preventive maintenance, rebuilding, and alteration of any—

(1) Aircraft having a U.S. airworthiness certificate;
(2) Foreign-registered civil aircraft used in common carriage or carriage of mail under the provisions of Part 121 or 135 of this chapter; and
(3) Airframe, aircraft engines, propellers, appliances, and component parts of such aircraft.

Accordingly, part 43 would apply to the maintenance, preventive maintenance, and alteration of a ULD if the ULD were determined to be a component part of those aircraft specified in § 43.1(a)(1) or (2). For type-certificated aircraft, the type design establishes the aircraft's configuration, to include those articles considered to be component parts of the aircraft. Section 21.31 specifies those elements that comprise the type design of a type-certificated aircraft or other product.[6]

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[5] A CLS typically consists of cargo handling and restraints systems and typically includes components such as ball mats, end stops, rollers, side guides (rails), and locks for securing ULDs to the aircraft structure.

[6] Section 21.31, **Type design.** states that: The type design consists of –
(a) The drawings and specifications, and a listing of those drawings and specifications, necessary to define the configuration and the design features of the product shown to comply with the requirements of that part of this subchapter applicable to the product;
(b) Information on dimensions, materials, and processes necessary to define the structural strength of the product;
(c) The Airworthiness Limitations section of the Instructions for Continued Airworthiness as required by parts 23, 25, 26, 27, 29, 31, 33 and 35 of this subchapter, or as otherwise required by the FAA; and as specified in the applicable airworthiness criteria for special classes of aircraft defined in § 21.17(b); and

Accordingly, if a ULD is included in the type design for a particular type-certificated aircraft it would be considered a component part[7] of the aircraft and the applicable airworthiness standards for the aircraft would apply to the ULD, as would the provisions of part 43 and the applicable maintenance recordkeeping requirements of those rules under which the aircraft is operated. Although certain ULDs may indeed be manufactured in accordance with an FAA approval ("certified"), such as those manufactured and marked in accordance with TSO-C90, TSO approval of an article, such as a ULD, does not automatically make that article a component part of an aircraft and subject to part 43 requirements (See e.g. TSO-C100c, Aviation Child Safety Device (ACSD)). For part 43 to apply, the component part must be included in an aircraft's type design.

We note that ULDs approved in accordance with TSO-C90 are provided with manufacturer's maintenance instructions, typically in the form of a Component Maintenance Manual (CMM). These instructions provide the maintenance information necessary to ensure that the ULD continues to meet the minimum performance standards contained in the TSO. Compliance with the manufacturer's maintenance instructions may be necessary for an operator to comply with the aircraft's operating limitations or the provisions of an approved manual, however, compliance with these instructions does not impose an obligation for compliance with part 43 requirements. Compliance with part 43 requirements would only be required if the ULD was included in the aircraft's type design. Additionally, we note that although § 21.619(c), which addresses design changes to TSO articles by persons other than the manufacturer, contains a reference to part 43, approval of a design change does not automatically impose a requirement that the article be maintained in accordance with part 43.

Most aircraft do not include ULDs as part of the aircraft's type design. Manufacturers traditionally have not included ULDs in an aircraft's type design in an effort to avoid unduly restricting those specific ULDs that may be carried on or used in their aircraft. Not including ULDs in the aircraft's type design also eliminates the need to modify the aircraft's type design when a ULD is modified or a new ULD becomes available. Most aircraft manufacturers do, however, identify the types of ULDs that may be carried or used in the aircraft's AFM or WBM. Identifying the type of ULD for carriage or use, however, does not imply that the ULD is installed on the aircraft when carried or used.

Although part 43 and the maintenance recordkeeping requirements of the applicable operating rules may not apply *per se* to ULDs, other rules may impose requirements on the carriage and serviceability of ULDs. Limitations on the specific ULDs that may be carried or used on board an aircraft may be set forth in the aircraft's AFM. Provisions for the performance of maintenance, preventive maintenance, and alterations of those ULDs may be set forth in the air carrier's maintenance programs and performed in accordance with the applicable manufacturer's maintenance instructions.

(d) For primary category aircraft, if desired, a special inspection and preventive maintenance program designed to be accomplished by an appropriately rated and trained pilot-owner.
(e) Any other data necessary to allow, by comparison, the determination of the airworthiness, noise characteristics, fuel venting, and exhaust emissions (where applicable) of later products of the same type.

[7] Note that while the elements of an aircraft's cargo loading system (CLS) (e.g. rails, cargo locks) may be component parts of an aircraft, the CLS typically does not include ULDs.

This office notes that some ULD manufacturers and operators may elect to comply with the standards specified in part 43 to perform maintenance, preventive maintenance, and alterations on ULDs; however other applicable regulatory requirements (e.g. § 21.619) must still be met. While the FAA does not discourage compliance with the provisions of part 43 to perform work on ULDs, regardless of whether or not the ULD was produced in accordance with TSO-C90, such action is not required unless otherwise mandated.

If the agency wishes to impose maintenance requirements on ULDs that are not part of the aircraft's type design, this office reiterates its earlier recommendation from its February 4, 2002 memorandum that the agency undertake this action through general rulemaking.

We appreciate your patience and trust that the above responds to your inquiry.