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#### List of Subjects in 10 CFR Part 72

Administrative practice and procedure, Hazardous waste, Indians, Intergovernmental relations, Nuclear energy, Penalties, Radiation protection, Reporting and recordkeeping requirements, Security measures, Spent fuel, Whistleblowing.

For the reasons set out in the preamble and under the authority of the Atomic Energy Act of 1954, as amended; the Energy Reorganization Act of 1974, as amended; the Nuclear Waste Policy Act of 1982, as amended; and 5 U.S.C. 552 and 553; the NRC is adopting the following amendments to 10 CFR part 72:

#### PART 72—LICENSING REQUIREMENTS FOR THE INDEPENDENT STORAGE OF SPENT NUCLEAR FUEL, HIGH-LEVEL RADIOACTIVE WASTE, AND REACTOR-RELATED GREATER THAN CLASS C WASTE

■ 1. The authority citation for part 72 continues to read as follows:

**Authority:** Atomic Energy Act of 1954, secs. 51, 53, 57, 62, 63, 65, 69, 81, 161, 182, 183, 184, 186, 187, 189, 223, 234, 274 (42 U.S.C. 2071, 2073, 2077, 2092, 2093, 2095, 2099, 2111, 2201, 2210e, 2232, 2233, 2234, 2236, 2237, 2238, 2273, 2282, 2021); Energy Reorganization Act of 1974, secs. 201, 202, 206, 211 (42 U.S.C. 5841, 5842, 5846, 5851); National Environmental Policy Act of 1969 (42 U.S.C. 4332); Nuclear Waste Policy Act of 1982, secs. 117(a), 132, 133, 134, 135, 137, 141, 145(g), 148, 218(a) (42 U.S.C. 10137(a), 10152, 10153, 10154, 10155, 10157, 10161, 10165(g), 10168, 10198(a)); 44 U.S.C. 3504 note.

■ 2. In § 72.214, Certificate of Compliance No. 1042 is revised to read as follows:

#### § 72.214 List of approved spent fuel storage casks.

\* \* \* \* \*

*Certificate Number:* 1042.

*Initial Certificate Effective Date:* June 7, 2017.

*Amendment Number 1 Effective Date:* June 17, 2020.

*Amendment Number 2 Effective Date:* October 26, 2021.

*Amendment Number 3 Effective Date:* July 17, 2023.

*Amendment Number 4 Effective Date:* October 14, 2025.

*SAR Submitted by:* TN Americas LLC.

*SAR Title:* Final Safety Analysis Report for the NUHOMS® EOS Dry Spent Fuel Storage System.

*Docket Number:* 72–1042.

*Certificate Expiration Date:* June 7, 2037.

*Model Number:* EOS–37PTH, EOS–89BTH, 61BTH Type 2.

\* \* \* \* \*

Dated: July 17, 2025.

For the Nuclear Regulatory Commission.

**Michael King,**

*Acting Executive Director for Operations.*

[FR Doc. 2025–14294 Filed 7–28–25; 8:45 am]

**BILLING CODE 7590–01–P**

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. FAA–2025–1722; Project Identifier AD–2025–01176–T; Amendment 39–23094; AD 2025–15–07]

RIN 2120–AA64

#### Airworthiness Directives; The Boeing Company Airplanes

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule; request for comments.

**SUMMARY:** The FAA is superseding Airworthiness Directive (AD) 2025–01–08, which applied to all The Boeing Company Model 747–200B, 747–200C, 747–200F, 747–300, 747–400, 747–400D, 747–400F, 747–8F, and 747–8 series airplanes. AD 2025–01–08 required identifying the part number, and the serial number if applicable, of the Captain’s and First Officer’s seats and applicable on-condition actions for affected seats. AD 2025–01–08 also required a one-time detailed inspection and repetitive checks of the horizontal movement system (HMS) of the Captain’s and First Officer’s seats and applicable on-condition actions. Since the FAA issued AD 2025–01–08, the FAA determined that AD 2025–01–08 contains an error when providing conditions for taking credit using a previous revision of the service information. This AD requires the actions of AD 2025–01–08 and revises paragraph (j) of this AD to clarify which

actions are not required. The FAA is issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective August 13, 2025.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of March 19, 2025 (90 FR 9382, February 12, 2025).

The FAA must receive comments on this AD by September 12, 2025.

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- *Federal eRulemaking Portal:* Go to [regulations.gov](https://www.regulations.gov). Follow the instructions for submitting comments.

- *Fax:* 202–493–2251.

- *Mail:* U.S. Department of Transportation, Docket Operations, M–30, West Building Ground Floor, Room W12–140, 1200 New Jersey Avenue SE, Washington, DC 20590.

- *Hand Delivery:* Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

*AD Docket:* You may examine the AD docket at [regulations.gov](https://www.regulations.gov) by searching for and locating Docket No. FAA–2025–1722; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, any comments received, and other information. The street address for Docket Operations is listed above.

*Material Incorporated by Reference:*

- For Boeing material identified in this AD, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Boulevard, MC 110–SK57, Seal Beach, CA 90740–5600; phone 562–797–1717; website [myboeingfleet.com](https://myboeingfleet.com).

- You may view this material at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206–231–3195. It is also available at [regulations.gov](https://www.regulations.gov) under Docket No. FAA–2025–1722.

**FOR FURTHER INFORMATION CONTACT:** Julie Linn, Aviation Safety Engineer, FAA, 2200 South 216th Street, Des Moines, WA 98198; phone 206–231–3584; email [Julie.Linn@faa.gov](mailto:Julie.Linn@faa.gov).

#### SUPPLEMENTARY INFORMATION:

##### Comments Invited

The FAA invites you to send any written data, views, or arguments about this final rule. Send your comments using a method listed under the **ADDRESSES** section. Include “Docket No.

FAA–2025–1722 and Project Identifier AD–2025–01176–T” at the beginning of your comments. The most helpful comments reference a specific portion of the final rule, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend this final rule because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to *regulations.gov*, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this final rule.

#### Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this AD contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this AD, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this AD. Submissions containing CBI should be sent to Julie Linn, Aviation Safety Engineer, FAA, 2200 South 216th Street, Des Moines, WA 98198; phone 206–231–3584; email [Julie.Linn@faa.gov](mailto:Julie.Linn@faa.gov). Any commentary that the FAA receives that is not specifically designated as CBI will be placed in the public docket for this rulemaking.

#### Background

The FAA issued AD 2025–01–08, Amendment 39–22932 (90 FR 9382, February 12, 2025) (AD 2025–01–08), for all The Boeing Company Model 747–200B, 747–200C, 747–200F, 747–300, 747–400, 747–400D, 747–400F, 747–8F, and 747–8 series airplanes. AD 2025–01–08 superseded AD 2019–22–02, Amendment 39–19781 (84 FR 67854, December 12, 2019), and required identifying the part number, and the serial number if applicable, of the Captain’s and First Officer’s seats and applicable on-condition actions for affected seats, including inspecting the fore and aft and vertical manual control levers for looseness, installing

serviceable seats, and doing a seat functional test after any cable adjustment. AD 2025–01–08 also required a one-time detailed inspection and repetitive checks of the HMS of the Captain’s and First Officer’s seats and applicable on-condition actions, including clearing the seat tracks of foreign object debris (FOD), overhauling the HMS, and replacing the horizontal stabilizer. AD 2025–01–08 was prompted by reports of uncommanded fore and aft movement of the Captain’s and First Officer’s seats. The FAA issued AD 2025–01–08 to address uncommanded fore and aft movement of the Captain’s and First Officer’s seats which, during a critical part of a flight such as takeoff or landing, could cause a flight control obstruction or unintended flight control input, which could result in the loss of the ability to control the airplane.

#### Actions Since AD 2025–01–08 Was Issued

Since the FAA issued AD 2025–01–08, the FAA determined that paragraph (j) of AD 2025–01–08 inadvertently provided credit for the actions in both paragraphs (g) and (h) of AD 2025–01–08 for a seat that met the criteria in any row in Table 1 to paragraph (j) of AD 2025–01–08. The FAA intended to provide credit for the actions in paragraph (g) of AD 2025–01–08 if the airplane records show that a seat meets the conditions pertaining to Boeing Special Attention Service Bulletin 747–25–3644, Revision 1, dated July 17, 2018; and credit for the actions in paragraph (h) of AD 2025–01–08 if the airplane records show that an Ipeco Captain’s or First Officer’s seat meets the conditions pertaining to Boeing Special Attention Service Bulletin 747–25–3653, Revision 1, dated October 19, 2018.

#### FAA’s Determination

The FAA is issuing this AD because the agency has determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

#### Material Incorporated by Reference Under 1 CFR Part 51

The FAA reviewed Boeing Special Attention Service Bulletin 747–25–3644, Revision 2, dated January 27, 2023, which the Director of the Federal Register approved for incorporation by reference as of March 19, 2025 (90 FR 9382, February 12, 2025).

The FAA also reviewed Boeing Special Attention Service Bulletin 747–25–3653, Revision 2, dated January 27, 2023, which the Director of the Federal

Register approved for incorporation by reference as of March 19, 2025 (90 FR 9382, February 12, 2025).

This material is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the **ADDRESSES** section.

#### AD Requirements

This AD retains all requirements of AD 2025–10–08, except that this AD corrects paragraph (j) of AD 2025–01–08. This AD requires accomplishing the actions specified in the material already described, except for any differences identified as exceptions in the regulatory text of this AD.

#### Justification for Immediate Adoption and Determination of the Effective Date

Section 553(b) of the Administrative Procedure Act (APA) (5 U.S.C. 551 *et seq.*) authorizes agencies to dispense with notice and comment procedures for rules when the agency, for “good cause,” finds that those procedures are “impracticable, unnecessary, or contrary to the public interest.” Under this section, an agency, upon finding good cause, may issue a final rule without providing notice and seeking comment prior to issuance. Further, section 553(d) of the APA authorizes agencies to make rules effective in less than thirty days, upon a finding of good cause.

An unsafe condition exists that requires the immediate adoption of this AD without providing an opportunity for public comments prior to adoption. The FAA has found that the risk to the flying public justifies forgoing notice and comment prior to adoption of this rule because of the urgency to correct AD 2025–01–08 to ensure compliance. AD 2025–01–08 does not fully address the unsafe condition because it allows operators to forego complying with required corrective actions and inspections when the Captain’s or First Officer’s seat has not met the necessary conditions. Paragraph (j) of AD 2025–01–08 incorrectly provides credit for all actions in the AD when the credit should be tied to the service information applicable to the airplane configuration. Without limiting the extent of the credit given, the unsafe condition still exists. Accordingly, notice and opportunity for prior public comment are impracticable and contrary to the public interest, pursuant to 5 U.S.C. 553(b).

In addition, for the foregoing reason(s), the FAA finds that good cause exists pursuant to 5 U.S.C. 553(d) for making this amendment effective in less than 30 days.

**Regulatory Flexibility Act**

The requirements of the Regulatory Flexibility Act (RFA) do not apply when an agency finds good cause pursuant to 5 U.S.C. 553 to adopt a rule without

prior notice and comment. Because the FAA has determined that it has good cause to adopt this rule without notice and comment, RFA analysis is not required.

**Costs of Compliance**

The FAA estimates that this AD affects 162 airplanes of U.S. registry. The FAA estimates the following costs to comply with this AD:

**ESTIMATED COSTS FOR REQUIRED ACTIONS PER SEAT**

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Identification, seat (retained actions from AD 2025–01–08).	1 work-hour × \$85 per hour = \$85 .....	\$0	\$85 .....	\$13,770.
Detailed inspection, HMS (retained actions from AD 2025–01–08).	1 work-hour × \$85 per hour = \$85 .....	0	\$85 .....	\$13,770.
Checks, HMS (retained actions from AD 2025–01–08).	2 work-hours × \$85 per hour = \$170 per check cycle.	0	\$170 per check cycle.	\$27,540 per check cycle.

The FAA estimates the following costs to do any on-condition actions that would be required based on the results

of the inspection. The FAA has no way of determining the number of aircraft

that might need these on-condition actions:

**ON-CONDITION ACTIONS PER SEAT \***

Action	Labor cost	Parts cost	Cost per product
Adjustment, control lever cable .....	1 work-hour × \$85 per hour = \$85 .....	\$0 .....	\$85.
Overhaul, HMS .....	11 work-hours × \$85 per hour = \$935 .....	Up to \$5,824 .....	Up to \$6,759.
Inspection of each seat's fore/aft and vertical manual control levers.	1 work-hour × \$85 per hour = \$85 per seat ....	\$0 .....	\$85 per seat.
Installation of serviceable seats .....	1 work-hour × \$85 per hour = \$85 per seat ....	\$0 .....	\$85 per seat.
Clearing FOD .....	1 work-hour × \$85 per hour = \$85 per seat ....	\$0 .....	\$85 per seat.
Replacement of the horizontal actuator .....	1 work-hour × \$85 per hour = \$85 per actuator.	\$7,937 per actuator ...	\$8,022 per actuator.
Operational test, adjusted control lever cable ..	1 work-hour × \$85 per hour = \$85 per seat ....	\$0 .....	\$85 per seat.

\* The estimated cost for tooling to align an affected seat for adjustment of the control lever cable is up to \$46,064.

The FAA has received no definitive data that would enable the FAA to provide cost estimates for the optional terminating action for the repetitive checks specified in this AD.

**Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

**Regulatory Findings**

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a "significant regulatory action" under Executive Order 12866, and
- (2) Will not affect intrastate aviation in Alaska.

**List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

**The Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

**PART 39—AIRWORTHINESS DIRECTIVES**

- 1. The authority citation for part 39 continues to read as follows:

**Authority:** 49 U.S.C. 106(g), 40113, 44701.

**§ 39.13 [Amended]**

- 2. The FAA amends § 39.13 by:

■ a. Removing Airworthiness Directive (AD) 2025–01–08, Amendment 39–22932 (90 FR 9382, February 12, 2025); and

■ b. Adding the following new AD:

**2025–15–07 The Boeing Company:**  
Amendment 39–23094; Docket No. FAA–2025–1722; Project Identifier AD–2025–01176–T.

**(a) Effective Date**

This airworthiness directive (AD) is effective August 13, 2025.

**(b) Affected ADs**

This AD replaces AD 2025–01–08, Amendment 39–22932 (90 FR 9382, February 12, 2025) (AD 2025–01–08).

**(c) Applicability**

This AD applies to all The Boeing Company Model 747–200B, 747–200C, 747–200F, 747–300, 747–400, 747–400D, 747–

400F, 747–8F, and 747–8 series airplanes, certificated in any category.

**(d) Subject**

Air Transport Association (ATA) of America Code 25, Equipment/furnishings.

**(e) Unsafe Condition**

This AD was prompted by reports of uncommanded fore and aft movement of the Captain's and First Officer's seats. The FAA is issuing this AD to address uncommanded fore and aft movement of the Captain's and First Officer's seats. The unsafe condition, if not addressed, could result in an uncommanded fore or aft seat movement during a critical part of a flight, such as takeoff or landing, and could cause a flight control obstruction or unintended flight control input, which could result in the loss of the ability to control the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Seat Part Number Identification and On-Condition Actions**

Except as specified by paragraphs (i) and (j) of this AD: At the applicable times specified in the "Compliance" paragraph of Boeing Special Attention Service Bulletin 747–25–3644, Revision 2, dated January 27, 2023, do an inspection to determine the part number, and serial number as applicable, of the Captain's and First Officer's seats, and all applicable on-condition actions identified in, and in accordance with the Accomplishment

Instructions of Boeing Special Attention Service Bulletin 747–25–3644, Revision 2, dated January 27, 2023. A review of airplane maintenance records is acceptable in lieu of this inspection if the part number and serial number of the Captain's and First Officer's seats can be conclusively determined from that review.

**(h) Detailed Inspection, and Repetitive Checks of Horizontal Movement System and On-Condition Actions**

Except as specified by paragraphs (i) and (j) of this AD: At the applicable times specified in the "Compliance" paragraph of Boeing Special Attention Service Bulletin 747–25–3653, Revision 2, dated January 27, 2023, do all applicable actions identified as "RC" (required for compliance) in, and in accordance with, the Accomplishment Instructions of Boeing Special Attention Service Bulletin 747–25–3653, Revision 2, dated January 27, 2023. Actions identified as terminating action in Boeing Special Attention Service Bulletin 747–25–3653, Revision 2, dated January 27, 2023, terminate the applicable required actions of this AD, provided the terminating action is done in accordance with the Accomplishment Instructions of Boeing Special Attention Service Bulletin 747–25–3653, Revision 2, dated January 27, 2023.

**(i) Exceptions to Service Information Specifications**

(1) Where the "Compliance" paragraph of Boeing Special Attention Service Bulletin 747–25–3653, Revision 2, dated January 27, 2023, refers to the original issue date of this

service bulletin, this AD requires using January 16, 2020 (the effective date of AD 2019–22–02, Amendment 39–19781 (84 FR 67854, December 12, 2019) (AD 2019–22–02), which was superseded by AD 2025–01–08).

(2) Where the "Compliance" paragraph of Boeing Special Attention Service Bulletin 747–25–3644, Revision 2, dated January 27, 2023, refers to 72 months after the original issue date of this service bulletin, this AD requires using 36 months after January 16, 2020 (the effective date of AD 2019–22–02).

(3) Where the "Compliance" paragraph of Boeing Special Attention Service Bulletin 747–25–3644, Revision 2, dated January 27, 2023, refers to the Revision 2 date of this service bulletin, this AD requires using the March 19, 2025 (the effective date of AD 2025–01–08).

**(j) Acceptable Conditions for Compliance**

If the airplane records show that an Ipeco Captain's or First Officer's seat installed on an airplane meets the conditions in any of the eleven rows for Boeing Special Attention Service Bulletin 747–25–3644, Revision 1, dated July 17, 20218, in Table 1 to paragraph (j) of this AD, then the actions in paragraph (g) of this AD are not required for that seat. If the airplane records show that an Ipeco Captain's or First Officer's seat meets the conditions in any of the three rows for Boeing Special Attention Service Bulletin 747–25–3653, Revision 1, dated October 19, 2018, in Table 1 to paragraph (j) of this AD, then the actions specified in paragraph (h) of this AD are not required for that seat.

TABLE 1 TO PARAGRAPH (j)—ALTERNATIVE ACCEPTABLE SEATS

Actions done in accordance with Boeing Special Attention Service Bulletin—	Actions done in accordance with Ipeco Service Bulletin—	Having Ipeco P/N—	And additional required conditions—
747–25–3644, Revision 1, dated July 17, 2018.	None .....	3A258–0041–01–2 or 3A258–0042–01–2.	No additional conditions required.
747–25–3644, Revision 1, dated July 17, 2018.	097–25–02, Issue 1, dated October 2, 2013; or Issue 2, dated March 28, 2014; or Issue 3, dated March 4, 2020.	3A090–0027–01–1 or 3A090–0028–01–1.	The manual override cable maintenance has been completed on the seat in accordance with the Ipeco Component Maintenance Manual 25–10–94, Revision 10, dated September 13, 2019, or subsequent revisions up to and including Revision 15, dated August 10, 2021.
747–25–3644, Revision 1, dated July 17, 2018.	107–25–03, Issue 1, dated October 2, 2013; or Issue 2, dated March 28, 2014; or Issue 3, dated March 4, 2020.	3A090–0055–01–1 or 3A090–0056–01–1.	The manual override cable maintenance has been completed on the seat in accordance with the Ipeco Component Maintenance Manual 25–10–97, Revision 14, dated December 5, 2013, and subsequent revisions up to and including Revision 22, dated March 19, 2021.
747–25–3644, Revision 1, dated July 17, 2018.	112–25–02, Issue 1, dated November 4, 2013; or Issue 2, dated March 28, 2014; or Issue 3, dated March 18, 2020; or Issue 4, dated May 7, 2021.	3A090–0065–01–1 or 3A090–0066–01–1.	The manual override cable maintenance has been completed on the seat in accordance with the Ipeco Component Maintenance Manual 25–11–01, Revision 9, dated September 20, 2013, and subsequent revisions up to and including Revision 18, dated December 19, 2021.
747–25–3644, Revision 1, dated July 17, 2018.	209–25–02, Issue 1, dated November 13, 2013; or Issue 2, dated March 28, 2014; or Issue 3, dated March 4, 2020.	3A090–0075–01–1 or 3A090–0076–01–1.	The manual override cable maintenance has been completed on the seat in accordance with the Ipeco Component Maintenance Manual 25–11–32, Revision 4, dated September 27, 2013, and subsequent revisions up to and including Revision 9, dated July 23, 2020.

TABLE 1 TO PARAGRAPH (j)—ALTERNATIVE ACCEPTABLE SEATS—Continued

Actions done in accordance with Boeing Special Attention Service Bulletin—	Actions done in accordance with Ipeco Service Bulletin—	Having Ipeco P/N—	And additional required conditions—
747–25–3644, Revision 1, dated July 17, 2018.	211–25–04, Issue 1, dated November 4, 2013; or Issue 2, dated March 28, 2014; or Issue 3, dated March 4, 2020.	3A090–0079–01–1 or 3A090–0080–01–1.	The manual override cable maintenance has been completed on the seat in accordance with the Ipeco Component Maintenance Manual 25–10–79, Revision 23, dated September 5, 2013, and subsequent revisions up to and including Revision 31, dated July 23, 2020.
747–25–3644, Revision 1, dated July 17, 2018.	212–25–03, Issue 1, dated November 4, 2013; or Issue 2, dated March 28, 2014; or Issue 3, dated March 4, 2020.	3A090–0081–01–1 or 3A090–0082–01–1.	The manual override cable maintenance has been completed on the seat in accordance with the Ipeco Component Maintenance Manual 25–10–80, Revision 9, dated September 27, 2013, and subsequent revisions up to and including Revision 15, dated July 23, 2020.
747–25–3644, Revision 1, dated July 17, 2018.	258–25–08, Issue 4, dated April 25, 2014; or Issue 5, dated March 4, 2020; or Issue 6, dated January 28, 2021.	3A258–0041–01–1 or 3A258–0042–01–1.	Does not have a serial number identified by the effectivity of the referenced Ipeco Service Bulletins.
747–25–3644, Revision 1, dated July 17, 2018.	258–25–08, Issue 4, dated April 25, 2014; or Issue 5, dated March 4, 2020; or Issue 6, dated January 28, 2021.	3A258–0041–01–1 or 3A258–0042–01–1.	The manual override cable maintenance has been completed on the seat in accordance with the Ipeco Component Maintenance Manual 25–11–38, Revision 21, dated December 12, 2013, or subsequent revisions up to and including Revision 53, dated December 4, 2023.
747–25–3644, Revision 1, dated July 17, 2018.	258–25–08, Issue 6, dated January 28, 2021.	3A258–0041–01–1Z or 3A258–0042–01–1Z.	Does not have a serial number identified by the effectivity of the referenced Ipeco Service Bulletin.
747–25–3644, Revision 1, dated July 17, 2018.	258–25–08, Issue 6, dated January 28, 2021.	3A258–0041–01–1Z or 3A258–0042–01–1Z.	The manual override cable maintenance has been completed on the seat in accordance with the Ipeco Component Maintenance Manual 25–11–38, Revision 21, dated December 12, 2013, or subsequent revisions up to and including Revision 53, dated December 4, 2023.
747–25–3653, Revision 1, dated October 19, 2018.	None .....	3A258–0041–01–2, 3A258–0041–01–1Z, 3A258–0042–01–2 or 3A258–0042–01–1Z.	No additional conditions required.
747–25–3653, Revision 1, dated October 19, 2018.	258–25–13, Issue 3, dated November 27, 2017; or Issue 4, dated April 28, 2020, or Issue 5, dated November 1, 2021.	3A258–0041–01–1 or 3A258–0042–01–1.	Has a horizontal actuator with Artus part number AD8650503 at “Amendment C” or later.
747–25–3653, Revision 1, dated October 19, 2018.	258–25–14, Issue 4, dated January 29, 2018; or Issue 5, dated April 28, 2020.	3A258–0041–01–1 or 3A258–0042–01–1.	Has a horizontal actuator with Artus part number AD8650503 at “Amendment C” or later.

**(k) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, AIR–520, Continued Operational Safety Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or responsible Flight Standards Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (l) of this AD. Information may be emailed to: *AMOC@faa.gov*.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the responsible Flight Standards Office.

(3) An AMOC that provides an acceptable level of safety may be used for any repair, modification, or alteration required by this AD if it is approved by The Boeing Company Organization Designation Authorization (ODA) that has been authorized by the Manager, AIR–520, Continued Operational Safety Branch, FAA, to make those findings. To be approved, the repair method, modification deviation, or alteration deviation must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

(4) Except as required by paragraph (i) of this AD: For material that contains steps that are labeled as Required for Compliance (RC), the provisions of paragraphs (k)(4)(i) and (ii) of this AD apply.

(i) The steps labeled as RC, including substeps under an RC step and any figures identified in an RC step, must be done to comply with the AD. If a step or substep is labeled “RC Exempt,” then the RC requirement is removed from that step or substep. An AMOC is required for any deviations to RC steps, including substeps and identified figures.

(ii) Steps not labeled as RC may be deviated from using accepted methods in accordance with the operator's maintenance or inspection program without obtaining approval of an AMOC, provided the RC steps, including substeps and identified figures, can still be done as specified, and the airplane can be put back in an airworthy condition.

**(l) Related Information**

For more information about this AD, contact Julie Linn, Aviation Safety Engineer, FAA, 2200 South 216th Street, Des Moines, WA 98198; phone 206–231–3584; email [Julie.Linn@faa.gov](mailto:Julie.Linn@faa.gov).

**(m) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the material listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this material as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(3) The following material was approved for IBR on March 19, 2025 (90 FR 9382, February 12, 2025).

(i) Boeing Special Attention Service Bulletin 747–25–3644, Revision 2, dated January 27, 2023.

(ii) Boeing Special Attention Service Bulletin 747–25–3653, Revision 2, dated January 27, 2023.

(4) For Boeing material identified in this AD, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminister Boulevard, MC 110–SK57, Seal Beach, CA 90740–5600; phone 562–797–1717; website [myboeingfleet.com](http://myboeingfleet.com).

(5) You may view this material at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206–231–3195.

(6) You may view this material at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, visit [www.archives.gov/federal-register/cfr/ibr-locations](http://www.archives.gov/federal-register/cfr/ibr-locations) or email [fr.inspection@nara.gov](mailto:fr.inspection@nara.gov).

Issued on July 25, 2025.

**Peter A. White,**

*Deputy Director, Integrated Certificate Management Division, Aircraft Certification Service.*

[FR Doc. 2025–14354 Filed 7–28–25; 8:45 am]

**BILLING CODE 4910–13–P**

**DEPARTMENT OF ENERGY****Federal Energy Regulatory Commission****18 CFR Part 40**

[Docket No. RM25–3–000; Order No. 909]

**Reliability Standards for Frequency and Voltage Protection Settings and Ride-Through for Inverter-Based Resources**

**AGENCY:** Federal Energy Regulatory Commission.

**ACTION:** Final rule.

**SUMMARY:** The Federal Energy Regulatory Commission (Commission) approves proposed Reliability Standard

PRC–024–4 (Frequency and Voltage Protection Settings for Synchronous Generators, Type 1 and Type 2 Wind Resources, and Synchronous Condensers), Reliability Standard PRC–029–1 (Frequency and Voltage Ride-through Requirements for Inverter-Based Resources), and a definition of “Ride-through,” which the North American Electric Reliability Corporation (NERC) submitted in response to a Commission directive. In addition, the Commission directs NERC to clarify documentation requirements for legacy equipment needed to support an exemption request pursuant to Reliability Standard PRC–029–1; to consider whether, and if so how, to address a total of two exception- and exemption-related issues raised by commenters; and to submit an informational filing that assesses the reliability impact of the exemptions to Reliability Standard PRC–029–1.

**DATES:** This rule is effective August 28, 2025.

**FOR FURTHER INFORMATION CONTACT:**

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Hampden T. Macbeth (Legal Information), Office of General Counsel, Federal Energy Regulatory Commission, 888 First Street NE, Washington, DC 20426, (202) 502–8957, [Hampden.Macbeth@ferc.gov](mailto:Hampden.Macbeth@ferc.gov)  
Felicia West (Legal Information), Office of General Counsel, Federal Energy Regulatory Commission, 888 First Street NE, Washington, DC 20426, (202) 502–8948, [Felicia.West@ferc.gov](mailto:Felicia.West@ferc.gov)

**SUPPLEMENTARY INFORMATION:**

1. Pursuant to section 215(d)(2) of the Federal Power Act (FPA),<sup>1</sup> the Commission approves the proposed Protection and Control (PRC) Reliability Standard PRC–024–4 (Frequency and Voltage Protection Settings for Synchronous Generators, Type 1 and Type 2 Wind Resources, and Synchronous Condensers), Reliability Standard PRC–029–1 (Frequency and Voltage Ride-through Requirements for Inverter-Based Resources), and the proposed definition of the term Ride-through, which the North American Electric Reliability Corporation (NERC)

submitted in response to Commission directives in Order No. 901.<sup>2</sup> We also approve the associated violation risk factors and violation severity levels, implementation plan, and effective date, as well as the retirement of currently effective Reliability Standard PRC–024–3. We approve the proposed Reliability Standards and proposed definition because they improve the reliability of the Bulk-Power System by establishing Ride-through performance requirements that mitigate inverter-based resource (IBR) tripping and momentary cessation.<sup>3</sup>

2. While the final rule largely adopts the Notice of Proposed Rulemaking’s<sup>4</sup> (NOPR) proposals, some commenters raise a concern that additional specificity is needed regarding the acceptable documentation to support an exemption for legacy IBRs pursuant to Requirement 4 of Reliability Standard PRC–029–1. As discussed below, we agree that entities would benefit from greater clarity on documentation obligations and direct that NERC, within 12 months of the effective date of this final rule, submit a responsive modification to the Reliability Standard, for example, by expanding the non-exhaustive list for IBR generator owners of acceptable types of evidence of a hardware limitation that prevents the IBR from meeting the ride-through<sup>5</sup> criteria in proposed Requirements R1 through R3. We also direct NERC to submit, to the Commission, an informational filing 18 months after the conclusion of the exemption request period in proposed Reliability Standard PRC–029–1, Requirement R4 that assesses the reliability impact of the exemptions to the Standard.

3. In Order No. 901, the Commission stressed the need for comprehensive and timely Reliability Standards to address the well-documented reliability impacts of IBRs.<sup>6</sup> With that frame of reference, the Commission in Order No. 901 allowed NERC to craft “a limited and documented” exemption to ride-

<sup>2</sup> *Reliability Standards to Address Inverter-Based Res.*, Order No. 901, 88 FR 74250 (Oct. 30, 2023), 185 FERC ¶ 61,042 (2023).

<sup>3</sup> See *id.* PP 50–52.

<sup>4</sup> *Reliability Standards for Frequency & Voltage Protection Settings & Ride-Through for Inverter-Based Res.*, Notice of Proposed Rulemaking, 90 FR 6845 (Jan. 21, 2025), 189 FERC ¶ 61,212 (2025) (NOPR).

<sup>5</sup> This final rule uses the phrase “Ride-through” to refer to the proposed definition of the term “Ride-through” and uses the phrase “ride-through” to refer to the act of an IBR staying connected to the Bulk-Power System through a voltage or frequency system disturbance.

<sup>6</sup> Order No. 901, 185 FERC ¶ 61,042 at PP 5, 190, 226 (“[W]e emphasize that industry has been aware of and alerted to the need to address the impacts of IBRs . . . since at least 2016.”).

<sup>1</sup> 16 U.S.C. 824o(d)(2).