August 29, 2023



Pipeline and Hazardous Materials Safety Administration 1200 New Jersey Avenue, SE Washington, DC 20590

DOT-SP 20356 (FOURTH REVISION)

2026-05-31

(FOR RENEWAL, SEE 49 CFR 107.109)

1. <u>GRANTEE</u>: (See individual authorization letter)

2. <u>PURPOSE AND LIMITATION</u>:

a. This special permit authorizes the transportation in commerce of lithium ion batteries exceeding 35 kg net weight per package by cargo-only aircraft. This special permit provides no relief from the Hazardous Materials Regulations (HMR) or the International Civil Aviation Organization's Technical Instructions for the Safe Transport of Dangerous Goods by Air (ICAO TI) other than as specifically stated herein. The most recent revision supersedes all previous revisions.

b. The safety analyses performed in the development of this special permit only considered the hazards and risks associated with the transportation in commerce.

c. Unless otherwise stated herein, this special permit consists of the special permit authorization letter issued to the grantee together with this document.

d. This special permit serves as an approval under Special Provision A99 of the ICAO TI, 49 CFR § 173.185(b)(5) and as a "Competent Authority Approval" as defined under § 107.1.

- 3. <u>REGULATORY SYSTEM AFFECTED</u>: 49 CFR Parts 106, 107 and 171-180.
- 4. <u>REGULATIONS FROM WHICH EXEMPTED</u>: 49 CFR § 172.101 Hazardous Materials Table Column (9B) in that lithium batteries may have a mass exceeding 35 kg per package, except as specified herein.
- 5. <u>BASIS</u>: This special permit is based on the modification applications of Tesla Motors, Inc. dated February 28, 2023, submitted in accordance with § 107.105, the public proceeding thereon, and additional information submitted March 7, 2023.

6. <u>HAZARDOUS MATERIALS (49 CFR 172.101)</u>:

Hazardous Materials Description			
Proper Shipping Name	Hazard Class/ Division	Identi- fication Number	Packing Group
Lithium ion batteries <i>lithium ion polymer batteries</i> *	9	UN3480	N/A

*Batteries must be comprised of form factor 2170 lithium ion cells and modules comprised of those cells as described in Tesla Motors, Inc.'s October 2, 2016, September 20, 2017, applications or other form factor cells and modules comprised of cells described in Tesla Motors. Inc's March 4, 2022, February 28, 2023 (revised on March 7, 2023) application. Applications are on file with the Office of Hazardous Materials Safety (OHMS).

7. <u>SAFETY CONTROL MEASURES</u>:

a. <u>Safety Controls</u>:

(1) Authorized batteries are: (i) the modules which contain non-wired cells (non-wired battery module); (ii) the modules in which cells are electronically connected; (iii) the Pods; (iv) the Powerwalls; (v) the Powerpacks; (vi) Megapack battery module assemblies; and (vii) Megapack modules, as described in the applications on file with the OHMS.

(2) A summation of energy ratings of all cells in a non-wired battery module may not exceed 20 kWh.

(3) Each non-wired battery module may not exceed a mass of 175 kg.

(4) Each battery module and non-wired battery module is composed of not more than the number of cells noted in the applications dated September 20, 2017, and March 4, 2022, and on file with OHMS.

(5) Each battery module, Pod, and Powerwall (except for the Megapack battery module assembly) may not exceed an energy rating of 20 kWh and a mass of 175 kg (386 pounds).

(6) Each Megapack battery module may not exceed an energy rating of 70 kWh and a net mass of 550 kg (1,213 pounds).

(7) Each Pod and Powerwall must be comprised of not more than one battery module.

(8) Each Powerpack must not exceed an energy capacity of 600 kWh and a net mass of 3,000 kg (6,614 pounds).

(9) Each Megapack battery module assembly must not exceed an energy capacity of 210 kWh and a net mass of 1,650 kg (3638 pounds).

(10) Battery modules, Pods, Powerwalls, Powerpacks, Megapack battery module, and Megapack battery module assembly must be equipped with an effective means of preventing dangerous reverse current flow.

(11) Battery terminals must have effective insulation to prevent short circuits during transport.

(12) Cells and battery modules must be protected against short-circuiting.

(13) Each battery module, non-wired battery module, Pod, Powerwall, Powerpack, Megapack battery module, and Megapack battery module assembly must be offered for air transportation at a state of charge not exceeding 30%.

(14) The cells incorporated into battery modules and batteries must incorporate a safety venting device or otherwise be designed in a manner that precludes a violent rupture under conditions normally incident in transportation.

b. <u>Testing Requirements</u>:

(1) Except as provided in paragraph 7.b.(3), each cell within the battery modules and non-wired battery module must be of a type that has successfully passed the tests in accordance with the UN Manual of Tests and Criteria, 5th or 7th Revised Edition, as appropriate.

(2) Except as provided in paragraph 7.b.(4), each battery module must be of a type that has successfully passed the tests in accordance with the UN Manual of Tests and Criteria, 5^{th} or 7^{th} Revised Edition, as appropriate.

(3) Each cell within the Megapack battery module must be of a type that has successfully passed the tests in accordance with the UN Manual of Tests and Criteria, 6^{th} Revised Edition.

(4) Each Megapack battery module within the Megapack battery module assembly must be of a type that has successfully passed the tests in accordance

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with the UN Manual of Tests and Criteria, 5th or 7th Revised Edition, as applicable.

(5) The Pods, Powerwalls, Powerpacks, and Megapack battery module assembly need not be of a type that has passed the tests in the "UN Manual of Tests and Criteria" when each Pod, Powerwall, Powerpack, and Megapack battery module assembly has a Watt-hour rating greater than 6,200 Watt-hours and is equipped with a battery management system verified to monitor the modules and to prevent short circuit or over-discharge between the modules and overcharge.

c. <u>Packaging Requirements</u>:

(1) Pods, Powerwalls, Powerpacks, and the Megapack battery module assembly:

(i) Each Pod, Powerwall, Powerpack, and Megapack battery module assembly must be comprised of modules having a strong, impact-resistant outer casing and weighing at least 12 kg.

(ii) Pods, Powerwalls, Powerpacks, and Megapack battery module assembly must be packaged in strong impact-resistant outer packagings.

(iii) Packagings must comply with the requirements in Packing Instruction 974 of the Supplement to the ICAO TI.

(2) Battery modules and non-wired battery modules:

(i) Each battery module and non-wired battery module must be packaged in an inner packaging that completely encloses the module.

(ii) Each inner packaging must be packaged in a UN 4D wooden box meeting the Packing Group II performance criteria in accordance with § 173.185(b) and Packing Instruction 974 of the Supplement to the ICAO TI.

(3) For batteries or modules with a net weight greater than 30 kg (66 pounds), only one battery or module per package is authorized.

d. <u>MARKING:</u> Each package or over pack if used must be marked with the special permit number, "DOT-SP 20356", in accordance with § 172.301(c).

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8. <u>SPECIAL PROVISIONS</u>:

a. A person who is not a holder of this special permit who receives a package covered by this special permit may reoffer it for transportation provided no modification or change is made to the package and it is reoffered for transportation in conformance with this special permit, the HMR and the ICAO TI.

b. A current copy of this special permit must be maintained at each facility where the package is offered or reoffered for transportation.

c. This special permit in no way affects the need to obtain any required authorizations from other agencies of the United States Government or from the competent authorities of countries of origin, transit, destination, and State of Operator.

d. The grantee must maintain a record of all activity conducted under the authority granted in this special permit and upon request make this information available to DOT representatives or enforcement officials. The record must contain a listing and number of shipments made to include:

- (1) Dates of shipment; and
- (2) Description of each type of shipment.
- 9. <u>MODES OF TRANSPORTATION AUTHORIZED</u>: Cargo-only aircraft.
- 10. <u>MODAL REQUIREMENTS</u>: A current copy of this special permit must be carried aboard each aircraft used to transport packages covered by this special permit. The shipper must furnish a copy of this special permit to the air carrier before or at the time the shipment is tendered.
- 11. <u>COMPLIANCE</u>: Failure by a person to comply with any of the following may result in suspension or revocation of this special permit and penalties prescribed by the Federal hazardous materials transportation law, 49 U.S.C. 5101 <u>et seq</u>:
 - o All terms and conditions prescribed in this special permit and the Hazardous Materials Regulations, 49 CFR Parts 171-180.
 - o Persons operating under the terms of this special permit must comply with the security plan requirement in Subpart I of Part 172 of the HMR, when applicable.
 - o Registration required by § 107.601 <u>et seq</u>., when applicable.

Each "Hazmat employee", as defined in § 171.8, who performs a function subject to this special permit must receive training on the requirements and conditions of this special permit in addition to the training required by §§ 172.700 through 172.704.

No person may use or apply this special permit, including display of its number, when this special permit has expired or is otherwise no longer in effect.

Under Title VII of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)— "The Hazardous Materials Safety and Security Reauthorization Act of 2005" (Pub. L. 109-59), 119 Stat. 1144 (August 10, 2005), amended the Federal hazardous materials transportation law by changing the term "exemption" to "special permit" and authorizes a special permit to be granted up to two years for new special permits and up to four years for renewals.

12. <u>REPORTING REQUIREMENTS</u>: Shipments or operations conducted under this special permit are subject to the Hazardous Materials Incident Reporting requirements specified in 49 CFR §§ 171.15 - Immediate notice of certain hazardous materials incidents, and 171.16 - Detailed hazardous materials incident reports. In addition, the grantee(s) of this special permit must notify the Associate Administrator for Hazardous Materials Safety, in writing, of any incident involving a package, shipment or operation conducted under terms of this special permit.

Issued in Washington, D.C.:

Wat By

for William Schoonover Associate Administrator for Hazardous Materials Safety

Address all inquiries to: Associate Administrator for Hazardous Materials Safety, Pipeline and Hazardous Material Safety Administration, U.S. Department of Transportation, East Building PHH-13, 1200 New Jersey Avenue, Southeast, Washington, D.C. 20590.

Copies of this special permit may be obtained by accessing the Hazardous Materials Safety Homepage at <u>https://www.phmsa.dot.gov/approvals-and-permits/hazmat/special-permits-search</u>. Photo reproductions and legible reductions of this special permit are permitted. Any alteration of this special permit is prohibited.

PO: Steve H/TG