

December 16, 2019



U.S. Department
of Transportation

East Building, PHH-30
1200 New Jersey Avenue S.E.
Washington, D.C. 20590

**Pipeline and Hazardous
Materials Safety Administration**

DOT-SP 20493
(FIRST REVISION)

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: (See individual authorization letter)
2. PURPOSE AND LIMITATION:
 - a. This special permit authorizes the transportation in commerce of lithium ion batteries exceeding 35 kg net weight via cargo 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 and Packing Instruction 965, Section IA of the ICAO TI and as a "Competent Authority Approval" as defined under 49 CFR § 107.1.
3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180 and the ICAO TI.
4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR § 172.101 Hazardous Materials Table Column (9B) in that lithium batteries may have a mass exceeding 35 kg per package, as provided herein.

December 16, 2019

5. BASIS: This special permit is based on the modification application of Tesla, Inc. dated September 12, 2019 submitted in accordance with § 107.105 and the public proceeding thereon.
6. HAZARDOUS MATERIALS (49 CFR 172.101):

Hazardous Materials Description			
Proper Shipping Name	Hazard Class/ Division	Identification Number	Packing Group
Lithium ion batteries	9	UN3480	N/A

7. SAFETY CONTROL MEASURES:

a. Battery/Module Requirements:

(1) Authorized Batteries/Modules:

(i) Batteries comprised of 1091596-00-CC battery modules, as described in Tesla, Inc.'s application dated July 6, 2017 and on file with the Office of Hazardous Materials Safety Approvals and Permits Division (OHMSAPD).

(ii) Battery modules which do not differ from the tested type identified in paragraph 7.a.(1)(i).

(iii) Non-wire bonded battery modules (cells physically secured together without electrical connections in place) as described in Tesla, Inc.'s modification application dated September 12, 2019.

(iv) Each non-wire bonded battery module consisting of seven (7) bandoliers glued together may contain no more than the number of cells for each of three models as described in Tesla, Inc.'s application on file with the OHMSAPD.

(2) The battery modules may not exceed 100 kg or 25 kWh energy capacity.

December 16, 2019

(3) The batteries may not exceed 500 kg or 100 kWh energy capacity.

(4) The battery modules and batteries must be offered for transportation at a state of charge not exceeding 30 percent.

(5) 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 to transportation. The cells must also incorporate an internal Current Interrupt Device to protect the cells from excessive internal pressure.

(6) Batteries composed of modules with an energy capacity $\geq 6,200$ Wh must incorporate a battery management system designed to prevent overcharge, short circuits and over discharge between the battery modules. Additionally, batteries must be designed to meet Tesla, Inc.'s vibration and crush testing as described in the Tesla, Inc.'s application on file with the OHMSAPD.

(7) An effective means of preventing reverse current flow must be provided when the battery modules or batteries are connected in parallel.

b. Testing Requirements: All lithium ion cells and battery modules must be of a type that has passed all required tests as specified in the "UN Manual of Tests and Criteria, 5th Revised Edition."

c. Packaging Requirements:

(1) Battery modules must be individually packaged in a fully enclosed inner packaging and separated from conductive materials in the packaging.

(2) Battery modules and batteries must be protected against short circuiting.

(3) Battery modules described in paragraphs 7.a.(1)(i) or (ii) must be further packaged in an outer packaging of a type specified in § 173.185(b) that meets Packing Group II performance criteria. No more than one battery module may be packaged within one package.

December 16, 2019

(4) Non-wire bonded battery modules described in paragraph 7.a.(1)(iii) must be further packaged in a 4D plywood box that meets Packing Group I performance criteria. No more than one battery module containing no more than seven (7) bandoliers may be packaged within one package.

(5) Batteries weighing 12 kg or more must have a strong, impact-resistant outer casing. These batteries may be packaged in strong outer packagings. No more than one battery may be packaged within one package. The battery must be secured to prevent inadvertent movement and the terminals may not support the weight of other superimposed elements.

8. SPECIAL PROVISIONS:

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, and destination.

d. The grantee must maintain the following record and upon request make this record 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. MODES OF TRANSPORTATION AUTHORIZED: Cargo-only aircraft.

December 16, 2019

10. MODAL REQUIREMENTS: 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. COMPLIANCE: 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 et seq:
- 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 et seq., 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. REPORTING REQUIREMENTS: 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

December 16, 2019

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.:



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-30, 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 http://hazmat.dot.gov/sp_app/special_permits/spec_perm_index.htm. Photo reproductions and legible reductions of this special permit are permitted. Any alteration of this special permit is prohibited.

PO: Steve H/NICKS