



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

April 17, 2025

1200 New Jersey Avenue, SE
Washington, DC 20590

DOT-SP 21428
(SECOND REVISION)

EXPIRATION DATE: 2029-01-31

(FOR RENEWAL, SEE 49 CFR 107.109)

1. GRANTEE: Livewire EV LLC
Milwaukee, WI
2. PURPOSE AND LIMITATION:
 - a. This special permit authorizes the transportation in commerce of lithium batteries exceeding 35 kg, including those installed in vehicles, via 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. No party status will be granted to this special permit.
 - d. This special permit serves as an approval under Special Provision A99 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.
4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR § 172.101 Column (9B) in that the net weight of the battery exceeds 35 kg, as specified herein.

Tracking Number: 2024105183

5. BASIS: This special permit is based on the application of Livewire EV LLC dated October 24, 2024, 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 <i>including lithium ion polymer batteries</i>	9	UN3480	N/A
Battery-powered vehicle	9	UN3171	N/A

7. SAFETY CONTROL MEASURES:

a. PACKAGING:

(1) Inner Packaging: Each battery must be placed in an impact-resistant, aluminum case (battery alone) or installed in a motorcycle (battery-powered vehicle).

(2) Outer Packaging:

(i) Battery:

(A) Each battery must be packaged in a UN 4D plywood box meeting the Packing Group II performance criteria.

(B) The battery should be surrounded by foam cushioning ensuring that the battery does not shift and minimize vibrations and shock during transport.

(C) The battery terminals may not support the weight of the battery.

(ii) Battery-powered vehicle:

(A) The vehicle must be secured in a strong, fully enclosed wooden crate.

(B) Battery must be secure to prevent shifting and minimize vibrations and shock during transport

(C) The battery terminals may not support the weight of the vehicle.

(3) Only one battery is permitted per package

(4) Packaging must comply with the requirements in Packaging Instruction 974 of the ICAO TI Supplement.

(5) Waste lithium battery assemblies and lithium battery assemblies being shipped for recycling or disposal are forbidden under this special permit.

(6) Batteries must not be packed in the same outer packaging with substances and articles of Class 1 (explosives) other than Division 1.4S, Division 2.1 (flammable gases), Class 3 (flammable liquids), Division 4.1 (flammable solids), or Division 5.1 (oxidizers).

(7) The net mass of the battery in each package is 73 kg.

b. TESTING:

(1) Each lithium ion cell must be manufactured from Panasonic (model: NCR2170M, 18 Wh, and 70 g) or Samsung (model: INR21700-50G, 3.63 V, 5000 mAh (18.15 Wh), and 69.5 g) and must be of a type that has successfully passed the required tests in accordance with the 38.3 of the UN Manual of Tests and Criteria, 6th revised edition.

(2) Each lithium ion battery must be of a type that has successfully passed the required tests in accordance with the 38.3 of the UN Manual of Tests and Criteria, 7th revised edition.

c. OPERATIONAL CONTROLS:

(1) Authorized batteries are identified as S2 Arrow comprised of 576 lithium ion cells weighing 73 kg, and has a total energy capacity of 10.5 kWh with a 96s6p configuration.

(2) Cells and batteries must be protected against short-circuiting and be equipped with means of venting and preventing dangerous reverse current flow.

- (3) Each battery must be offered for transportation at a state of charge not exceeding 30%.
- (4) Batteries must be packed to prevent accidental activation of the battery and vehicle.
- (5) Cells or batteries that are leaking or liable to rapidly disassemble, dangerously react produce a flame or a dangerous evolution of heat or a dangerous emission of toxic, corrosive, or flammable gases, or vapors under normal conditions of transport may not be transported under this special permit.
- (6) Only one battery per package is authorized under this special permit.
- (7) The battery must be secure to prevent shifting and minimize vibrations.
- (8) Each battery must be equipped with the prevention of short circuiting or over discharge between cells in the battery and any overcharge of the battery.
- (9) Any changes to the battery from the one listed above invalidates this special permit.

d. **MARKING:** Each package must be marked with the special permit number, "DOT-SP 21428", in accordance with §172.301(c).

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 or its contents 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. Under the terms of this special permit, the grantee may only offer hazardous materials (i.e., the grantee is not authorized as a carrier).
- d. 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, or the State of Operator.
- e. The special permit holder must maintain a record of all activity conducted under the authority granted in this special permit. The record must contain a complete listing and number of shipments made to include and upon request make this information

available to a DOT representative or an enforcement official. 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: Motor vehicle, rail freight, and cargo-only aircraft.
10. MODAL REQUIREMENTS: A current copy of this special permit must be carried aboard each aircraft or motor vehicle 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 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-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 <https://www.phmsa.dot.gov/approvals-and-permits/hazmat/special-permits-search>. Photo reproductions and legible reductions of this special permit are permitted. Any alteration of this special permit is prohibited.

PO: ae