

August 01, 2018



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 20698

EXPIRATION DATE: 2020-06-30

(FOR RENEWAL, SEE 49 CFR 107.109)

1. GRANTEE: Defense Advanced Research Projects Agency (DARPA)
Arlington, VA
2. PURPOSE AND LIMITATIONS:
 - a. This special permit authorizes the transportation in commerce of prototype lithium batteries contained in equipment 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 development of this special permit only considered the hazards and risks associated with transportation in commerce. The safety analyses did not consider the hazards and risks associated with consumer use, use as a component of a transport vehicle or other device, or other uses not associated with transportation in commerce.
 - c. This special permit serves as an approval under Special Provision A88 of the International Civil Aviation Organizations Technical Instructions (ICAO TI) and as a "Competent Authority Approval" as defined under 49 CFR § 107.1.
 - d. No party status will be granted to this special permit.

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3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180.
4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR § 173.185(a) in that the lithium batteries are not of a type proven to meet the criteria in part III, sub-section 38.3 of the UN Manual of Tests and Criteria; and 49 CFR § 173.185(e)(3) in that the packaging is not the UN specification packaging at the Packing Group I level.
5. BASIS: This emergency special permit is based on the application of Defense Advanced Research Projects Agency (DARPA) dated July 9, 2018, submitted in accordance with § 107.117 and a determination that it is necessary for national security.
6. HAZARDOUS MATERIALS (49 CFR 172.101):

Hazardous Material Description			
Proper Shipping Name	Hazard Class/ Division	Identification Number	Packing Group
Lithium ion batteries contained in equipment <i>including lithium ion polymer batteries</i>	9	UN3481	N/A

7. SAFETY CONTROL MEASURES:

a. OPERATIONAL CONTROLS:

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(1) Only prototype batteries contained in equipment (R3D2 satellite) designed for space launch and comprised of not more than the following number of cells and battery packs identified in DARPA's application for special permit dated July 2, 2018 and on file with the Office of Hazardous Materials Approvals and Permits Division may be offered for transportation under the terms of this special permit.

(i) Bus Battery: A 24-cell battery pack with cells configured as 8S3P (Model LG18650MJ1).

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(ii) Payload Battery: An 8-cell lithium polymer battery pack, with cells configured as 8S1P (Model SLPB60216216).

(2) Cells and the batteries contained in equipment must be protected against short-circuiting.

(3) The battery contained in equipment must be equipped with an effective means of preventing dangerous reverse current flow when a battery contains cells that are connected in parallel.

b. TESTING:

(1) The cells in the batteries must be of a type that has passed the required tests in accordance with the UN Manual of Tests and Criteria, 5th Revised Edition.

(2) The batteries need not be of a type that has passed the required tests in accordance with the UN Manual of Tests and Criteria, 5th Revised Edition except for undergoing environmental testings as described in the application.

c. PACKAGING:

(1) Batteries must be contained in housings which are integrated into the equipment designed for space launch.

(2) The equipment containing the batteries must be wrapped within an ESD dissipative material and then placed in the shipping container custom-made to limit the environmental exposure under the transportation environments.

(3) The equipment containing the batteries must be secured to the shipping container to prevent movement during transportation.

(4) The net weight of batteries within each package must not exceed 12 kg.

d. MARKING:

(1) The DOT-SP number shall be marked on the outside of the shipping container.

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(2) The shipping container shall incorporate lithium battery mark as required by 49 CFR and ICAO TI.

(3) The DOT-SP number shall be included on the shipping papers in association with the basic description.

8. SPECIAL PROVISIONS:

a. In accordance with the provisions of Paragraph (b) of § 173.22a, persons may use the packaging authorized by this special permit for the transportation of the hazardous materials specified in paragraph 6, only in conformance with the terms of this special permit.

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

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

d. Each packaging manufactured under the authority of this special permit must be either (1) marked with the name of the manufacturer and location (city and state) of the facility at which it is manufactured or (2) marked with a registration symbol designated by the Office of Hazardous Materials Special Permits and Approvals for a specific manufacturing facility.

e. A current copy of this special permit must be maintained at each facility where the packaging is manufactured under this special permit. It must be made available to a DOT representative upon request.

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle, 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.

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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

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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 Materials 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/Kenny Herzog