

February 02, 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 20601

EXPIRATION DATE: 2018-12-31

(FOR RENEWAL, SEE 49 CFR 107.109)

1. GRANTEE: Capella Space Corp.
Palo Alto, CA
2. PURPOSE AND LIMITATIONS:
 - a. This special permit authorizes the one-time transportation in commerce of low production lithium ion batteries contained in equipment (The Capella-1 satellite) that 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. This special permit provides no relief from the Hazardous Materials Regulations (HMR) 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.
3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180.
4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR § 173.185(e)(1) & (2) in that certain lithium ion batteries contained in equipment are not individually packed in an inner packaging and that the outer packaging is not a UN-Specification packaging, except as specified herein.

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5. BASIS: This special permit is based on the application of Capella Space Corp. dated January 02, 2018, submitted in accordance with § 107.105 and the public proceeding thereon.
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-

(1) Two (2) identical battery packs contained in equipment (Capella-1 satellite) with each pack composed of the number lithium ion cells as specified in the January 2, 2018 and on file with the Office of Hazardous Materials Safety Approvals and Permits Division (OHMSAPD).

(2) Battery packs must be installed with internal protection to prevent short-circuiting.

(3) A battery kill switch must be installed in each piece of equipment to be able to cut off the current between the battery packs and the satellite during transportation.

(4) The energy content of each battery pack and the cell model number are as specified in the January 2, 2018 and on file with the Office of Hazardous Materials Safety Approvals and Permits Division (OHMSAPD).

b. TESTING -

(1) The batteries contained in equipment must be composed of cells of a type that has passed all required tests as specified in the "UN Manual of Tests and Criteria, 6th Revised Edition."

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(2) Each battery pack of the two packs contained in equipment must have passed T.3 (Vibration), T.5 (External short circuit), and T.7 (Overcharge) tests in accordance with the "UN Manual of Tests and Criteria, 6th Revised Edition" as described in the January 2, 2018 application and on file with the Office of Hazardous Materials Safety Approvals and Permits Division (OHMSAPD).

c. PACKAGING-

(1) Inner packaging - The battery packs contained in equipment must be hard mounted within the Capella-1 satellite which is built with a strong, impact resistant casing.

(2) Outer Packaging - The inner packaging, surrounded by non-combustible and non-conductive packing foam, must be placed in a hard-shell plastic Pelican case that has passed a 2 m drop test.

(3) The net weight of the battery packs within a package may not exceed 4 kg.

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

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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.
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

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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 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/kah