



U.S. Department  
of Transportation

**Pipeline and Hazardous  
Materials Safety  
Administration**

**July 27, 2022**

1200 New Jersey Avenue, SE  
Washington, DC 20590

DOT-SP 21405

**EXPIRATION DATE: 2022-12-31**

(FOR RENEWAL, SEE 49 CFR 107.109)

1. GRANTEE: PM4 Enterprises, Inc.  
dba Craters & Freighters  
Cranberry Township, PA
2. PURPOSE AND LIMITATIONS:
  - a. This emergency special permit authorizes the transportation in commerce of lithium ion batteries contained in equipment (Unmanned Ground Vehicle (UGV)) each with a battery net weight exceeding 35 kg aboard 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, as an approval under Special Provision A88 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 Hazardous Materials Table, Column (9B) in that lithium ion batteries in a package may exceed 35 kg and § 173.185(a)(1) in that prototype batteries (CALB CAM72-L135F72) have not passed the criteria in Part III, subsection 38.3 of the UN Manual of Tests and Criteria as specified herein.
5. BASIS: This emergency special permit is based on the application of PM4 Enterprises, Inc. dba Craters & Freighters dated July 8, 2022, submitted in accordance with § 107.117 and the determination it is necessary to prevent significant economic loss and supplemental information dated July 25, 2022.
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. PACKAGING: Authorized packagings of batteries contained in equipment (Unmanned Ground Vehicle (UGV)) in Sections 1 and 2 of the UGV as specified in the July 8, 2022 application and on file with the Office of Hazardous Materials Safety (OHMS) are as follows:

- (1) The housings for batteries contained in equipment in Sections 1 and 2 must be separately constructed of material with adequate strength to protect the batteries contained in equipment and be securely attached to the equipment and packaged in a manner to prevent accidental operation during transport.
- (2) Not more than two (2) batteries contained in equipment are housed in Section 1 with each weighing not more than 19.1 kg (42.1 pounds) for a total weight of 38.2 kg (84.2 pounds).
- (3) Not more than two (2) batteries contained in equipment are housed in Section 2 with each battery weighing not more than 32 kg (70.5 pounds) for a total weight of 64 kg (141 pounds).

(4) Each UGV with the batteries contained in equipment in Sections 1 and 2 must be packaged within a strong plywood crate as described in the July 8, 2022 application and on file with the OHMS and be securely fastened to the plywood crate to prevent movement. Not more than one UGV may be packaged within a plywood crate which is placed on a wooden pallet.

b. TESTING:

(1) All lithium ion cells (INR18650-P26A) in batteries contained in equipment in Section 1 must be of a type that have passed all required tests as specified in the “UN Manual of Tests and Criteria, 6<sup>th</sup> Revised Edition.”

(2) The batteries contained in equipment (BT-70733H) in Section 1 must be of a type that have passed all required tests as specified in the “UN Manual of Tests and Criteria, 5<sup>th</sup> Revised Edition.”

(3) All lithium ion cells (CALB Model CAM72) in batteries contained in equipment in Section 2 must be of a type that have passed all required tests as specified in the “UN Manual of Tests and Criteria, 5<sup>th</sup> Revised Edition.”

(4) The prototype batteries contained in equipment (CALB CAM72-L135F72) in Section 2 need not be of a type that has passed all required tests as specified in the “UN Manual of Tests and Criteria.”

c. OPERATIONAL CONTROLS:

(1) Each cell and battery contained in equipment in Sections 1 and 2 of the UGV must be protected from short-circuits.

(2) Each battery (BT-70733H) contained in equipment in Section 1 is rated at 3.2 kWh. Section 1 contains two batteries contained in equipment with a total nominal rating of 6.4 kWh.

(3) Each battery (CALB CAM72-L135F72) contained in equipment in Section 2 is rated at 3.5 kWh. Section 2 contains two batteries contained in equipment with a total nominal rating of 7.0 kWh.

(4) All batteries contained in equipment must be offered for transportation aboard cargo-only aircraft at a state of charge not greater than 30%.

(5) Batteries contained in equipment when cells or modules are connected in parallel must be equipped with an effective means to prevent dangerous reverse current flow.

(6) Not more than two (2) packages may be transported under the terms of this special permit.

(7) Transportation aboard cargo-only aircraft under the terms of this special permit is only authorized from New York City, NY to Singapore.

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

d. MARKING: Each package must be marked with "DOT-SP 21405" in accordance with § 172.304.

8. SPECIAL PROVISIONS:

a. Under the terms of this special permit, the grantee may only offer hazardous materials (i.e., the grantee is not authorized as a carrier).

b. 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.

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

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, and 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: Cargo-only aircraft.

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.

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.:

A handwritten signature in blue ink, appearing to read "D. Schoonover", is written over a faint circular stamp.

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-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: Steve H