

May 15, 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 20852

EXPIRATION DATE: 2021-04-30

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: General Dynamics Mission Systems, Inc.
Quincy, MA
2. PURPOSE AND LIMITATION:
 - a. This special permit authorizes the transportation in commerce of prototype lithium ion batteries contained in equipment (pressure vessels) 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 by 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. No party status will be granted to this special permit.
 - d. This special permit serves as an approval under Special Provision A88 and State Variation US 3 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.

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4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR § 173.185(a)(1) in that each lithium battery must be of the type proven to meet the criteria in Part III, subsection 38.3 of the UN Manual of Tests and Criteria, except as specified herein.
5. BASIS: This special permit is based on the application of General Dynamics Mission Systems, Inc. dated March 20, 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 contained in equipment <i>including lithium ion polymer batteries</i> | 9 | UN3481 | N/A |

7. SAFETY CONTROL MEASURES:

a. Safety Controls:

(1) The lithium ion battery contained in equipment, identified as P/N 000-021-703-02, must be constructed of five modular disks with each disk comprising of thirty (30) LG cells (model INR18650MJ1) connected in a 15S2P configuration. The nominal energy rating of the battery is 1900 Wh.

(2) The equipment containing the lithium battery, as specified in the approval application dated March 19, 2019 and on file with the Office of Hazardous Materials Safety Approvals and Permits Division, which is constructed of aluminum and tested at 30 psi pressure, must house the controller card which receives power from the battery for its operation.

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

(4) The batteries contained in equipment must be equipped with an effective means of preventing

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dangerous reverse current flow for cells and disks that are connected in parallel.

b. Testing Requirements: The cell type within the battery must have been tested and passed all applicable tests as prescribed in the UN Manual of Tests and Criteria, 5th Revised Edition.

c. Packaging Requirements:

(1) The pressure-tested equipment containing the battery must be placed in an aluminum Zarges k470 container which meets the UN Specification Package requirements at the Packing Group I level.

(2) The pressure-tested equipment must be secured against movement within the Zarges container (outer packaging).

(3) One pressure-tested piece of equipment per completed outer packaging.

(4) The net weight of a battery in a package may not exceed 9.1 kg (20 pounds). The calculated gross weight of the battery contained in equipment is 14 kg (31 pounds).

(5) The outer packaging may be palletized up to four Zarges containers (outer packaging) on one pallet.

d. Marking Requirements: Each package covered under the terms of this special permit must be durably and legibly marked and displayed on a background of contrasting color with "DOT-SP 20852."

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 and the HMR.

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

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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. 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

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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-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/Teresa D'Onfro