



**NASA
Interim
Directive**

NASA Transportation and General Traffic Management

Responsible Office: Office of Strategic Infrastructure

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Preface

P.1 Interim Policy Statement

a. The purpose of this NASA Interim Directive (NID) is to establish interim policy and requirements for packaging, handling, and transporting freight and the Center requirements for establishing freight payment audit plans for transportation services providers. The policy and requirements herein will be incorporated in the revision of NPR 6200.1.

P.2 Assignment of Interim Responsibilities for Policy Implementation

a. The Center Transportation Officer is responsible for implementing the policy changes identified in this NID.

P.3 Interim Requirements

a. The interim requirements are contained in the body of this NID and are effective upon its approval and until incorporated into NPR 6200.1.

P.4 Assignment of Interim Responsibilities for Completing Requirements

a. Transportation and freight shipment employees and contractors, under the supervision of the Transportation Officer, are responsible for completing and adhering to the requirements in this NID.

P.5 Applicability

a. This NID is applicable to NASA Headquarters and NASA Centers, including Component Facilities, Technical and Service Support Centers, and subinstallations.

b. This language applies to the Jet Propulsion Laboratory (JPL), a Federally-Funded Research and Development Center (FFRDC), other contractors, recipients of grants, cooperative agreements, or other agreements only to the extent specified or referenced in the applicable contracts, grants, or agreements. The requirements of this NID will be administered to JPL by the NASA Management Office (NMO).

c. In this NID, all mandatory actions (i.e., requirements) are denoted by statements containing the term “shall.” The terms: “may” or “can” denote discretionary privilege or permission, “should” denotes a good practice and is recommended, but not required, “will” denotes expected outcome, and “are/is” denotes descriptive material.

d. In this NID, all document citations are assumed to be the latest version unless otherwise noted.

P.6 Authority

a. National Aeronautics and Space Act of 1958, as amended, 42 U.S.C. § 2473 (c) (1).

- b. Prompt Payment Act, Final Rule, 5 CFR Part 1315.
- c. Federal Management Regulation; Transportation and Management, Transportation Payment and audit; Final Rule, 41 CFR Parts 102-117 and 102-118
- d. NASA Policy Directive (NPD) 6000.1, Transportation Management.
- e. NPR 6200.1, NASA Transportation and General Traffic Management.

Chapter 1. Requirements for Packaging, Handling, and Transportation of Freight

1.1 Scope and Policy

1.1.1 This NID defines general requirements for preservation, packaging, packing, marking, handling, transportation, and related data and documentation pertaining to all NASA-procured software and hardware items.

1.1.2 The requirements of this NID do not supersede detailed NASA-approved preservation, packaging, marking, handling, and transportation specifications or procedures. Contractual provisions regarding supersession will apply. This NID may be used as part of or as a supplement to other approved specifications or procedures. Appropriate sections of this NID may be incorporated by reference in a contract to spell out the obligations of the parties with respect to hazardous items, NASA critical item labeling, and special packaging, handling, and transportation data for mission-essential items.

1.1.3 Center Transportation Officers, in coordination with the appropriate Contracting Officer (CO), shall ensure the provisions of this NID are included in all Transportation Services Provider (TSP) contracts.

1.1.4 Specifications and procedures for preservation, packaging, packing, marking, handling, transportation, and related data and documentation will be compatible with this NID except to the extent that a deviation or waiver is approved in accordance with section 1.1.5 below. The mere citation of this NID or the mere incorporation by reference of this NID or a part thereof does not constitute compliance with any other applicable requirements that detail or specify provisions be provided or stated in a particular document.

1.1.5 Technical changes, deviations, or waivers sought from any requirement of this NID will be requested from and approved in writing by the applicable Transportation Office with final approval from the Agency Transportation Officer, Mission Support Directorate.

a. When requesting technical changes, deviations, or waivers, the requestor shall provide detailed justification outlining the uniqueness associated with their request, the timeline that the deviation and/or waiver is needed, supporting program and/or project office, Contract Number (if applicable), and suspense date needed for implementation.

1.1.6 Preservation, packaging, and packing should comply with the basic NASA objective of achieving adequate protection of the contained items at minimum cost. While needless expense should be avoided, additional protection to support mission-critical shipments may justify additional expense.

1.1.7 Transportation safety, reliability, and retention shall be the Transportation Office's major considerations in the development or selection of preservation, packaging, packing, marking, handling, and transportation approaches for mission-essential and/or sensitive items.

a. Each Center Transportation Officer or contractor shipping on behalf of NASA shall have a program establishing policies, procedures, and responsibilities for control of shipping and packaging requirements and procedures to achieve zero damage on delivery.

1.1.8 Contingency Planning for Emergency Incidents. Due to the hazardous materials content of some critical space item shipments, it is prudent that all reasonable precautions be taken during movement of material. All shipments will be in strict compliance with 49 CFR, Subtitle B, Chapter I, as well as applicable Center emergency response plans.

1.2 Freight Packaging Requirements

1.2.1 Selection of Packaging. General levels of preservation and packaging and the levels of packing to be applied are provided in National Aerospace Standard (NAS) 850, General Packaging Standard (Appendix C). Specific packaging standards not addressed in NAS 850 are indexed in NAS 851, General Packaging Standard Indexes (Appendix D). The standards of NAS 850 and NAS 851 should be used when commercial packaging cannot provide adequate protection and preservation.

a. Selecting the levels of packaging and packing to be applied shall be the responsibility of the Center Transportation Officer unless levels are specified by the procuring activity.

b. Selecting the levels of packaging and packing will depend on the modes of transport, environmental control, conditions and length of storage, and the anticipated requirements for redistribution.

1.2.2 Special Design Packaging

a. For items requiring special design packaging, the Center Transportation Officer shall ensure customer-provided specifications are sufficiently detailed to permit necessary review and that the packaging specification are implemented. Special design packaging applies to items that present any of the following:

- (1) A requirement for special environmental control.
- (2) A requirement for special or critical pressure or temperature limits.
- (3) A requirement for specialized container design, handling devices, fixtures, or monitoring devices.
- (4) A requirement to meet special conditions and limitations of storage.
- (5) Kitting processes containing special design packaging.
- (6) Special handling, packaging, or transportation problems because of restrictive shock or vibration characteristics.
- (7) Special kitting requirements containing hazardous materials.

b. The Transportation Officer shall ensure the special packaging design is reviewed and approved by a packaging engineer or specialist.

c. Prior to developing a newly designed container, maximum effort shall be made by the shipper to use container designs or containers from NASA inventory or available commercially. NASA inventory of reusable shipping containers can be found by searching the NASA Property, Plant,

and Equipment (PP&E) system “EQUIPMENT” database for items within Federal Supply Class (FSC) 8145 and FSC 8150 (see notes below). See paragraphs 1.2.8 and 1.2.9 of this NID for additional considerations for reuse of shipping containers and packaging materials.

Note 1: FSC 8145, Specialized Shipping and Storage Containers: This class includes only reusable and repairable containers specially designed for shipping and storage of specialized equipment; i.e., shipping and storage containers for components of aircraft, space vehicles, automotive vehicles, ships, ground communication equipment, etc. Includes specially designed components (not elsewhere classifiable) peculiar to special shipping and storage containers as delimited under this class.

Note 2: Excludes General purpose containers; specially designed containers for ammunition, nuclear ordnance, explosives, military chemical agents and guided missile components. Excluded from this class are items for which more specific classifications are suitable. The FSC Indexes and Structure will govern the classification of those items permitted classification in a single class only.

Note 3: FSC 8150, Freight Containers: General Purpose, Dry Bulk, Ammunition Grade, Named Cargo, Thermal, Open-top, Platform, Tank and Air/surface Containers.

Note 4: Excludes shipping and storage reusable/repairable containers specially designed for components of aircraft, space vehicles, automotive vehicles, ships, and ground communication equipment. Also excludes special boxes, packages, and containers designed primarily for shipping, storage, and handling of ammunition, nuclear ordnance, explosives, guided missiles, and military chemical agents.

d. Each request for developing a new design container shall be made by the requesting program or project and approved by the Transportation Officer. Each request will include the following:

(1) Required delivery time.

(2) When specified by the procuring activity, new design data and engineering drawings with specifications in accordance with the appropriate National Aerospace Standard or equivalent standard shall be submitted as stated in the contract.

(3) The container or packaging request shall be made by the program or project in their shipment request.

1.2.3 Package Engineering Documentation. For purposes of this NID, unless otherwise specified by the procuring activity, package engineering documentation is only required for special design packaging. Photographs and work requests of the special design packaging may be used to document the special design packaging. Contractor documentation forms may be used unless otherwise specified in the contract.

a. The shipper is responsible to ensure that special design submission and approval is in accordance with the Contract Data Requirements List or as otherwise authorized in the contract or by written

direction of the Contracting Officer.

b. National Aerospace Standards may be used for guidance; a listing of various NAS packaging and container design standards is provided in NAS 851 (Appendix D).

1.2.4 Environmental Analysis

a. The preservation, packaging, packing, and shipping techniques applied will ensure protection of the contained item against the natural and induced environments to which it may be subjected. Analysis of these hazards is essential prior to design and development of the packaging and shipping techniques to be applied.

b. The container fabricator shall comply with the customer-provided item fragility, engineering drawings, packaging, and transportation requirements, which should to be included in the customer's shipping request.

c. The container fabricator's packaging and transportation personnel need to participate in equipment design efforts from the earliest stages. They shall:

(1) Identify the most practical, reliable, and cost-effective packaging to meet ground handling, transport and storage environment requirements, including protection from contingency or emergency environments.

(2) Prepare or identify necessary package testing, which should be included in configuration documents for future applications.

(3) Perform such other functions in the design effort as may be necessary or proper.

d. The environmental analysis will include tradeoff considerations of the class of shipping and handling (probability of a loss, cost and schedule impact of loss, and cost of facility and carrier protection) versus cost of packaging and packing protection.

e. The following attributes and applications will be considered by the container requester and fabricator in describing the container design criteria:

(1) In-plant storage, handling, and local transportation conditions and environments, both normally anticipated and contingent due to such emergencies as natural disasters, fires, spillage, and other accidents.

(2) In-transit modes, normal and contingent environments.

(3) Receiving, redistribution, handling, and storage conditions at the destination installation, range, or test or launch facility including normal and contingency environments.

(4) General guidance on transportation environments is available in Military Standardization Handbook 304, Package Cushioning Design; Military Standard 810, Environmental

Engineering Considerations and Laboratory Tests; and Military Handbook 1791, Designing for Internal Aerial Delivery in Fixed Wing Aircraft.

1.2.5 Degradation by Electrostatic Discharge (ESD). Many electronic devices such as thin or thick film resistors, semiconductors, field effect transistors, or circuitry containing any of these can be degraded by static electricity. Items requiring consideration of ESD degradation should be identified by the individuals requesting shipment.

a. When ESD degradation consideration is identified by the shipping requester, shippers shall observe the handling precautions of NASA Standard 8739.6, Chapter 7, Electrostatic Discharge Control Standard Implementation.

c. Each package will bear a label warning that the contents can be destroyed by static electricity and needs to be handled only by personnel instructed in the necessary precautions.

1.2.6 Kits (Parts and Modifications). Preservation, packaging, and packing of kits (parts and modifications) will be in accordance with MIL-STD-2073-1, Appendix D.

1.2.7 Weight and Cube

a. Final packages will be as simple as possible and of minimum tare weight and cube, consistent with the protection required.

b. Consolidation containers and pallets will be properly used to reduce multiple handling.

c. Items bearing the NASA Critical Space Item Label, NASA Form (NF) 1368, will not be commingled with noncritical items in any container.

d. When the gross weight of the individual pack or consolidation exceeds 100 pounds or when the package cube exceeds 10 cubic feet, use of skids or pallets will be considered.

1.2.8 Reusable Containers. Reusable containers are those that are designed to provide adequate protection when reused for return shipments and/or throughout several shipping cycles or sequences.

a. Reusable containers will be considered for all items that require periodic shipments to and return from repair activities and where adequate provisions to control the containers make reuse economical.

b. The quantities of reusable containers authorized will be the minimum essential to meet anticipated needs.

c. Shippers shall identify reusable containers and provide storage to ensure their maintenance in a serviceable condition for use.

d. Requirements for reusable containers for U.S. hazardous materials shipments are defined in 49 CFR Part 173.28.

e. Inspection and testing are typical requirements for reusable containers.

f. Existing reusable containers available commercially or from NASA, other Government Agencies, or contractor inventories are to be used to reduce package design and fabrication costs. See section 1.2.2 of this NID for additional direction in identifying existing reusable containers.

g. All reusable containers will be considered controlled equipment and handled in accordance with NPR 4200.

h. Modification of existing containers and container designs will be considered using NF 1617, Request for Cannibalization/Modification or Report of Assembly/Construction of NASA Equipment when this is a cost-effective approach.

i. Multi-application containers are especially useful for return of repairables since each size and type is suitable for shipment of a large number of different items within certain limits of size, weight, and fragility.

j. The Transportation Officer's authorization is required prior to disposal of any reusable containers.

1.2.9 Reuse of Packaging Materials

a. Packaging materials will be considered for reuse to the maximum extent practicable.

b. The determination for reuse may be based on the quality and condition of the material, the economics of storage and handling of the used material, and the incidence of usage anticipated.

1.2.10 Component Disassembly.

a. Disassembly of major components to facilitate packaging or to provide more effective procedures is permissible unless otherwise specified.

b. Components are to remain assembled if previous inspection or test acceptances are invalidated by disassembly.

c. When practical, assembly hardware will be secured to one of the mating parts when disassembly is accomplished.

1.2.11 Matchmarking

a. When necessary to facilitate reassembly or repackaging, removed parts will be match marked unless otherwise required by directions or shipping instructions.

b. Matchmarking information will be put on cloth shipping tags or on metal tags using waterproof ink or paint, and attached to mating parts.

c. The marked cloth shipping tags will be waterproofed with a water-resistant spar varnish, a water-resistant paper label adhesive, or any other suitable colorless waterproofing material.

d. At no time will tags or adhesive create interference with item reassembly.

1.2.12 Container Markings

- a. Markings on unit packages, intermediate packages, and exterior shipping containers will be in accordance with the applicable requirements of MIL-STD-2073-1 and this NID.
- b. Items designated as Class I, Class II, or Class III, in accordance with section 1.3 of this NID, will bear an appropriate NF 1368).
- c. Labels shall be affixed by the shipping personnel to each side, end, and top of the container.
- d. Labels will not to interfere with other required markings.
- e. Drums will be marked with a label on the top and on opposite sides.
- f. Shelf life terminal and preservation expiration dates will be identified by marking, by tagging, or in logbooks as specified by design engineering requirements.
- g. Marking and labeling of hazardous materials will be in accordance with appropriate regulations as cited in section 1.4 of this NID and with other contractual provisions.
- h. Marking of hazardous materials needed for compliance with Department of Transportation (DOT) regulations will be displayed on a background of sharply contrasting color and not obscured by other container marking or labeling per 49 CFR Part 172.304.

1.2.13 Testing

- a. Requirements for testing packages, packing methods, and materials shall be provided by the shipment requester.
- b. When specific packaging testing requirements are not provided, tests will be performed as specified in Appendix F of MIL-STD-2073-1, except when:
 - (1) Detailed packaging instructions or design are furnished by the shipment requesting or package acquisition activity. This includes the predetermined codes to be used for common items.
 - (2) The shipper has previous successful test records for the same item or an item with similar weight, dimensions, fragility, and composition.
 - (3) The shipper has engineering data that has been approved by a cognizant NASA activity and indicates that the proposed packaging design will successfully meet the requirements of the contract.
 - (4) Packages meet the weight, dimensional, and fragility requirements of MIL-STD-2073-1, Appendix C (table C-IV) and are packed in the appropriate multi-application container.
 - (5) The shipper has historical shipping data confirming adequate protection was provided to similar items using the same or equivalent packaging.
- c. In all instances, only standardized packaging testing techniques will be used.
- d. Shipping contractors shall ensure that all special testing data is furnished, as required by the contract.

e. Preproduction tests will be performed in accordance with the design requirements of the contract. The necessity for such testing will be determined by considering the following factors:

(1) The contractor has data or other evidence to indicate that prior successful tests were conducted and are accepted by the contracting officer as being equivalent to those now being proposed.

(2) The packaged item has been subjected to similar tests as a part of other testing programs, as agreed to by procuring activity.

(3) The container for a specific item of equipment is developed under an end-item specification, with engineering and testing approval through configuration management procedures and reviews.

(4) Detailed packaging instructions are imposed by the procuring activity.

(5) Provisions for the testing of hoisting and material-handling equipment is to be performed as required, per NASA-STD-8719.9.

1.3 Freight Handling Requirements

1.3.1 Classes of Shipping and Handling

a. All equipment, components, and associated parts shall be assigned, by personnel requesting shipping, classes of shipping and handling as follows:

(1) Class I. Mission-essential items that, in the event of loss, damage, or delay in shipment, would adversely affect the program or project.

(2) Class II. Delicate or sensitive items not covered by Class I or Class III. These items are those that may be easily damaged by improper handling.

(3) Class III. Items requiring special handling and monitoring.

(4) Class IV. Those items that may be transported or handled using normal commercial transportation means.

1.3.2 Packing, Handling, and Transportation Record

a. NASA Shipping Request information will be developed from engineering data for each Class I item.

b. Each Center Transportation Officer shall establish procedures to ensure that changes in packaging data, handling, and transportation methods are reflected in amended or revised records in a timely manner.

c. Information, when reproduced, will not be altered in size or content.

d. A NASA Shipping Request, or equivalent, shall be submitted by the requester and approved by the Center Transportation Officer (or designee).

e. Shipment will not proceed without approval.

1.3.3 NASA Critical Space Item Label

- a. Shippers shall ensure that the NF 1368, is prominently displayed on the exterior of all Class I, Class II, and Class III interior packages and exterior shipping containers to alert handling personnel to the criticality of the item. Its use is intended to ensure special handling by carrier, receiving, and storage personnel in accordance with this NID. The label is obtainable from procuring activities in the three different sizes.
- b. Labels will be affixed only to the exterior container for items not on the Transport Critical Item List but requiring special transportation consideration due to schedule or program constraints.
- c. Items bearing the NF 1368 are not to be commingled with noncritical items in any container.

1.3.4 Monitoring Devices for Shipments

- a. When use of a monitoring device is indicated or has been recommended and its use authorized by the requester, such devices will be of a type and nature that will detect and provide a permanent notation that the packaged contents have been subjected to adverse conditions, such as temperature, shock, or moisture that could impair their ability to perform their principal function in a satisfactory manner.
- b. Monitoring devices shall be installed by the shipper as prescribed by the requester and used in accordance with standard application of the item and in a manner that will permit their observation and inspection with a minimum of assembly or disassembly.
- c. The location of devices, including shock-measuring instruments, shall be marked prominently on the exterior container by the shipper.

1.3.5 Transportation Planning

- a. The shipper is responsible for ensuring modes of shipment comply with transportation and logistics support plans and are implemented in accordance with contractual requirements.
- b. When such direction is not provided in the contract, the mode that will be employed is one that provides the most reliable protection to the items involved and takes into account the time, schedule, and cost.
- c. The shipper shall establish and implement procedures for the control of premium transportation costs to be incurred, such as special mission airlift, chartered aircraft, exclusive use of carrier equipment, and unusual and excessive accessorial charges.
- d. Upon request, transportation data for items requiring special design transportation and handling equipment, special commercial carrier or Government services, shall be provided by the shipment requester as required by the contract. The contractor's format may be used unless otherwise specified.
- e. The shipper shall ensure a transportation plan, approved by the requester and Transportation

Officer (or designated representative) and conforming to the contract, is available and used for shipment preparation.

f. All shipments made to out of Continental United States locations will comply with NPR 2190.1.

1.3.6 Restraining Systems

During highway, air, rail, and marine shipments, items in their shipping configuration and skidded and wheeled equipment will be provided with tie-down and lifting provisions commensurate with their size and weight. Additional safety measures may be required and will be considered during the design of the restraining system due to peculiarities of the cargo, carrier safety considerations, or accident effects, especially where hazardous materials are involved.

1.3.7 Monitoring of Transportation and Handling Process

a. Contractors are responsible for monitoring each class of shipment and shall ensure necessary coordination with the Transportation Officer of the procuring activity, with carrier representatives, and with transportation officials at the destination to ensure that the following have taken place:

(1) An inspection has been performed prior to shipment including verification of compliance with the shipping request or equivalent information.

(2) NASA Critical Space Item labels have been affixed to the shipping containers for Class I, II, and III items.

(3) Special handling and monitoring instructions are provided in the shipping request and en route transfer agents are notified of the shipment.

(4) Advance shipping and handling information is provided to requisite en route parties.

(5) Arrangements are made for escort or courier services as may be necessary.

(6) Contract transportation, preservation, packaging, handling, and logistics plans are accomplished.

(7) Class IV items are shipped via the most advantageous commercial transportation means considered to be in the best interest of the Government.

b. Shippers shall provide packaging, handling, and transportation records or equivalent information for mission-essential items to destination Transportation Officers to ensure proper receiving, damage-free handling and storage, and essential protection through redistribution and final use.

c. Receiving organizations shall provide originating Transportation Officers with timely advice concerning losses in transit or handling due to inadequate packaging protection or failure to follow

established transportation and handling procedures.

d. Prior to shipping radioactive materials regulated by the Nuclear Regulatory Commission or any State agency, those making shipments shall ensure that the designated receiving facility is authorized to receive the type, form, and quantity of radioactive material to be transferred.

e. The contractor shall maintain carrier performance data when service issues are encountered with carriers.

(1) Performance data will include any corrective actions taken by the carrier in responding to service failures.

(2) The contractor shall submit carrier performance data to the Center Transportation Officer annually, by October 31 of each calendar year.

1.4 Hazardous Material Packaging and Handling Requirements. DOT's Hazardous Material Program description, regulations, and procedures are provided in 49 CFR, Subtitle B, Chapter 1, Subchapter A¹; herein referred to as the "Hazardous Material Regulations" (HMR) (see Appendix E).

a. In general, DOT's HMR are consistent with international regulations issued by the International Civil Aviation Organization (ICAO), ICAO Technical Instructions, which regulate dangerous goods (hazardous materials) shipments via air, and the International Maritime Organization, International Maritime Dangerous Goods (IMDG) Code, which regulates dangerous goods shipments via vessel.

b. In addition to the regulations cited in the HMR, further requirements regarding the packaging and transport of radioactive materials are contained in 10 CFR Part 71.

c. Shippers should consult the applicable HMR for the mode of transportation to be used.

d. Shippers shall comply with the applicable HMR of this NID and NPD 6000.1.

e. Transportation of hazardous materials will comply with applicable state and municipal rules and regulations.

f. For shipments that cannot comply with the provisions of the HMR (e.g., alternative packaging, test, procedure, activity, or hazard communication, including marking and labeling requirements), the

¹ The text of 49 CFR, Subtitle B, Chapter 1, Subchapter A can be viewed in the following U.S. Government Publishing Office web link: <https://www.ecfr.gov/cgi-bin/text-idx?SID=9443a2e9843a4685383c0c84a66bb180&mc=true&tpl=/ecfrbrowse/Title49/49subtitleB.tpl>

requester shall obtain a Special Permit from the Agency Transportation Manager and approved by DOT in accordance with 49 CFR §107 (see Appendix F).

g. All persons who participate in any of the activities described in 49 CFR §171.1.b, Pre-Transportation Functions, are defined as “hazmat employees” and shall successfully complete training described in Appendix G at least every 3 years; and retain documents to provide evidence of that training. Hazmat employees are those performing the following functions, at a minimum:

- (1) Determining the hazard class of a hazardous material.
- (2) Selecting hazardous materials packaging.
- (3) Filling hazardous materials packaging, including a bulk packaging.
- (4) Securing closure on a filled or partially filled hazardous materials package or container or on a package or container containing a residue of a hazardous material.
- (5) Marking a package to indicate that it contains a hazardous material.
- (6) Labeling a package to indicate that it contains a hazardous material.
- (7) Preparing a shipping paper.
- (8) Providing and maintaining emergency response information.
- (9) Reviewing a shipping paper to verify compliance with the HMR or international equivalents.
- (10) For each person importing a hazardous material into the United States, providing the shipper with timely and complete information as to the HMR requirements that will apply to the transportation of the material within the United States.
- (11) Certifying that a hazardous material is in proper condition for transportation in conformance with the requirements of the HMR.
- (12) Loading, blocking, and bracing a hazardous materials package in a freight container or transport vehicle.
- (13) Segregating a hazardous materials package in a freight container or transport vehicle from incompatible cargo.
- (14) Selecting, providing, or affixing placards for a freight container or transport vehicle to indicate that it contains a hazardous material.

1.4.1 Hazardous material identification. The requester for hazardous material shipment is responsible for notifying the shipper of the existence and type of hazardous material to be shipped; hazardous material is identified in 49 CFR §173.2.

1.4.2 Hazardous material packaging

a. Hazardous material packaging regulations for non-bulk packaging are based on Performance Oriented Packaging (POP), which is a packaging construction system based on performance standards developed in the form of recommendations by the United Nations Committee of Experts on the Transport of Dangerous Goods (UN Recommendations), and are found in 49 CFR §178.500-523, Non-bulk POP Standards.

- b. Packaging and testing regulations for other packagings, such as cylinders, portable tanks, motor vehicle containers, containers for radioactive materials, large bulk containers, intermediate bulk containers, and flexible bulk containers are provided in their respective subpart of 49 CFR §178.
- c. Shippers who offer packages for transportation in compliance with DOT requirements shall comply with provisions for hazardous materials classification, proper packaging, marking, labeling, placarding, shipping paper preparation, emergency response information, training, and, in some cases, registration and security plan preparation.
- d. When a package is required to be marked with a UN standard or DOT specification, the shipper shall ensure the package meets all the requirements of the hazardous material regulation, including testing.
- e. Additional packaging and packing requirements may be found in the General Provisions and the Safety Provisions of the contract and NAS 854, Hazardous Material, Packaging and Safety Data Sheet Preparation.
- f. The hazardous material shipper shall determine that the shipping packaging or container is an authorized packaging,
- g. Packaging requirements for hazardous U.S. Government material offered for transportation by, for or to the Department of Defense (DoD) or the Department of Energy (DOE), are listed in 49 CFR 173.7.
- h. When the requester identifies the potential for ESD, shippers shall observe the handling precautions of NASA Standard 8739.6, Appendix 7, regarding ESD when packaging and handling ESD materials.

1.4.3 Hazardous material handling. The HMR provide guidance on loading and unloading hazardous materials in various shipment modals in specific parts of 49 CFR; such as Rail (§174), Aircraft (§175), Vessel (§176), Public Highway (§177), and Tank Cars (§179).

- a. The Transportation Officer and/or shipper shall observe the general hazardous material handling requirements of 49 CFR 834 as outlined in Appendix G.

Chapter 2. Center Prepayment Audit Plan Requirements

2.1 Introduction

2.1.1 The General Services Administration has amended the Federal Management Regulation (FMR) requiring Agencies to develop and implement a transportation prepayment audit plan; 41 CFR Parts 102-117 and 102-118.

- a. NASA will pay for the prepayment audit from those funds appropriated for transportation services.
- b. NASA Center Directors shall develop Center Prepayment Audit Plans in accordance with the guidance of NASA Transportation Prepayment Audit Plan (Appendix H).
- c. NASA Center Directors shall designate an administrator to execute the requirements of the Prepayment Audit Plan, referred herein as the “Designee”.

2.1.2 A prepayment audit is a review of transportation service provider (TSP) invoices/bills occurring prior to disbursing payment to a TSP. The prepayment review compares the charges on the bill against the charge permitted under the contract, rate tender, or other agreement under which the TSP provided the transportation and/or transportation related services to ensure that the charges are appropriate.

2.1.3 Prepayment auditing allows NASA Centers to detect and eliminate billing errors before payment and is intended to eliminate the time and cost of recapturing overpayments. NASA Centers may perform a prepayment audit by:

- a. Creating and executing an internal prepayment audit program.
- b. Contracting directly with a prepayment audit service provider.
- c. Using the services of a prepayment audit contractor under GSA’s multiple award schedule covering audit and financial management services.

Note: Any of these choices might include contracts with charge card companies that provide prepayment audit services.

2.1.4 Each method of ordering transportation and transportation services may require a different kind of prepayment audit. NASA’s Center prepayment audit plans need to consider all the methods that the Centers use to order and pay for transportation services. With each method of ordering transportation services, NASA Center prepayment audit plans will require each TSP bill voucher contains enough information to determine which contract or rate tender is used and that the type and quantity of any additional services are clearly delineated. Additionally, the Center audit plan will include the following:

- a. For transportation payments made through cost reimbursable contracts, the Agency will include a statement in the contract that the contractor shall submit, to the address identified for prepayment audit, transportation documents which show that the United States will assume freight charges that were paid by the contractor.
- b. Cost reimbursable contractors shall only submit for audit bills of lading with freight shipment charges exceeding \$100.00.
- c. Bills under \$100.00 shall be retained on-site by the contractor and made available for on-site audits.

2.2 Prepayment Audit Plan Requirements.

2.2.1 Payment administrative requirements

- a. The Center's Prepayment Audit Plan (hereafter referred to as the Plan) needs to ensure, regardless of the method used to pay for transportation services, that the payment methods comply with 5 CFR 1315, Prompt Payment Act.
- b. The Designee shall establish administrative procedures which assure that the following conditions are met for payment of freight, household goods, or transportation services:
 - (1) The negotiated price is fair and reasonable.
 - (2) A document of agreement signifying acceptance of the arrangements with terms and conditions is filed with NASA by the TSP.
 - (3) The terms and conditions are included in all transportation agreements and referenced on all transportation documents (TDs).
 - (4) Bills are only paid to the TSP providing service under the bill of lading to NASA and may not be waived.
 - (5) All fees paid are accounted for in the aggregate delivery costs.
 - (6) All payments are subject to applicable statutory limitations.
 - (7) Procedures (such as a unique numbering system) are established to prevent and detect duplicate payments, and that properly account for expenditures and discrepancy notices.
 - (8) All transactions are verified with any indebtedness list. On charge card transactions, NASA will consult any indebtedness list if the charge card contract provisions allow for it.
 - (9) Procedures are established to process transportation bills not subject to

prepayment audit (i.e., bill for unused tickets, and charge card billings) separately.

(10) Establish a minimum dollar threshold for transportation bills subject to audit.

2.2.2 Use of a Government contractor issued charge card.

a. NASA Centers may use a Government contractor issued charge card to purchase transportation services if permitted under the charge card contract or task order. In these circumstances NASA will receive a bill for these services from the charge card company. When using a Government contractor charge card, the following also apply:

b. Establish prepayment audit of transportation and/or transportation services when using a Government contractor issued charge card or charge account citation.

c. Generally, transportation or transportation services ordered with a Government contractor issued charge card or charge account citation cannot be prepayment audited because the bank or charge card contractor pays the TSP directly before NASA receives a bill that can be audited from the charge card company. Therefore, NASA should include provisions for the provider to conduct prepayment audits in contracts with the charge card or charge account providers. Provided NASA is not liable for paying the bank for improper charges (as determined by the prepayment audit verification process), a prepayment audit can be used.

d. As with all prepayment audit programs, the charge card prepayment audit needs to be approved by the GSA Audit Division prior to implementation. If the charge card contract does not provide for a prepayment audit, NASA will submit the transportation line items on the charge card to the GSA Audit Division for a postpayment audit.

2.2.3 Required bill information:

a. The Designee shall ensure the following information is annotated on all transportation bills that have completed a prepayment audit:

- (1) The date received from a TSP
- (2) A TSP's bill number
- (3) Agency name
- (4) A Document Reference Number (DRN)
- (5) The amount billed

- (6) The amount paid
- (7) The payment voucher number
- (8) Complete tender or tariff authority, including item or section number
- (9) The TSP's taxpayer identification number (TIN)
- (10) The TSP's standard carrier alpha code (SCAC)
- (11) The auditor's authorization code or initials
- (12) A copy of any statement of difference sent to the TSP.

Note: NASA Centers can find added guidance in the "U.S. Government Freight Transportation—Handbook," www.gsa.gov/transaudits

2.2.4 Notification to TSPs of any adjustment to the TSP's Bill

a. The Designee shall notify the TSP of any adjustment to the TSP's bill either electronically or in writing within 7 days of receipt of the bill. This notice will refer to the TSP's bill number, agency name, taxpayer identification number, standard carrier alpha code, document reference number, amount billed, amount paid, payment voucher number, complete tender or tariff authority, including item or section number. The notice also will describe in detail the reason(s) for any full or partial rejection of the stated charges on the invoice.

2.2.5 Appeal procedures

a. The prepayment plan will establish an appeal process that directs TSP appeals to a NASA official who is able to provide adequate consideration and review of the circumstances of the claim. The NASA official shall complete the review of the appeal within 30 days.

2.2.6 Unresolved disputes:

a. If the NASA Center official is unable to resolve the disputed amount with the TSP, the NASA Center official should forward all relevant documents including a complete billing history, and the appropriation or fund charged, to:

General Services Administration,
Transportation Audits Division (QMCA)
1800 F Street, NW
Washington, DC 20405
www.gsa.gov/transaudits.

b. The GSA Audits Division will review the appeal of NASA's final, full or partial denial of a claim and issue a decision. A TSP shall submit claims within 3 years under the guidelines established in § [102-118.460](#)

2.2.7 Payment Offset:

a. If directed by GSA's Audits Division, the NASA Shared Services Center (NSSC) may be required to offset debts from amounts owed to the TSP.

2.2.8 Electronic Commerce Record Keeping:

a. NASA Center's internal financial regulations will identify responsibility for recordkeeping. In addition, the GSA Audits Division keeps a central repository of electronic transportation billing records for legal and auditing purposes. Therefore, NASA NSSC forwards all paid transportation billing documents monthly to:

General Services Administration

Transportation Audits Division (QMCA)

1800 F Street, NW

Washington, DC 20405

QMCA Tariffs@gsa.gov

2.3 Postpayment Audit

Postpayment audits review transportation billing documents, and all related transportation documents after payment, to decide billing validity, propriety, and conformity of rates with tariffs, quotations, agreements, contracts, or tenders.

2.3.1 The NSSC Service Provider compiles all audit sample documentation to be reviewed monthly by the NSSC Accounts Payable (AP) Civil Servant (CS). The AP CS will review the audit documentation, prepare the summary SF1186 with a Sensitive but Unclassified (SBU) coversheet, and submit completed audits to GSA.

2.3.2 On a discretionary basis, GSA will occasionally conduct freight post payment audits on NASA records (FMR Subchapter D §102.118). The GSA audit attributes include, but are not limited to:

a. Negotiated prices are fair and reasonable;

- b. A document of agreement signifying acceptance of the arrangements with terms and conditions is filed with the participating agency by the TSP;
- c. The terms and conditions are included in all transportation agreements and referenced on all transportation documents (TDs);
- d. Bills are only paid to the TSP providing service under the bill of lading to your agency and may not be waived;
- e. All fees paid are accounted for in the aggregate delivery costs;
- f. All payments are subject to applicable statutory limitations;
- g. Procedures (such as a unique numbering system) are established to prevent and detect duplicate payments, properly account for expenditures and discrepancy notices;
- h. All transactions are verified with any indebtedness list. On charge card transactions, NASA will consult any indebtedness list if the charge card contract provisions allow for it; and
- i. Procedures are established to process any unused tickets.
- j. The audit process may also include subsequent adjustments and collection actions taken against a TSP by the Government ([31 U.S.C. 3726](#)).

Appendix A: Definitions

Accessorial charges. Charges that are applied to the base tariff rate or base contract of carriage rate. Examples of accessorial charges are:

- (1) Bunkers, destination/delivery, container surcharges, and currency exchange for international shipments.
- (2) Inside delivery, redelivery, re-consignment, and demurrage or detention for freight.
- (3) Packing, unpacking, appliance servicing, blocking and bracing, and special handling for household goods.

Agency. An executive department or independent establishment in the executive branch of the Government, and a wholly owned Government corporation.

Bill of lading. Sometimes referred to as a commercial bill of lading (but includes GBLs), is the document used as a receipt of goods and documentary evidence of title.

Cargo preference. The legal requirement for all, or a portion of all, ocean borne cargo to be transported on U.S. flag vessels.

Classes of Shipping and Handling. Designation of the criticality and complexity of shipping a particular item based on the following:

- (1) Class I. Mission-essential items that, in the event of loss, damage, or delay in shipment, would adversely affect the program or project.
- (2) Class II. Delicate or sensitive items not covered by Class I or Class III. These items are those that may be easily damaged by improper handling.
- (3) Class III. Items requiring special handling and monitoring.
- (4) Class IV. Those items that may be transported or handled using normal commercial transportation means.

Commutated rate system. The system under which an agency may allow its employees to make their own household goods shipping arrangements, and apply for reimbursement.

Consignee. The person or agent to whom freight or household goods are delivered.

Consignor. Also referred to as the shipper, is the person or firm that ships freight or household goods to a consignee.

Contract Data Requirements List. A listing of the technical information and reports required for a contract including submittal and approval criteria and instruction.

Contract of carriage. A contract between the Transportation Services Provider (TSP) and the agency to transport freight or household goods.

Contractor. The Center transportation support services contractor or a program or project contractor responsible for shipping on behalf of NASA.

Debarment. An action to exclude a TSP, for a period, from providing services under a rate tender or any contract under the Federal Acquisition Regulation (48 CFR part 9, sub-part 9.406).

Demurrage. The penalty charge to an agency for delaying the agreed time to load or unload shipments by rail or ocean TSPs.

Detention. The penalty charge to an agency for delaying the agreed time to load or unload shipments by truck TSPs. It is also a penalty charge in some ocean shipping contracts of carriage that take effect after the demurrage time ends.

Electronic commerce. An electronic technique for carrying out business transactions (ordering and paying for goods and services), including electronic mail or messaging, Internet technology, electronic bulletin boards, charge cards, electronic funds transfers, and electronic data interchange.

Foreign flag vessel. Any vessel of foreign registry including vessels owned by U.S. citizens but registered in a foreign country.

Freight. Property or goods transported as cargo.

Freight Forwarder. The entity responsible for the actual movement, or arrangement of the movement, of the freight shipment.

Government bill of lading (GBL). The transportation document used as a receipt of goods, evidence of title, and a contract of carriage for Government international shipments.

Governmentwide Transportation Policy Council (GTPC). An interagency forum to help GSA formulate policy. It provides agencies managing transportation programs a forum to exchange information and ideas to solve common problems. For further information on this council, see web site: <http://www.policyworks.gov/transportation>.

Hazardous material (hazmat). A substance or material the Secretary of Transportation determines to be an unreasonable risk to health, safety, and property when transported in commerce, and labels as hazardous under section 5103 of the Federal Hazardous Materials Transportation Law (49 U.S.C. 5103 et seq.). When transported internationally hazardous material may be classified as “Dangerous Goods.” All such freight will be marked in accordance with applicable regulations and the carrier will be notified in advance.

Hazmat Employees. All persons who participate in shipping hazardous materials, such as explosives or radioactive materials.

Household goods (HHG). The personal effects of Government employees and their dependents.

Improper routing, overcharges or duplicate payments may cause such improper billing. This is different from a payment to settle a claim for loss and damage.

Levels of Protection for Preservation, Packaging, and Packing. Designation of the protection level required for shipping a particular item based on the following:

Level A. Maximum protection level required for protection of material against the most severe worldwide shipment, handling, and storage conditions.

Level B. Intermediate protection level required for protection of material under anticipated favorable conditions during worldwide shipment, handling, and storage conditions.

Level C. Minimum protection level required for protection of material under known favorable conditions.

Line-Haul. The movement of freight between cities excluding pickup and delivery service.

Mission Essential Item. An item of equipment or a part for which the lack of immediate issue on call at the demand source would adversely affect a program or project schedule, safety, or reliability.

Mode. A method of transportation, such as rail, motor, air, water, or pipeline.

NASA Critical Space Item Label. A standardized, distinctive label that is prominently displayed on all interior and exterior shipping containers for items on the Transport Critical Item List. The label alerts shipping and handling personnel to the criticality of the item.

Packaging, Handling and Transportation Record, NF 1426. The official record defining the specific levels and means of preservation, packaging, packing, marking, handling, and shipping instructions for mission-essential items.

Packaging. The application and use of adequate protective measures to prevent damage during transportation and storage, including application of package wraps, cushioning, and complete identification markings.

Packing. The final placement of items or packages in exterior shipping containers or other media, including necessary blocking, bracing, cushioning, weatherproofing, exterior strapping, and marking.

Preservation. The application and use of adequate protective measures to prevent deterioration from environmental hazards. Measures include appropriate cleaning and drying methods, preservatives, and wrapping for protection from chemical danger.

Rate schedule. A list of freight rates, taxes, and charges assessed against non-household goods cargo.

Rate tender. An offer a TSP sends to an agency, containing service rates and charges.

Receipt. A written or electronic acknowledgment by the consignee or TSP as to when and where a shipment was received.

Release/declared value. Stated in dollars and is considered the assigned value of the cargo for reimbursement purposes, not necessarily the actual value of the cargo. Released value may be more or less than the actual value of the cargo. The released value is the maximum amount that could be recovered by the agency in the event of loss or damage for the shipments of freight and household goods. The statement of released value will be shown on any applicable tariff, tender, or other document covering the shipment.

Reparation. A payment to or from an agency to correct an improper transportation billing involving a TSP.

Shipper. Civil servants and contractors assigned or contracted to accomplish center shipping and packaging activities under the authority of the Center Transportation Officer.

Special Design Packaging. Packaging that is used for items possessing characteristics requiring specially designed cushioning, blocking and bracing, or specially designed containers to provide necessary protection.

Suspension. An action taken by an agency to disqualify a TSP from receiving orders for certain services under a contract or rate tender (48 CFR part 9, subpart 9.407).

Transport Critical Item List. A list of items prepared by the contractor and approved by a Center Transportation Officer. The list includes items that are deemed mission essential or that require special handling, monitoring, or an escort.

Transportation document. Any executed agreement for transportation service, such as bill of lading, Government bill of lading (GBL), Government travel request (GTR), or transportation ticket.

Transportation Official. The official(s) assigned the central responsibility for implementing traffic management functions.

Transportation Service Provider (TSP). Any party, person, agent or carrier that provides freight or passenger transportation and related services to an agency. For a freight shipment this would include packers, truckers and storers. For passenger transportation this would include airlines, travel agents and travel management centers.

U.S. flag air carrier. An air carrier holding a certificate issued by the United States under 49 U.S.C. 41102 (49 U.S.C. 40118, 48 CFR part 47, subpart 47.4).

U.S. flag vessel. A commercial vessel, registered and operated under the laws of the U.S., owned and operated by U.S. citizens, and used in commercial trade of the United States.

Unit Package. The first tie wrap or container applied to a single item or several items of the same identifying number or nomenclature, or a group of items included under one identifying number or nomenclature that comprise a complete or identifiable package.

Appendix B: Acronyms

CEO	Chief Executive Officer
CFR	Code of Federal Regulations
CO	Contracting Officer
DoD	Department of Defense
DOE	Department of Energy
DOT	Department of Transportation
DRN	Document Reference Number
DUNS	Bradstreet Data Universal Numbering System identifier
EPA	Environmental Protection Agency
ESD	Electrostatic Discharge
FAA	Federal Aviation Administration
FAR	Federal Acquisition Regulation
FFRDC	Federally-Funded Research and Development Center
FMR	Federal Management Regulations
FSC	Federal Supply Class
GBL	Government bill of lading
GSA	General Services Administration
GTR	Government travel request
HMR	Hazardous Material Regulations
hazmat	Hazardous Material
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
JPL	Jet Propulsion Laboratory
Mil-Std	Military Standard
NAS	National Aerospace Standard
NAS	National Aerospace Standards
NID	NPR Interim Directive

NMO	NASA Management Office
NPD	NASA Policy Directive
NPR	NASA Procedural Requirement
NSSC	NASA Shared Services Center
OSHA	Occupational Safety and Health Administration
POP	Performance Oriented Packaging
PP&E	Property, Plant, and Equipment
SCAC	Standard Carrier Alpha Code
TD	Transportation Document
TIN	Taxpayer Identification Number
TSP	Transportation Service Provider
U.S.C.	United States Code

Appendix C. National Aerospace Standard 850, General Packaging Requirements.

NATIONAL AEROSPACE STANDARD 850 (Revision 7)

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1.0 SCOPE

1.1 PURPOSE

This Standard establishes and defines the general requirements for packaging of commodities for domestic shipment and storage for a minimum of 90 days from time of receipt.

1.2 USE

This Standard shall be used when specified on procurement documents, part design specifications, drawings other packaging standards or specifications.

2.0 REFERENCES (Latest Issue)

2.1 Interstate Commerce Commission Regulations, Department of Transportation Regulations, Uniform Freight Classification, Air Transport Restricted Articles Tariff/Circular No. 6-D, National Motor Freight Classification, Postal Regulations, and other applicable domestic and foreign regulatory and carrier requirements.

2.2 NAS852, Quality Assurance, General Guidance

3.0 REQUIREMENTS

3.1 General

3.1.1 Each package shall provide adequate physical, chemical and cleanliness protection for the item.

3.1.2 The packaging furnished shall meet or exceed those requirements specified herein.

3.1.3 Each container shall be of minimum weight and cube, consistent with standard economical designs, sizes and materials. Gross weight and dimensions of each style and size container shall not exceed its design specification.

3.1.4 Each unit, intermediate and shipping container and closure shall permit safe removal and replacement of the contents without functional damage to the protective system or container.

3.1.5 Packaging materials, procedures and workmanship shall be of good commercial quality and practice. Materials shall not cause commodity deterioration.

3.1.6 Any document referenced under notes of a packaging standard is to be used as a guide or aid in selecting methods, materials and designs.

3.1.7 If the total purchase order quantity does not lend itself to the quantity called out for the unit or intermediate package, the odd quantity shall be packaged and marked separately.

3.1.8 Natural and/or synthetic rubber items shall be enclosed in opaque material.

3.1.9 Packaging and packing for shipment must satisfy applicable carrier regulations.

3.1.10 Items to be mounted on a skid shall be attached only to the skid. Cover, if any, (top and four sides) shall be demountable. Blocks shall position the cover and prevent lateral movement relative to the skid, and the cover shall be secured by means other than nailing. If required, instructions for removal of the item shall be printed on or affixed to the container.

3.1.11 Removable projecting parts of an item which greatly increase its overall cube shall be removed for shipment provided re-assembly can be accomplished without the use of special tools. Re-assembly instructions shall be enclosed in the package. Disassembled parts which are not interchangeable shall be match marked to facilitate re-assembly. All disassembled parts shall be placed in the same shipping container as the assembly from which they were removed, if possible.

3.1.12 Sketches on detail standards illustrate some acceptable methods and are not to be construed as restricting choice of packaging which otherwise satisfies the requirements of the standard.

3.1.13 Aluminum foil in packaging material shall not contact metals other than cadmium, magnesium, aluminum or zinc in applications which may be exposed to water, including water vapor and condensate.

3.1.14 NAS853 shall be used where protection from field forces (electrostatic, electromagnetic, magnetic, and radioactivity) is required.

Unit Packaging

3.2.1 Items enclosed in unit packages shall be clean and free of foreign matter.

3.2.2 Cleaning, drying and preservation shall be performed by any thorough process without damage to the item and shall prevent its corrosion for a minimum of 90 days indoor storage. Selection of appropriate preservation materials shall be based upon their ease of removal and compatibility with the item. When feasible, the operating lubricant shall be the preferred preservative.

3.2.3 Unless otherwise specified in the purchase order, the quantity per unit pack will be consistent with the unit of measure published in the supplies sales catalog. In cases where unit of measure has not been previously established, consideration will be given to the weight, size, density and fragility of the item in establishing unit pack quantities.

3.2.4 Accessory hardware shall be assembled to the item when practicable, or secured within or to the unit package.

3.2.5 Items with sharp points or protrusions shall be adequately padded or wrapped to prevent damage to containers. Where practical, transparent material shall be used for both wrapping and cushioning.

3.2.6 Unit closure shall be effected to prevent accidental opening during shipment and storage.

Intermediate Packaging

3.3.1 Unit packs may be intermediate packaged when economical or additional protection is required.

Packing

3.4.1 Any number of unit or intermediate packages shall be loaded uniformly into each shipping container.

3.4.2 Shipping containers as packed shall protect each item and package during ordinary handling and shipping and shall meet the minimum packaging requirements of the common carriers (if so shipped) for acceptance at the lowest rate to the point of delivery.

3.4.3 Unit or intermediate containers which meet the requirements of Paragraph 3.4.2 may be used as shipping containers.

3.5 Marking

3.5.1 All containers shall be labeled, tagged or marked durably and legibly to show at least:

- a) Part number (as shown on purchase order)
- b) Nomenclature
- c) Manufacturer's part number (if different from above)
- d) Manufacturer's name or identifying code
- e) Quantity and unit (1 lb., each, foot, etc.)

3.5.1.1 Unit containers additional requirements as follows:

- a) Special marking (as applicable), e.g., cure date, serial number, type of preservative, etc.
- b) Markings shall be so arranged that opening and reclosing of the container will not cause loss of the identification.

NOTE: On transparent unit containers, any required data easily readable through the package need not be repeated.

3.5.1.2 Shipping containers additional requirements as follows:

a) Purchase Order Number

3.5.2 Special, precautionary and handling markings shall be applied as required.

4.0 QUALITY ASSURANCE

4.1 The quality assurance/inspection requirements applicable to the contract apply to material/services provided under this standard.

Appendix D. National Aerospace Standard 851, General Packaging Standard Indexes.

1. SCOPE

1.1 Purpose. This standard establishes the following indexes:

1.1.1 Commodities and their assigned detail packaging standards – alphabetical

1.1.2 Packaging standards, listing – numerical

1.2 Applicability

1.2.1 When this standard is specified, packaging shall be in accordance with the requirements of applicable standard(s) listed herein.

1.2.2 When General Packaging Standard NAS850 is specified, packaging shall be in accordance with the requirements therein.

1.2.3 When packaging requirements are provided in a drawing, specification or procurement document, such requirements will take precedence over the packaging standards listed herein.

2. COMMODITIES AND THEIR APPLICABLE DETAIL PACKAGING STANDARDS

NAME	NAS	NAME	NAS	NAME	NAS
Absorber, 3408/3404	RF 3402	Camera 3410	3408/3443	Converter 3408	Accelerometer
3408 Capacitor	Cap	3430/3450 Cord, Electrical	3417	3408 Accumulator	
Actuator 3408	3408	Capacitor, Axial Leads for Machine Processing	3414	Core, Toroid	3402/3411
Adapter, Mechanical	3408	Capacitor, Variable	3404	Coupling, Electrical	3405
Alarm 3408	3408	Cartridge 3408	3404	Coupling, Pipe 3410	Altimeter
Ammeter	3408	Castings	3451	3408	
Amplifier	3408	Catch	3402/3410 /3445	Cover, Rigid, Small	3411/3440
Analyzer	3408	Cavity, Tuned	3408	Crystal, Silicone	3407
Small 3408	3408	Cell	3411/3440	Crystal, Quartz 3404	Antenna, 3408
Armature, Small	3404	Chain, Small	3402/3403	Damper, Hydraulic	3408
Armature, Large	3408	Chair, Roller	3416/3422	Decal	3401
Attenuator	3404	Chassis	3408	Decoder	3404
Autosyn	3408	Choke	3408	Dehydrator	3407
Ballast, Electrical	3408	Choke, Axial Leads	3429/3430	Delay	3404
Steel 3403/3438	3408	Choke, Small	3402	Ball, Detector	3408
Battery, Dry	3408	Chopper, Vibrator	3404	Device, Electro-Explosive	3425
Bearing, Non-Metallic	3402	Circuit Board, with Mounted Parts	3404	Dial	3402
Bearing Rod End	3422	Circuit Board, without Parts	3402	Diode	3429/3430 /3450
Bearing, Rolling or Sliding Contact	3422	Circuit, Breaker, Open	3404/3440	Diode, Axial Leads for Machine Processing	3414
Bell	3408	Circuit Breaker, Sealed	3408	Diode, Stud Mounted	3408
Bellows, Aneroid	3408	Clamp	3410	Disc	3402
Bellows, other than Aneroid	3404/3408	Clamp, with Fuel Resistant Cushion	3406	Disc, Rupture	3419/3408
Bezel	3402	Cleaner, Air	3404	Disconnect, Quick	3431
Blower, Fan	3408	Clip	3403	Drum	3408
Bolt	3410	Clock	3408	Duct	3408
Bolt, Close Tolerance	3433	Clutch, Gear	3408	Dynamotor	3408
Bolt, Explosive	3425	Clutch, Solenoid	3408	Electron Tube	3408
Rubber 3404	3404	Coil, Axial Leads	3429/3430	Electronic Assembly Sealed	3408
Box, Junction	3411/3422	Coil, Large	3408	Electronic Assembly, Unsealed Critical	3444
Bracket	3408/3410	Coil, Small	3402	Element, Electrical	3402
Wheel 3408	3408	Collar, Spacing	3410	Extrusions	3446
Brush, Carbon	3403	Commutator	3408	Eyelet	3403/3410
3410	3410	Compensator	3408	Eyepiece	3404
Bulb	3408	Compressor	3408	Fastener	3410/3453
Bulb, Incandescent	3411/3440	Computer	3408	Filter, Electrical	3402
Rubber 3410	3410	Conduit	3446	Filter, Fluid	3408
Bus Bar	3403	Connector, any with Accessories	3440	Fitting	3402
Bushing	3403	Contact, Electrical	3403	Fitting, Pipe	3410
Bushing, Critical	3402	Contact, Electrical Silver Plated	3432	Fitting, Structural	3408
Cable, Electrical	3417	Contact, Electrical	3408	Flange, Wave Guide	3411/3437
Cable or Assembly, Large	3408	Control, Electrical	3408	Flex Joint	3408

Cable or Assembly, Small 3402/3426 Controller 3404 Fork, Tuning 3408

NAME	NAS	NAME	NAS	NAME	NAS
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Fuse	3410	Light Assembly	3408	Plate, Lighted-Information	3404
Fuse Holder	3402	Lights, Indicating	3440	Plug, Electrical	3405
Gage, Instrument	3408/3443	Limiter	3408	Plug, Nylon	3403
Galvanometer	3408	Link	3404/3408	Plug, Pipe	3410 Post
Gasket, Cork	3415/3419 /3401	Lock	3402		3403
Gasket, Rubber	3401	Lock, Large	3408	Potentiometer	3404 Power Supply 3408
Gear, Ferrous	3400	Machined Items, Precision	3434	Pulley	3402
Gear, Non Ferrous	3408	Magnet	3411	Pulley, Large	3408
Gear, Assembly	3408	Magnetic AMPL	3408	Pump	3408
Generator	3408	Magnetic DET Manifold	3408	Pyrometer	3404 Reactor 3408
Grommet	3403/3410	Manometer Metal-	3408	Receiver	3408 Receptacle 3405
Gyro	3408	Cal	3408		
Handle	3408/3411 /3445	Metal-Clad, Laminated Plastic	3401	Recorder	3408
Hand Wheel	3408/3411 /3445	Sheet	3435	Reducer, Pipe	3410/3433
Harness, Electrical	3426	Meter		Rectifier	3408 Regulator 3408
Headset, Radar	3408	Microcircuit	3408	Relay, Open	3404/3440
Heater	3408	Micrometer	3427	Reels, Filament Tape	3452
Heat Exchanger	3408	Microphone	3408	Relay, Sealed	3408/3440
Heat Sink	3408	Mirror, Glass	3408	Resistor	3429/3430 /3450
Helicoils	3403	Microscope	3408/3448	Resistor, Axial Leads for	3414 Machine
Hinge, Small	3403/3442	Modulator	3408	Processing	
Hinge, Large		Module	3408	Resistor, Variable	3404/3429 /3440
Hose Assembly & Hose	3424/3442	Motor	3404/3409	Resolver	3408
Housing	3408	Multiple, Lead Devices	3408	Retainer, PTFE	3436
Indicator	3408	Nameplate	3427	Rheostat	3404
Insert	3403	Network, Delay	3401	Ring Retainer	3410
Insulator, Electrical	3402	Nipple, Pipe	3408	Ring, PTFE	3436
Insulator, Heat	3408	Nozzle	3410	Rivet	3410
Insulator, Ceramic, Flat	3439	Nut	3402	Screw	3410
Integrated Circuit	3427	Nut Plate	3410	Seal	3418
Inverter, Static	3408	"0" Ring, Large	3410	Semiconductor Devices	3429/3430
Isolator Shock-Cushioning	3408	"0" Ring, Small	3415/3418	Semiconductor Devices for	3414
Shock, Large	3408	Optical Component	3406	Machine Processing	
Isolator Shock-Cushioning	3411	Oscillator	3448	Sensor, Environment	3408
Small	3402	Packing	3408	Servo	3408
Jack, Electrical	3422	Panel	3418	Shaft	3408
Joint, Universal	3428	Panel, Small	3437/3441	Shape, Formed, Small	3408 Shell,
Kit	3403/3411	Panel Assembly, Signal	3411/3441	Electrical Connector	3411/3422
Knob	3401 /3445	Patchboard	3404	Shield, Tube	3411/3440
Label	3435	Pin	3408	Shim, Ferrous	3400
Laminated Plastic Sheet,		Pin, Close Tolerance Pin,	3403/3410	Shim, Non-Ferrous or Non-	3403
Metal-Clad	3439	Silver Plated	3433/3438	Metallic	
Laminations Transformer	3411/3440	Pinion	3432		
Lamp	3402	Pipe	3408		
Latch	3448/3408	Piston	3446		
Lens	3448/3408		3408		
Lens, Acrylic	3404				
Level					

REVISION

7



NAME	NAS	NAME	NAS
Shockmount, Mechanical, Large	3408	Transmitter	3408
Shockmount, Mechanical, Small	3410/3411	Tube, Electron	3408
Shockmounted Assembly	3404/3408	Tubing, Flexible	3424
Shunt	3404	Tubing, Glass	3408
Signal Panel	3404	Tubing, Rigid	3446
Silver Plated Pin or Contact	3432	Union, Pipe	3410
Sleeve, Small	3403	Valve	3408
Sleeve, Rubber, Small	3406	Valve, Check	3404/3408
Slide	3406	Valve, Fuel	3404
Socket, Tube	3402	Varistor	3429
Solenoid	3404/3408	Vibration Isolation Assembly	3408
Spacer, Ferrous	3400/3407	Vibrator	3404
Spacer, Non-Ferrous or Non-Metallic	3403	Voltmeter	3408
Spring	3403	Washer	3410
Spring Assembly	3408	Waveguide	3404/3423
Squib, Electric	3425	Wheel	3408
Starter, Electrical, Open	3404	Wire, Electrical	3417
Starter, Electrical, Sealed	3408	Wire, Safety	3412
Stator	3404		
Strap	3403		
Strip, Terminal	3402		
Stud	3410	Switch Assembly, Servo	3404
Switch, Large	3408	Switch, Small	3402/3440
Swivel, Hydraulic	3408	Synchronizer	3408
Synchros	3408	Tank, Metal	3408
Terminal	3403		
Terminal Board	3402	Thermistor	3404
Thermocouple	3402	Thermometer	3408
Thermostat	3408	Timer	3408
Toroid	3408	Transceiver	3408
Transducer	3408		
Transformer, Potted	3404/3440	Transformer, Sealed	3408/3440
Transistor	3429/3430 /3450		
Transistors for Machine Processing	3414		

NAS851

SHEET 4

3. PACKAGING STANDARDS, LISTING – NUMERICAL

<u>NUMBER</u>	<u>TITLE</u>
NAS850	General Packaging Standard
NAS851	General Packaging Standard Indexes
NAS852	Quality Assurance, General Guidance
NAS853	Field Force, Protection From
NAS854	Hazardous Material, Packaging and Safety Data Sheet Preparation
NAS855	Industrial Packaging Standard
NAS3400	Volatile Corrosion Inhibitor
NAS3401	Wrap, with Stiffener
NAS3402	Bag, Transparent, Single Item
NAS3403	Bag, Transparent, Multiple Item
NAS3404	Bag, Transparent, Individual Box
NAS3405	Bag, Transparent, Single Item, with Accessories
NAS3406	Bag, Packaging of Multiple Items
NAS3407	Bag, Water Vaporproof
NAS3408	Box, Unit, Cushioned
NAS3409	Box, Plastic, Cushioned
NAS3410	Box, Bulk Quantities
NAS3411	Box, Slotted Partitions
NAS3412	Spool, Packaging of
NAS3413	Tube, Mailing
NAS3414	Package, Multiple, Axial Lead Components for Automatic Equipment
NAS3415	Bag, with Stiffener
NAS3416	Box, with Fiberboard Stiffeners
NAS3417	Packaging of Electrical Cable-Cord-Wire
NAS3418	Bag, Opaque, Single Item
NAS3419	Box, with Die-Cut Pads/Fillers
NAS3420	Containers, Water-Vaporproof, W/Desiccant
NAS3421	Wrap, Greaseproof, W/Preservative
NAS3422	Wrap, Greaseproof W/Preservative, Individual Box
NAS3423	Contoured Items, Packaging of Waveguides, Etc.
NAS3424	Hose, Hose Assemblies, Packaging of
NAS3425	Bag, Anti-Static
NAS3426	Electrical Harness, Cable Assemblies, Packaging of
NAS3427	Multiple Lead Devices, Individual Packaging of
NAS3428	Kit, Packaging of
NAS3429	Axial/Radial Lead Components, Individual Packaging of
NAS3430	Axial/Radial Lead Components, Multiple Packaging of
NAS3431	Bag, Individual Item Capped, with or without Accessories
NAS3432	Silver Tarnish Inhibitor
NAS3433	Close Tolerance Cylindrical Hardware Items, Packaging of
NAS3434	Precision Machined Items, Packaging of
NAS3435	Box, with Multiple Individual Transparent Bags
NAS3436	Box, with Transparent Bag, Cylindrical Core

NAS3437 Wrap, Single Face Corrugated Paper
NAS3438 Vial, Plastic
NAS3439 Box, Multiple Quantities, Tightly Packed

Appendix E: 49 CFR §172.704 Hazmat employee training requirements.

(a) Hazmat employee training must include the following:

(1) *General awareness/familiarization training.* Each hazmat employee shall be provided general awareness/familiarization training designed to provide familiarity with the requirements of this subchapter, and to enable the employee to recognize and identify hazardous materials consistent with the hazard communication standards of this subchapter.

(2) *Function-specific training.* (i) Each hazmat employee must be provided function-specific training concerning requirements of this subchapter, or exemptions or special permits issued under subchapter A of this chapter, that are specifically applicable to the functions the employee performs.

(ii) As an alternative to function-specific training on the requirements of this subchapter, training relating to the requirements of the ICAO Technical Instructions and the IMDG Code may be provided to the extent such training addresses functions authorized by subpart C of part 171 of this subchapter.

(3) *Safety training.* Each hazmat employee shall receive safety training concerning—

(i) Emergency response information required by subpart G of part 172;

(ii) Measures to protect the employee from the hazards associated with hazardous materials to which they may be exposed in the work place, including specific measures the hazmat employer has implemented to protect employees from exposure; and

(iii) Methods and procedures for avoiding accidents, such as the proper procedures for handling packages containing hazardous materials.

(4) *Security awareness training.* Each hazmat employee must receive training that provides an awareness of security risks associated with hazardous materials transportation and methods designed to enhance transportation security. This training must also include a component covering how to recognize and respond to possible security threats. New hazmat employees must receive the security awareness training required by this paragraph within 90 days after employment.

(5) *In-depth security training.* Each hazmat employee of a person required to have a security plan in accordance with subpart I of this part who handles hazardous materials covered by the plan, performs a regulated function related to the hazardous materials covered by the plan, or is responsible for implementing the plan must be trained concerning the security plan and its implementation. Security training must include company security objectives, organizational security structure, specific security procedures, specific security duties and responsibilities for each employee, and specific actions to be taken by each employee in the event of a security breach.

(b) *OSHA, EPA, and other training.* Training conducted by employers to comply with the hazard communication programs required by the Occupational Safety and Health Administration of the Department of Labor (29 CFR 1910.120 or 1910.1200) or the Environmental Protection Agency (40 CFR 311.1), or training conducted by employers to comply with security training programs required by

other Federal or international agencies, may be used to satisfy the training requirements in paragraph (a) of this section to the extent that such training addresses the training components specified in paragraph (a) of this section.

(c) *Initial and recurrent training*—(1) *Initial training*. A new hazmat employee, or a hazmat employee who changes job functions may perform those functions prior to the completion of training provided—

(i) The employee performs those functions under the direct supervision of a properly trained and knowledgeable hazmat employee; and

(ii) The training is completed within 90 days after employment or a change in job function.

(2) *Recurrent training*. A hazmat employee must receive the training required by this subpart at least once every three years. For in-depth security training required under paragraph (a)(5) of this section, a hazmat employee must be trained at least once every three years or, if the security plan for which training is required is revised during the three-year recurrent training cycle, within 90 days of implementation of the revised plan.

(3) *Relevant Training*. Relevant training received from a previous employer or other source may be used to satisfy the requirements of this subpart provided a current record of training is obtained from hazmat employees' previous employer.

(4) *Compliance*. Each hazmat employer is responsible for compliance with the requirements of this subchapter regardless of whether the training required by this subpart has been completed.

(d) *Recordkeeping*. Each hazmat employer must create and retain a record of current training of each hazmat employee, inclusive of the preceding three years, in accordance with this section for as long as that employee is employed by that employer as a hazmat employee and for 90 days thereafter. A hazmat employer must make a hazmat employee's record of current training available upon request, at a reasonable time and location, to an authorized official of the Department of Transportation or of an entity explicitly granted authority to enforce the HMR. The record must include:

(1) The hazmat employee's name;

(2) The most recent training completion date of the hazmat employee's training;

(3) A description, copy, or the location of the training materials used to meet the requirements in paragraph (a) of this section;

(4) The name and address of the person providing the training; and

(5) Certification that the hazmat employee has been trained and tested, as required by this subpart.

(e) *Limitations*. The following limitations apply:

(1) A hazmat employee who repairs, modifies, reconditions, or tests packagings, as qualified for use in the transportation of hazardous materials, and who does not perform any other function subject to the requirements of this subchapter, is not subject to the training requirement of paragraph (a)(3) of this section.

(2) A railroad maintenance-of-way employee or railroad signalman, who does not perform any function subject to the requirements of this subchapter, is not subject to the training requirements of paragraphs (a)(2), (a)(4), or (a)(5) of this section.

Appendix F: 49 CFR §PART 107, HAZARDOUS MATERIALS PROGRAM PROCEDURES²³

Subpart B—Special Permits

Contents

- §107.101 Purpose and scope.
- §107.105 Application for special permit.
- §107.107 Application for party status.
- §107.109 Application for renewal.
- §107.111 Withdrawal.
- §107.113 Application processing and evaluation.
- §107.117 Emergency processing.
- §107.121 Modification, suspension or termination of special permit or grant of party status.
- §107.123 Reconsideration.
- §107.125 Appeal.
- §107.127 Availability of documents for public inspection.

§107.101 Purpose and scope.

This subpart prescribes procedures for the issuance, modification and termination of special permits from requirements of this subchapter, subchapter C of this chapter, or regulations issued under chapter 51 of 49 U.S.C.

§107.105 Application for special permit.

(a) General. Each application for a special permit or modification of a special permit and all supporting documents must be written in English and submitted for timely consideration at least 120 days before the requested effective date and conform to the following requirements:

(1) The application, including a table of contents, must:

(i) Be submitted to the Associate Administrator for Hazardous Materials Safety (Attention: General Approvals and Permits, PHH-31), Pipeline and Hazardous Materials Safety Administration, U.S. Department of Transportation, East Building, 1200 New Jersey Avenue, SE., Washington, DC 20590-0001;

(ii) Be submitted with any attached supporting documentation by facsimile (fax) to: (202) 366-3753 or (202) 366-3308;

(iii) Be submitted electronically by e-mail to: specialpermits@dot.gov; or

² Available via U.S. Government Publication Office Link: <https://www.ecfr.gov/cgi-bin/text-idx?SID=9443a2e9843a4685383c0c84a66bb180&mc=true&node=sp49.2.107.b&rgn=div6>

³ Current as of August 17, 2017

(iv) Be submitted using PHMSA's online system (table of contents omitted) at:
<http://www.phmsa.dot.gov/hazmat/regs/sp-a>.

(2) The application must state the name, mailing address, physical address(es) of all known locations where the special permit would be used, e-mail address (if available), and telephone number of the applicant. If the applicant is not an individual, the application must state the company name, mailing address, physical address(es) of all known locations where the special permit would be used, e-mail address (if available), and telephone number of an individual designated as the point of contact for the applicant for all purposes related to the application, the name of the company Chief Executive Officer (CEO) or president, or ranking officer; and the Dun and Bradstreet Data Universal Numbering System (D-U-N-S) identifier.

(3) If the applicant is not a resident of the United States, in addition to the information listed in paragraph (a)(2) of this section, the application must identify and designate an agent that is a permanent resident of the United States for service in accordance with §105.40 of this part.

(4) For a manufacturing special permit, in addition to the information listed in paragraph (a)(2) of this section, the application must state the name and street address of each of the facilities of the applicant where manufacturing under the special permit will occur, and the symbol of the packaging manufacturer ("M" number), if applicable.

(5) For persons required to be registered in accordance with Subpart F or G of this part, in addition to the information listed in paragraph (a)(2) of this section, the application must provide the registration number or the name of the company to which the registration number is assigned if different from the applicant. For persons not required to be registered in accordance with Subpart F or G of this part, in addition to the information listed in paragraph (a)(2) of this section, the application must provide a statement indicating that registration is not required.

(b) Confidential treatment. To request confidential treatment for information contained in the application, the applicant must comply with §105.30(a).

(c) Description of special permit proposal. The application must include the following information that is relevant to the special permit proposal:

(1) A citation of the specific regulation from which the applicant seeks relief;

(2) The proposed mode or modes of transportation, including a description of all operational controls required;

(3) A detailed description of the proposed special permit (e.g., alternative packaging, test, procedure, activity, or hazard communication, including marking and labeling requirements) including, as appropriate, written descriptions, drawings, flow charts, plans and other supporting documents;

- (4) A specification of the proposed duration or schedule of events for which the special permit is sought;
 - (5) A statement outlining the applicant's basis for seeking relief from compliance with the specified regulations and, if the special permit is requested for a fixed period, a description of how compliance will be achieved at the end of that period. For transportation by air, a statement outlining the reason(s) the hazardous material is being transported by air if other modes are available;
 - (6) If the applicant seeks emergency processing specified in §107.117, a statement of supporting facts and reasons;
 - (7) Identification and description, including an estimated quantity of each shipment of the hazardous materials planned for transportation under the special permit or;
 - (8) Description of each packaging, including specification or special permit number, as applicable, to be used in conjunction with the requested special permit;
 - (9) For alternative packagings, documentation of quality assurance controls, package design, manufacture, performance test criteria, in-service performance and service-life limitations;
 - (10) An estimate of the number of operations expected to be conducted or number of shipments to be transported under the special permit;
 - (11) An estimate of the number of packagings expected to be manufactured under the special permit, if applicable;
 - (12) A statement as to whether the special permit being sought is related to a compliance review, inspection activity, or enforcement action; and
 - (13) When a Class 1 material is forbidden for transportation by aircraft except under a special permit (see Columns 9A and 9B in the table in 49 CFR 172.101), a certification from an applicant for a special permit to transport such Class 1 material on passenger-carrying or cargo-only aircraft with a maximum certificated takeoff weight of less than 12,500 pounds that no person within the categories listed in 18 U.S.C. 842(i) will participate in the transportation of the Class 1 material.
 - (14) A statement indicating whether the applicant will be acting as a shipper (offeror), carrier or both under the terms of the special permit.
- (d) Justification of special permit proposal. The application must demonstrate that a special permit achieves a level of safety at least equal to that required by regulation, or if a required safety level does not exist, is consistent with the public interest. At a minimum, the application must provide the following:

(1) Information describing all relevant shipping and incident experience of which the applicant is aware that relates to the application; and

(2) A statement identifying any increased risk to safety or property that may result if the special permit is granted, and a description of the measures to be taken to address that risk; and

(3) Either:

(i) Substantiation, with applicable analyses, data or test results (e.g., failure mode and effect analysis), that the proposed alternative will achieve a level of safety that is at least equal to that required by the regulation from which the special permit is sought; or

(ii) If the regulations do not establish a level of safety, an analysis that identifies each hazard, potential failure mode and the probability of its occurrence, and how the risks associated with each hazard and failure mode are controlled for the duration of an activity or life-cycle of a packaging.

§107.107 Application for party status.

(a) Any person eligible to apply for a special permit may apply to be a party to an application or an existing special permit, other than a manufacturing special permit.

(b) Each application filed under this section must conform to the following requirements:

(1) The application must:

(i) Be submitted to the Associate Administrator for Hazardous Materials Safety (Attention: General Approvals and Permits, PHH-31), Pipeline and Hazardous Materials Safety Administration, U.S. Department of Transportation, East Building, 1200 New Jersey Avenue, SE., Washington, DC 20590-0001;

(ii) Be submitted with any attached supporting documentation by facsimile (fax) to: (202) 366-3753 or (202) 366-3308; or

(iii) Be submitted by electronically by e-mail to: specialpermits@dot.gov, or on-line at: <http://www.phmsa.dot.gov/hazmat/regs/sp-a>.

(2) The application must identify by number the special permit application or special permit to which the applicant seeks to become a party.

(3) The application must state the name, mailing address, physical address(es) of all known locations where the special permit would be used, e-mail address (if available), and telephone number of the applicant. If the applicant is not an individual, the application must state the company name, mailing address, physical address(es) of all known locations where the special permit would be used, e-mail

address (if available), and telephone number of an individual designated as the point of contact for the applicant for all purposes related to the application, the name of the company Chief Executive Officer (CEO), president, or ranking executive officer and the Dun and Bradstreet Data Universal Numbering System (D-U-N-S) identifier. In addition, each applicant must state why party status to the special permit is needed and must submit a certification of understanding of the provisions of the special permit to which party status is being requested.

(4) If the applicant is not a resident of the United States, the application must identify and designate an agent that is a permanent resident of the United States for service in accordance with §105.40 of part.

(5) For a Class 1 material that is forbidden for transportation by aircraft except under a special permit (see Columns 9A and 9B in the table in 49 CFR 172.101), a certification from an applicant for party status to a special permit to transport such Class 1 material on passenger-carrying or cargo-only aircraft with a maximum certificated takeoff weight of less than 12,500 pounds that no person within the categories listed in 18 U.S.C. 842(i) will participate in the transportation of the Class 1 material.

(6) The applicant must certify that the applicant has not previously been granted party status to the special permit. If the applicant has previously been granted party status, the applicant must follow renewal procedures as specified in §107.109.

(7) A statement indicating whether the applicant will be acting as a shipper (offeror), carrier or both under the terms of the special permit.

(c) The Associate Administrator may grant or deny an application for party status in the manner specified in §107.113(e) and (f) of this subpart.

(d) A party to a special permit is subject to all terms of that special permit, including the expiration date. If a party to a special permit wishes to renew party status, the special permit renewal procedures set forth in §107.109 apply.

[76 FR 461, Jan. 5, 2011, as amended at 76 FR 44500, July 26, 2011; 76 FR 43524, July 20, 2011; 76 FR 56310, Sept. 13, 2011]

§107.109 Application for renewal.

(a) Each application for renewal of a special permit or party status to a special permit must conform to the following requirements:

(1) The application must:

(i) Be submitted to the Associate Administrator for Hazardous Materials Safety (Attention: General Approvals and Permits, PHH-31), Pipeline and Hazardous Materials Safety Administration, U.S.

Department of Transportation, East Building, 1200 New Jersey Avenue, SE., Washington, DC 20590-0001;

(ii) Be submitted with any attached supporting documentation submitted in an appropriate format by facsimile (fax) to: (202) 366-3753 or (202) 366-3308; or

(iii) Be submitted electronically by e-mail to: specialpermits@dot.gov; or on-line at: <http://www.phmsa.dot.gov/hazmat/regs/sp-a>.

(2) The application must identify by number the special permit for which renewal is requested.

(3) The application must state the name, mailing address, physical address(es) of all known new locations not previously identified in the application where the special permit would be used and all locations not previously identified where the special permit was used, e-mail address (if available), and telephone number of the applicant. If the applicant is not an individual, the application must state the name, mailing address, physical address(es) of all known new locations not previously identified in the application where the special permit would be used and all locations not previously identified where the special permit was used, e-mail address (if available), and telephone number of an individual designated as the point of contact for the applicant for all purposes related to the application, the name of the company Chief Executive Officer (CEO), president, or ranking executive officer, and the Dun and Bradstreet Data Universal Numbering System (D-U-N-S) identifier. In addition, each applicant for renewal of party status must state why party status to the special permit is needed and must submit a certification of understanding of the provisions of the special permit to which party status is being requested.

(4) The application must include either a certification by the applicant that the original application, as it may have been updated by any application for renewal, remains accurate (e.g., all section references, shipping descriptions, etc.) and complete; or include an amendment to the previously submitted application as is necessary to update and ensure the accuracy and completeness of the application, with certification by the applicant that the application as amended is accurate and complete.

(5) The application must include a statement describing all relevant operational, shipping, and incident experience of which the applicant is aware in connection with the special permit since its issuance or most recent renewal. If the applicant is aware of no incidents, the applicant must so certify. When known to the applicant, the statement must indicate the approximate number of shipments made or packages shipped, as applicable, and the number of shipments or packages involved in any loss of contents, including loss by venting other than as authorized in subchapter C.

(6) When a Class 1 material is forbidden for transportation by aircraft, except under a special permit (see Columns 9A and 9B in the table in 49 CFR 172.101), an application to renew a special permit to transport such Class 1 material on passenger-carrying or cargo-only aircraft with a maximum certificated takeoff weight of less than 12,500 pounds must certify that no person within the categories listed in 18 U.S.C. 842(i) will participate in the transportation of the Class 1 material.

(7) If the renewal is requested after the expiration date of the special permit, the following information is required:

(i) The reason the special permit authorization was allowed to expire;

(ii) A certification statement that no shipments were transported after the expiration date of the special permit, or a statement describing any transportation under the terms of the special permit after the expiration date, if applicable; and

(iii) A statement describing the action(s) the applicant will take to ensure future renewal is requested before the expiration date.

(8) If no operations or shipments have been made since the issuance or renewal of the special permit, the applicant must provide specific justification as to why the special permit should be renewed.

(9) A statement indicating whether the applicant will be acting as a shipper (offeror), carrier or both under the terms of the special permit.

(b) If, at least 60 days before an existing special permit expires the holder files an application for renewal that is complete and conforms to the requirements of this section, the special permit will not expire until final administrative action on the application for renewal has been taken.

[76 FR 462, Jan. 5, 2011, as amended at 76 FR 44501, July 26, 2011; 76 FR 43524, July 20, 2011; 76 FR 56310, Sept. 13, 2011]

§107.111 Withdrawal.

An application may be withdrawn at any time before a decision to grant or deny it is made. Withdrawal of an application does not authorize the removal of any related records from the PHMSA dockets or files. Applications that are eligible for confidential treatment under §105.30 will remain confidential after the application is withdrawn. The duration of this confidential treatment for trade secrets and commercial or financial information is indefinite, unless the party requesting the confidential treatment of the materials notifies the Associate Administrator that the confidential treatment is no longer required.

§107.113 Application processing and evaluation.

(a) The Associate Administrator reviews an application for a special permit, modification of a special permit, party to a special permit, or renewal of a special permit in conformance with the standard operating procedures specified in appendix A of this part (“Standard Operating Procedures for Special Permits and Approvals”) to determine if it is complete and conforms with the requirements of this subpart. This determination will typically be made within 30 days of receipt of the application for a

special permit, modification of a special permit, or party to a special permit, and typically within 15 days of receipt of an application for renewal of a special permit. If an application is determined to be incomplete, the Associate Administrator may reject the application. If that occurs, PHMSA will inform the applicant of the deficiency in writing.

(b) An application, that is not a renewal, party to, or emergency special permit application, and is determined to be complete is docketed. Notice of the application is published in the Federal Register, and an opportunity for public comment is provided. All comments received during the comment period are considered before final action is taken on the application.

(c) No public hearing or other formal proceeding is required under this subpart before the disposition of an application. Unless emergency processing under §107.117 is requested and granted, applications are usually processed in the order in which they are filed.

(d) During the processing and evaluation of an application, the Associate Administrator may conduct an on-site review or request additional information from the applicant. A failure to cooperate with an on-site review may result in the application being deemed incomplete and subsequently being denied. If the applicant does not respond to a written or electronic request for additional information within 30 days of the date the request was received, the application may be deemed incomplete and denied. However, if the applicant responds in writing or by electronic means within the 30-day period requesting an additional 30 days within which it will gather the requested information, the Associate Administrator may grant the 30-day extension.

(e) The Associate Administrator may grant or deny an application, in whole or in part. In the Associate Administrator's discretion, an application may be granted subject to provisions that are appropriate to protect health, safety or property. The Associate Administrator may impose additional provisions not specified in the application or remove conditions in the application that are unnecessary.

(f) The Associate Administrator may grant an application on finding that—

(1) The application complies with this subpart;

(2) The application demonstrates that the proposed alternative will achieve a level of safety that:

(i) Is at least equal to that required by the regulation from which the special permit is sought, or

(ii) If the regulations do not establish a level of safety, is consistent with the public interest and adequately will protect against the risks to life and property inherent in the transportation of hazardous materials in commerce;

(3) The application states all material facts, and contains no materially false or materially misleading statement;

- (4) The applicant meets the qualifications required by applicable regulations; and
- (5) The applicant is fit to conduct the activity authorized by the special permit. This assessment may be based on information in the application, prior compliance history of the applicant, and other information available to the Associate Administrator.
- (g) An applicant is notified in writing or by electronic means whether the application is granted or denied. A denial contains a brief statement of reasons.
- (h) The initial special permit terminates according to its terms or, if not otherwise specified, 24 months from the date of issuance. A subsequent renewal of a special permit terminates according to its terms or, if not otherwise specified, 48 months after the date of issuance. A grant of party status to a special permit, unless otherwise stated, terminates on the date that the special permit expires.
- (i) The Associate Administrator, on determining that an application concerns a matter of general applicability and future effect and should be the subject of rulemaking, may initiate rulemaking under part 106 of this chapter in addition to or instead of acting on the application.
- (j) The Associate Administrator publishes in the Federal Register a list of all special permit grants, denials, and modifications and all special permit applications withdrawn under this section.

§107.117 Emergency processing.

- (a) An application is granted emergency processing if the Associate Administrator, on the basis of the application and any inquiry undertaken, finds that—
- (1) Emergency processing is necessary to prevent significant injury to persons or property (other than the hazardous material to be transported) that could not be prevented if the application were processed on a routine basis; or
- (2) Emergency processing is necessary for immediate national security purposes or to prevent significant economic loss that could not be prevented if the application were processed on a routine basis.
- (b) Where the significant economic loss is to the applicant, or to a party in a contractual relationship to the applicant with respect to the activity to be undertaken, the Associate Administrator may deny emergency processing if timely application could have been made.
- (c) A request for emergency processing on the basis of potential economic loss must reasonably describe and estimate the potential loss.
- (d) An application submitted under this section must conform to §107.105 to the extent that the receiving Department official deems necessary to process the application. An application on an

emergency basis must be submitted to the Department modal contact official for the initial mode of transportation to be utilized, as follows:

(1) Certificate-Holding Aircraft: The Federal Aviation Administration Civil Aviation Security Office that serves the place where the flight will originate or that is responsible for the aircraft operator's overall aviation security program. The nearest Civil Aviation Security Office may be located by calling the FAA Duty Officer, 202-267-3333 (any hour).

(2) Noncertificate-Holding Aircraft (Those Which Operate Under 14 CFR Part 91): The Federal Aviation Administration Civil Aviation Security Office that serves the place where the flight will originate. The nearest Civil Aviation Security Office may be located by calling the FAA Duty Officer, 202-267-3333 (any hour).

(3) Motor Vehicle Transportation: Chief, Hazardous Materials Division, Federal Motor Carrier Safety Administration, U.S. Department of Transportation, Washington, DC 20590-0001, 202-385-2400 (day); 1-800-424-8802 (night).

(4) Rail Transportation: Staff Director, Hazardous Materials Division, Office of Safety Assurance and Compliance, Federal Railroad Administration, U.S. Department of Transportation, Washington, DC 20590-0001, 202-493-6248 or 202-493-6244 (day); 1-800-424-8802 (night).

(5) Water Transportation: Chief, Hazardous Materials Standards Division, Office of Operating and Environmental Standards, U.S. Coast Guard, U.S. Department of Homeland Security, Washington, DC 20593-0001; 202-372-1420 (day); 1-800-424-8802 (night).

(e) Upon receipt of all information necessary to process the application, the receiving Department official transmits to the Associate Administrator, by the most rapidly available means of communication, an evaluation as to whether an emergency exists under §107.117(a) and, if appropriate, recommendations as to the conditions to be included in the special permit. The Associate Administrator will review an application for emergency processing of a special permit in conformance with the standard operating procedures specified in appendix A of this part ("Standard Operating Procedures for Special Permits and Approvals") to determine if it is complete and conforms with the requirements of this subpart. If the Associate Administrator determines that an emergency exists under §107.117(a) and that, with reference to the criteria of §107.113(f), granting of the application is in the public interest, the Associate Administrator will grant the application subject to such terms as necessary and immediately notify the applicant. If the Associate Administrator determines that an emergency does not exist or that granting of the application is not in the public interest, the applicant will be notified immediately.

(f) A determination that an emergency does not exist is not subject to reconsideration under §107.123 of this part.

(g) Within 90 days following issuance of an emergency special permit, the Associate Administrator will publish, in the Federal Register, a notice of issuance with a statement of the basis for the finding of emergency and the scope and duration of the special permit.

§107.121 Modification, suspension or termination of special permit or grant of party status.

(a) The Associate Administrator may modify a special permit or grant of party status on finding that:

- (1) Modification is necessary so that the special permit reflects current statutes and regulations; or
- (2) Modification is required by changed circumstances to meet the standards of §107.113(f).

(b) The Associate Administrator may modify, suspend or terminate a special permit or grant of party status, as appropriate, on finding that:

- (1) Because of a change in circumstances, the special permit or party status no longer is needed or no longer would be granted if applied for;
- (2) The application contained inaccurate or incomplete information, and the special permit or party status would not have been granted had the application been accurate and complete;
- (3) The application contained deliberately inaccurate or incomplete information; or
- (4) The holder or party knowingly has violated the terms of the special permit or an applicable requirement of this chapter in a manner demonstrating the holder or party is not fit to conduct the activity authorized by the special permit.

(c) Except as provided in paragraph (d) of this section, before a special permit or grant of party status is modified, suspended, or terminated, the Associate Administrator notifies the holder or party in writing or by electronic means of the proposed action and the reasons for it, and provides an opportunity to show cause why the proposed action should not be taken.

- (1) Within 30 days of receipt of notice of the proposed action, the holder or party may file a response in writing or by electronic means that shows cause why the proposed action should not be taken.
- (2) After considering the holder's or party's response, or after 30 days have passed without response since receipt of the notice, the Associate Administrator notifies the holder or party in writing or by electronic means of the final decision with a brief statement of reasons.

(d) The Associate Administrator, if necessary to avoid a risk of significant harm to persons or property, may, in the notification, declare the proposed action immediately effective.

§107.123 Reconsideration.

(a) An applicant for special permit, a special permit holder, or an applicant for party status to a special permit may request that the Associate Administrator reconsider a decision under §107.113(g), §107.117(e) or §107.121(c) of this part. The request must—

- (1) Be in writing or by electronic means and filed within 20 days of receipt of the decision;
- (2) State in detail any alleged errors of fact and law;
- (3) Enclose any additional information needed to support the request to reconsider; and
- (4) State in detail the modification of the final decision sought.

(b) The Associate Administrator grants or denies, in whole or in part, the relief requested and informs the requesting person in writing or by electronic means of the decision. If necessary to avoid a risk of significant harm to persons or property, the Associate Administrator may, in the notification, declare the action immediately effective.

§107.125 Appeal.

(a) A person who requested reconsideration under §107.123 and is denied the relief requested may appeal to the Administrator. The appeal must—

- (1) Be in writing or by electronic means and filed within 30 days of receipt of the Associate Administrator's decision on reconsideration; (2) state in detail any alleged errors of fact and law;
- (2) State in detail any alleged errors of fact and law;
- (3) Enclose any additional information needed to support the appeal; and
- (4) State in detail the modification of the final decision sought.

(b) The Administrator, if necessary to avoid a risk of significant harm to persons or property, may declare the Associate Administrator's action effective pending a decision on appeal.

(c) The Administrator grants or denies, in whole or in part, the relief requested and informs the appellant in writing or by electronic means of the decision. The Administrator's decision is the final administrative action.

§107.127 Availability of documents for public inspection.

(a) Documents related to an application under this subpart, including the application itself, are available for public inspection, except as specified in paragraph (b) of this section, at the Office of the Associate Administrator for Hazardous Materials Safety, Pipeline and Hazardous Materials Safety Administration, Approvals and Permits Division, U.S. Department of Transportation, East Building, PHH-30, 1200 New Jersey Avenue, SE., Washington, DC 20590-0001. Office hours are 8:30 a.m. to 5 p.m., Monday through Friday, except Federal holidays when the office is closed. Copies of available documents may be obtained as provided in part 7 of this title. Documents numbered 11832 and above may also be viewed at the website address <http://www.regulations.gov>.

(b) Documents available for inspection do not include materials determined to be withheld from public disclosure under §105.30 and in accordance with the applicable provisions of section 552(b) of title 5, United States Code, and part 7 of this title.

Appendix G: 49 CFR §177.834 General Hazardous Material Handling Requirements.

- (a) *Packages secured in a motor vehicle.* Any package containing any hazardous material, not permanently attached to a motor vehicle, must be secured against shifting, including relative motion between packages, within the vehicle on which it is being transported, under conditions normally incident to transportation. Packages having valves or other fittings must be loaded in a manner to minimize the likelihood of damage during transportation.
- (b) Each package containing a hazardous material bearing package orientation markings prescribed in §172.312 of this subchapter must be loaded on a transport vehicle or within a freight container in accordance with such markings and must remain in the correct position indicated by the markings during transportation.
- (c) *No smoking while loading or unloading.* Smoking on or about any motor vehicle while loading or unloading any Class 1 (explosive), Class 3 (flammable liquid), Class 4 (flammable solid), Class 5 (oxidizing), or Division 2.1 (flammable gas) materials is forbidden.
- (d) *Keep fire away, loading and unloading.* Extreme care shall be taken in the loading or unloading of any Class 1 (explosive), Class 3 (flammable liquid), Class 4 (flammable solid), Class 5 (oxidizing), or Division 2.1 (flammable gas) materials into or from any motor vehicle to keep fire away and to prevent persons in the vicinity from smoking, lighting matches, or carrying any flame or lighted cigar, pipe, or cigarette.
- (e) *Handbrake set while loading and unloading.* No hazardous material shall be loaded into or on, or unloaded from, any motor vehicle unless the handbrake be securely set and all other reasonable precautions be taken to prevent motion of the motor vehicle during such loading or unloading process.
- (f) *Use of tools, loading and unloading.* No tools which are likely to damage the effectiveness of the closure of any package or other container, or likely adversely to affect such package or container, shall be used for the loading or unloading of any Class 1 (explosive) material or other dangerous article.
- (g) [Reserved]
- (h) *Precautions concerning containers in transit; fueling road units.* Reasonable care should be taken to prevent undue rise in temperature of containers and their contents during transit. There must be no tampering with such container or the contents thereof nor any discharge of the contents of any container between point of origin and point of billed destination. Discharge of contents of any container, other than a cargo tank or IM portable tank, must not be made prior to removal from the motor vehicle. Nothing contained in this paragraph shall be so construed as to prohibit the fueling of machinery or vehicles used in road construction or maintenance.
- (i) *Attendance requirements—(1) Loading.* A cargo tank must be attended by a qualified person at all times when it is being loaded. The person who is responsible for loading the cargo tank is also responsible for ensuring that it is so attended.

(2) *Unloading.* A motor carrier who transports hazardous materials by a cargo tank must ensure that the cargo tank is attended by a qualified person at all times during unloading. However, the carrier's obligation to ensure attendance during unloading ceases when:

(i) The carrier's obligation for transporting the materials is fulfilled;

(ii) The cargo tank has been placed upon the consignee's premises; and

(iii) The motive power has been removed from the cargo tank and removed from the premises.

(3) A qualified person "attends" the loading or unloading of a cargo tank only if, throughout the process:

(i) Except for unloading operations subject to §§177.837(d) and 177.840(p) and (q), the qualified person is within 7.62 m (25 feet) of the cargo tank. The qualified person attending the unloading of a cargo tank must be alert and have an unobstructed view of the cargo tank and delivery hose to the maximum extent practicable during the unloading operation; or

(ii) The qualified person observes all loading or unloading operations by means of video cameras and monitors or instrumentation and signaling systems such as sensors, alarms, and electronic surveillance equipment located at a remote control station, and the loading or unloading system is equipped as follows:

(A) For a video monitoring system used to meet the attendance requirement, the camera must be mounted so as to provide an unobstructed view of all equipment involved in the loading or unloading operations, including all valves, hoses, domes, and pressure relief devices;

(B) For an instrumentation and signaling system used to meet the attendance requirement, the system must provide a surveillance capability at least equal to that of a human observer;

(C) Upon loss of video monitoring capability or instrumentation and signaling systems, loading or unloading operations must be immediately terminated;

(D) Shut-off valves operable from the remote control station must be provided;

(E) In the event of a remote system failure, a qualified person must immediately resume attending the loading or unloading of the cargo tank as provided in paragraph (i)(3)(i) of this section;

(F) A containment area must be provided capable of holding the contents of as many cargo tank motor vehicles as might be loaded at any single time; and

(G) A qualified person must personally conduct a visual inspection of each cargo tank motor vehicle after it is loaded, prior to departure, for any damage that may have occurred during loading; or

(iii) Hoses used in the loading or unloading operations are equipped with cable-connected wedges, plungers, or flapper valves located at each end of the hose, able to stop the flow of product from both the

source and the receiving tank within one second without human intervention in the event of a hose rupture, disconnection, or separation.

(A) Prior to each use, each hose must be inspected to ensure that it is of sound quality, without defects detectable through visual observation; and

(B) The loading or unloading operations must be physically inspected by a qualified person at least once every sixty (60) minutes.

(4) A person is “qualified” if he has been made aware of the nature of the hazardous material which is to be loaded or unloaded, has been instructed on the procedures to be followed in emergencies, and except for persons observing loading or unloading operations by means of video cameras and monitors or instrumentation and signaling systems such as sensors, alarms, and electronic surveillance equipment located at a remote control station and persons inspecting hoses in accordance with paragraph (i)(3)(iii) of this section, is authorized to move the cargo tank, and has the means to do so.

(j) Except for a cargo tank conforming to §173.29(b)(2) of this subchapter, a person may not drive a cargo tank motor vehicle containing a hazardous material regardless of quantity unless:

(1) All manhole closures are closed and secured; and

(2) All valves and other closures in liquid discharge systems are closed and free of leaks, except external emergency self-closing valves on MC 338 cargo tanks containing the residue of cryogenic liquids may remain either open or closed during transit.

(k) [Reserved]

(l) *Use of cargo heaters when transporting certain hazardous material.* Transportation includes loading, carrying, and unloading.

(1) *When transporting Class 1 (explosive) materials.* A motor vehicle equipped with a cargo heater of any type may transport Class 1 (explosive) materials only if the cargo heater is rendered inoperable by: (i) Draining or removing the cargo heater fuel tank; and (ii) disconnecting the heater’s power source.

(2) *When transporting certain flammable material—(i) Use of combustion cargo heaters.* A motor vehicle equipped with a combustion cargo heater may be used to transport Class 3 (flammable liquid) or Division 2.1 (flammable gas) materials only subject to the following conditions:

(A) The combustion cargo heater is powered by diesel fuel or propane and each of the following requirements are met:

(1) Electrical apparatus in the cargo compartment is non-sparking or explosion proof.

(2) There is no combustion apparatus in the cargo compartment.

(3) There is no connection for return of air from the cargo compartment to the combustion apparatus.

- (4) The heating system will not heat any part of the cargo to more than 54 °C (130 °F).
 - (5) Heater requirements under §393.77 of this title are complied with.
 - (6) The heater unit and its fuel supply must be externally mounted on the truck or trailer.
 - (7) The heater unit must retain combustion in a sealed combustion chamber.
 - (8) The heater unit must utilize outside air for combustion (air from the cargo space cannot be used for combustion).
 - (9) Heater unit combustion gases must be exhausted to the outside of the truck or trailer.
- (B) The combustion cargo heater is a catalytic heater and each of the following requirements are met:
- (1) The heater's surface temperature cannot exceed 54 °C (130 °F)—either on a thermostatically controlled heater or on a heater without thermostatic control when the outside or ambient temperature is 16 °C (61 °F) or less.
 - (2) The heater is not ignited in a loaded vehicle.
 - (3) There is no flame, either on the catalyst or anywhere in the heater.
 - (4) The manufacturer has certified that the heater meets the requirements under paragraph (l)(2)(i)(B) of this section by permanently marking the heater “*MEETS DOT REQUIREMENTS FOR CATALYTIC HEATERS USED WITH FLAMMABLE LIQUID AND GAS.*”
 - (5) The heater is also marked “*DO NOT LOAD INTO OR USE IN CARGO COMPARTMENTS CONTAINING FLAMMABLE LIQUID OR GAS IF FLAME IS VISIBLE ON CATALYST OR IN HEATER.*”
 - (6) *Heater requirements under §393.77 of this title are complied with.*
- (ii) [Reserved]
- (iii) *Restrictions on automatic cargo-space-heating temperature control devices.* Restrictions on these devices have two dimensions: Restrictions upon use and restrictions which apply when the device must not be used.
- (A) *Use restrictions.* An automatic cargo-space-heating temperature control device may be used when transporting Class 3 (flammable liquid) or Division 2.1 (flammable gas) materials only if each of the following requirements is met:
- (1) Electrical apparatus in the cargo compartment is nonsparking or explosion proof.
 - (2) There is no combustion apparatus in the cargo compartment.

(3) There is no connection for return of air from the cargo compartment to the combustion apparatus.

(4) The heating system will not heat any part of the cargo to more than 54 °C (129 °F).

(5) Heater requirements under §393.77 of this title are complied with.

(B) *Protection against use.* Class 3 (flammable liquid) or Division 2.1 (flammable gas) materials may be transported by a vehicle, which is equipped with an automatic cargo-space-heating temperature control device that does not meet each requirement of paragraph (1)(2)(iii)(A) of this section, only if the device is first rendered inoperable, as follows:

(1) Each cargo heater fuel tank, if other than LPG, must be emptied or removed.

(2) Each LPG fuel tank for automatic temperature control equipment must have its discharge valve closed and its fuel feed line disconnected.

(m) Tanks constructed and maintained in compliance with Spec. 106A or 110A (§§179.300, 179.301 of this subchapter) that are authorized for the shipment of hazardous materials by highway in part 173 of this subchapter must be carried in accordance with the following requirements:

(1) Tanks must be securely chocked or clamped on vehicles to prevent any shifting.

(2) Equipment suitable for handling a tank must be provided at any point where a tank is to be loaded upon or removed from a vehicle.

(3) No more than two cargo carrying vehicles may be in the same combination of vehicles.

(4) Compliance with §§174.200 and 174.204 of this subchapter for combination rail freight, highway shipments and for trailer-on-flat-car service is required.

(n) Specification 56, 57, IM 101, and IM 102 portable tanks, when loaded, may not be stacked on each other nor placed under other freight during transportation by motor vehicle.

(o) *Unloading of IM and UN portable tanks.* No person may unload an IM or UN portable tank while it remains on a transport vehicle with the motive power unit attached except under the following conditions:

(1) The unloading operation must be attended by a qualified person in accordance with the requirements in paragraph (i) of this section. The person performing unloading functions must be trained in handling emergencies that may occur during the unloading operation.

(2) Prior to unloading, the operator of the vehicle on which the portable tank is transported must ascertain that the conditions of this paragraph (o) are met.

(3) An IM or UN portable tank equipped with a bottom outlet as authorized in Column (7) of the §172.101 Table of this subchapter by assignment of a T Code in the appropriate proper shipping name

entry, and that contains a liquid hazardous material of Class 3, PG I or II, or PG III with a flash point of less than 100 °F (38 °C); Division 5.1, PG I or II; or Division 6.1, PG I or II, must conform to the outlet requirements in §178.275(d)(3) of this subchapter.

Appendix H. NASA Prepayment Audit Plan.

NASA's Transportation Prepayment Audit Plan

December 2015

**NASA Headquarters
Office of Strategic Infrastructure
Logistic Management Division
Transportation Management**

**Agency Point of Contact:
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I. Introduction:

A prepayment audit is a review of a transportation service provider (TSP) invoices/bills occurring prior to disbursing payment to a TSP. The prepayment review compares the charges on the bill against the charge permitted under the contract, rate tender, or other agreement under which the TSP provided the transportation and/or transportation related services to ensure that the charges are appropriate.

NASA is required to establish an Agency-wide prepayment audit plan. NASA must pay for the prepayment audit from those funds appropriated for transportation services. NASA Headquarters must send a copy of NASA's prepayment audit plan to GSA Audits Division for final approval:

General Services Administration
Transportation Audits Division (QMCA)
1800 F Street, NW,
Washington, DC 20405
Audit.Policy@gsa.gov

Prepayment auditing allows NASA Centers to detect and eliminate billing errors before payment and is intended to eliminate the time and cost of recapturing overpayments. NASA Centers may perform a prepayment audit by:

- i. Creating and executing an internal prepayment audit program;

- ii. Contracting directly with a prepayment audit service provider;
or
- iii. Using the services of a prepayment audit contractor under GSA's multiple award schedule covering audit and financial management services.

Note: Either of the choices in paragraph (a), (b) or (c) of this section might include contracts with charge card companies that provide prepayment audit services.

Each method of ordering transportation and transportation services may require a different kind of prepayment audit. NASA's Center prepayment audit plans must consider all of the methods that the Centers use to order and pay for transportation services. With each method of ordering transportation services, NASA Center prepayment audit plans should ensure that each TSP bill voucher contains enough information for the prepayment audit to determine which contract or rate tender is used and that the type and quantity of any additional services are clearly delineated.

- i. For transportation payments made through cost reimbursable contracts, the agency must include a statement in the contract that the contractor shall submit to the address identified for prepayment audit, transportation documents which show that the United States will assume freight charges that were paid by the contractor.
- ii. Cost reimbursable contractors shall only submit for audit bills of lading with freight shipment charges exceeding \$100.00. Bills under \$100.00 shall be retained on-site by the contractor and made available for on-site audits.

II. Prepayment Audit Plan Requirements:

1. Establish administrative procedures:

NASA Centers (and operating facilities as appropriate) must establish administrative procedures which assure that the following conditions are met for payment of freight, household goods, or transportation services:

- i. The negotiated price is fair and reasonable;
 - ii. A document of agreement signifying acceptance of the arrangements with terms and conditions is filed with NASA by the TSP;
- iii. The terms and conditions are included in all transportation agreements and referenced on all transportation documents (TDs);
- iv. Bills are only paid to the TSP providing service under the bill of lading to NASA and may not be waived;
- v. All fees paid are accounted for in the aggregate delivery costs;
- vi. All payments are subject to applicable statutory limitations;
- vii. Procedures (such as a unique numbering system) are established to prevent and detect duplicate payments, and that properly account for expenditures and discrepancy notices;
- viii. All transactions are verified with any indebtedness list. On charge card transactions, NASA must consult any indebtedness list if the charge card contract provisions allow for it; and
- ix. Procedures are established to process transportation bills not subject to prepayment audit (i.e., bill for unused tickets, and charge card billings) separately.
- x. Establish a minimum dollar threshold for transportation bills subject to audit.

2. Prompt Payment Act:

NASA Centers must ensure, whichever method used to pay for transportation services, the payment method must comply with the Prompt Payment Act.

3. Establishment for use of a Government contractor issued charge card:

NASA Centers may use a Government contractor issued charge card to purchase transportation services if permitted under the charge card contract or task order. In these circumstances NASA will receive a bill for these services from the charge card company.

4. Establish prepayment audit of transportation and/or transportation services when using a Government contractor issued charge card or charge account citation:

Generally, transportation or transportation services ordered with a Government contractor issued charge card or charge account citation cannot be prepayment audited because the bank or charge card contractor pays the TSP directly, before NASA receives a bill that can be audited from the charge card company. However, if NASA contracts with the charge card or charge account provider to provide for a prepayment audit, then, as long as NASA is not liable for paying the bank for improper charges (as determined by the prepayment audit verification process), a prepayment audit can be used. As with all prepayment audit programs, the charge card prepayment audit must be approved by the GSA Audit Division prior to implementation. If the charge card contract does not provide for a prepayment audit, NASA must submit the transportation line items on the charge card to the GSA Audit Division for a postpayment audit.

5. Required bill information:

NASA Centers must ensure the following information is annotated on all transportation bills that have completed a prepayment audit:

- i. The date received from a TSP;
- ii. A TSP's bill number;

- iii. Your agency name;
- iv. A Document Reference Number (DRN);
- v. The amount billed;
- vi. The amount paid;
- vii. The payment voucher number;
- viii. Complete tender or tariff authority, including item or section number;
- ix. The TSP's taxpayer identification number (TIN);
- x. The TSP's standard carrier alpha code (SCAC);
- xi. The auditor's authorization code or initials;
- xii. and A copy of any statement of difference sent to the TSP.

Note: NASA Centers can find added guidance in the "U.S. Government Freight Transportation—Handbook,"
www.gsa.gov/transaudits

6. Establish notification to TSPs of any adjustment to the TSP's Bill:

NASA Centers must notify the TSP of any adjustment to the TSP's bill either electronically or in writing within 7 days of receipt of the bill. This notice must refer to the TSP's bill number, agency name, taxpayer identification number, standard carrier alpha code, document reference number, amount billed, amount paid, payment voucher number, complete tender or tariff authority, including item or section number. The notice must also describe in detail the reason(s) for any full or partial rejection of the stated charges on the invoice.

7. Establish an appeal procedure:

The prepayment plan must establish an appeal process that directs TSP appeals to an NASA official who is able to provide adequate consideration and review of the circumstances of the claim. NASA must complete the review of the appeal within 30 days.

8. Unresolved disputes:

If the NASA Center official is unable to resolve the disputed amount with the TSP, the NASA Center official should forward all relevant documents including a complete billing history, and the appropriation or fund charged, to:

General Services Administration,
Transportation Audits Division (QMCA)
1800 F Street, NW
Washington, DC 20405
www.gsa.gov/transaudits.

The GSA Audits Division will review the appeal of NASA’s final, full or partial denial of a claim and issue a decision. A TSP must submit claims within 3 years under the guidelines established in § [102-118.460](#)

9. Establish payment offset:

If directed by GSA’s Audits Division, the NASA Shared Services Center (NSSC) may be required to offset debts from amounts owed to the TSP.

10. Establish electronic commerce record keeping:

NASA Center's internal financial regulations will identify responsibility for recordkeeping. In addition, the GSA Audits Division keeps a central repository of electronic transportation billing records for legal and auditing purposes. Therefore, monthly NASA must forward all paid transportation billing documents to:

General Services Administration
Transportation Audits Division (QMCA)
1800 F Street, NW
Washington, DC 20405
QMCATariffs@gsa.gov

GSA, Transportation Audits Division Review

Approved Not Approved (see comments below) Comments:

GSA Approval Authority _____ **Date** _____