



Goddard Procedures and Guidelines

DIRECTIVE NO. GPG 6400.1C **APPROVED BY Signature:** Original Signed by
EFFECTIVE DATE: August 5, 2002 **NAME:** A. V. Diaz
EXPIRATION DATE: August 5, 2007 **TITLE:** Director

Responsible Office: 230/Logistics Management Division

Title: Logistics Support

PREFACE

P.1 PURPOSE

This procedure describes the processes for the packaging, handling, storage, and transportation of products, and the management of materials inventories.

P.2 APPLICABILITY

This procedure applies to all Goddard Space Flight Center (GSFC) organizations.

P.3 AUTHORITY

- a. NPD 6000.1, Transportation Management
- b. NPD 8730.3, NASA Quality Management System Policy (ISO 9000)

P.4 REFERENCES

- a. ANSI/ESD S20.20, Standard for the Development of an ESD Control Program
- b. 15 CFR Parts 730-774, Commerce and Foreign Trade – Export Administration Regulations
- c. 22 CFR Parts 120-130, Foreign Relations – International Traffic in Arms Regulations
- d. 49 CFR Parts 100-199, Transportation – Research and Special Programs Administration, Department of Transportation
- e. NASA Federal Acquisition Regulations (FAR) Supplement Part 1845, Government Property
- f. NASA-STD-8719.9, NASA Standard for Lifting Devices and Equipment
- g. NPG 4100.1, NASA Materials Inventory Management Manual
- h. NPG 4200.1, NASA Equipment Management Manual
- i. NPG 6000.1, Requirements for Packaging, Handling and Transportation for Aeronautical and Space Systems, Equipment and Associated Components
- j. NPG 6200.1, NASA Transportation and General Traffic Management
- k. NPG 8715.3, NASA Safety Manual
- l. GMI 1710.6, Certification and Recertification of Lifting Devices and Equipment, and Critical Lift Requirements
- m. GHB 1720.1, GSFC Explosives and Pyrotechnic Safety
- n. GHB 1860.1, Radiation Protection - Ionizing Radiation
- o. GPG 1310.1, Customer Commitments and Review

CHECK THE GSFC DIRECTIVES MANAGEMENT SYSTEM AT
<http://gdms.gsfc.nasa.gov/gdms> TO VERIFY THAT THIS IS THE CORRECT VERSION PRIOR TO USE.

- p. GPG 3410.2, Employee Training and Qualification
- q. GPG 5330.1, Product Processing, Inspection, and Test
- r. GPG 5340.2, Control of Nonconforming Product
- s. GPG 8700.1, Design Planning and Interface Management
- t. GPG 8700.2, Design Development
- u. GPG 8730.3, The GSFC Quality Manual
- v. NASA Form 1602, NASA Equipment Management System (NEMS) Transaction Document
- w. [GSFC Form 4-30](#), Work Order Authorization (WOA)
- x. GSFC Form 11-54, Shipping and Mailing Request Form
- y. GSFC Form 20-4, Transfer/Shipping Request
- z. [GSFC Form 20-16](#), Storage Request
- aa. GSFC Form 20-16A, Storage Renewal Request
- bb. [GSFC Form 20-62](#), Storage Out Request
- cc. [GSFC Form 20-62A](#), Storage Return Request
- dd. Training Module for GPG 6400.1, Logistics Support

P.5 CANCELLATION

- a. GMI 4521.1A, Storage Policy at the Goddard Space Flight Center
- b. GMI 6000.1A, Shipment of Material from GSFC
- c. GPG 6400.1B, Handling, Storage, Packaging, Marking, Preservation, and Transportation

P.6 SAFETY

Any special requirements for support or safety considerations (e.g., warning statements or notes; support equipment; personnel; facilities; or qualifications/licenses) shall be recorded on the applicable documentation requesting support (e.g., shipping request, storage request, or Work Order Authorization).

P.7 TRAINING

All personnel involved in packaging, handling, storage, or transportation activities should be familiar with the training module for GPG 6400.1. This training module may be found at <http://ohr.gsfc.nasa.gov/DevGuide/ISO/home.htm>.

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P.8 RECORDS

Record Title	Record Custodian	Retention
GSFC Form 4-30 , Work Order Authorization (WOA)	Product Manager	* NRRS 8/5A2 – Project Test, Engineering, and Evaluation Files . Records may be retired to an **FRC when 2 years old. Destroy when 15 years old.
GSFC Form 20-4, Transfer/Shipping Request	Center Transportation Officer (TO) for services provided by the TO; Product Manager for services not provided by the TO	NRRS 6/2A – Freight Files (Shipping) . Destroy 6 years after the period of the account.
Storage Records (e.g., GSFC Form 20-16 , GSFC Form 20-16A , GSFC Form 20-62 , GSFC Form 20-62A , and the Storage Information Management System)	Center Storage Manager (SM) for services provided by the SM; Product Manager for services not provided by the SM	NRRS 4/3A – Inventory Files/Lists . Destroy 2 years from date of list.
Supply Records	Center Supply and Equipment Management Officer (SEMO) for services provided by the SEMO; Product Manager for services not provided by the SEMO	NRRS 4/6 – Mechanized Property and Supply Records . Destroy when 2 years old.
Waivers against ESD requirements	Product Manager	NRRS 8/5A2

* *NRRS – NASA Records Retention Schedules*

***FRC – Federal Records Center*

P.9 METRICS

None.

P.10 DEFINITIONS

- a. Center Transportation Officer – Individual appointed by the Center Director to provide functional management and leadership in the administration and operation of all transportation and traffic management functions for which the Center has responsibility (see NPG 6200.1).
- b. Center Storage Manager – Individual in the Logistics Management Division (LMD) responsible for the functional administration and operation of GSFC’s Inactive Equipment Storage Program.
- c. Center Supply and Equipment Management Officer – Individual appointed by the Center Director to provide functional management and leadership in the administration and operation of all supply and equipment management functions for which the Center has responsibility (see NPG 4100.1 and NPG 4200.1).

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- d. **Controlled Equipment** – All equipment with an acquisition cost of \$1,000 or more, that has an estimated service life of 2 years or more, which will not be consumed or expended in an experiment, and selected items of equipment with an acquisition cost less than \$1,000 that are designated, and identified as sensitive by the Center Supply and Equipment Management Officer. (See NPG 4200.1)
- e. **Handling Device or Equipment** – Handling devices and equipment include cranes, gantries, hoists, mobile cranes, forklifts, tugs, dollies, lifting slings, and hardware, including shackles, turnbuckles, eye bolts, pear rings, and other items. Handling also includes manual carrying cases or other items required to handle and protect the product.
- f. **Hazardous Materials** – Material which has been determined by the U.S. Department of Transportation to be capable of posing an unreasonable risk to health, safety, or property when transported in commerce. A list of those items is contained in 49 CFR Section 172.101.
- g. **Packaging, Marking, and Preservation Procedures** – Practices taken to protect and maintain the integrity of product during handling, storage, or transportation, including markings necessary to alert personnel to special requirements.
- h. **Product Design Lead** – The manager or leader with overall responsibility for managing the product design activity.
- i. **Product Handling** – Any activity involving handling of a product, including normal manual and mechanical handling, aligning, lifting, loading, unloading, transporting, and towing, with appropriate measures taken to ensure that the product remains undamaged and will not suffer from deterioration
- j. **Product Manager** – The individual designated as having management responsibility for a product.
- k. **Property Custodian** – An individual appointed by the Division Chief (or equivalent level or higher manager) who is responsible for the controlled equipment assigned to the organization.
- l. **Shelf Life Item** – Product for which a storage period is assigned to assure satisfactory performance upon re-issuance because of characteristics that may deteriorate or change during storage. A review system shall be in place to ensure that product is monitored and handled appropriately.
- m. **Small Package** – Any package being shipped through the Small Package Office (SPO) weighing 50 pounds or less and up to 108 inches combined length and girth, and shippable by commercial ground or express service for domestic and international destinations.
- n. **Storage** – An inactive status during which the product is subjected only to processes necessary to maintain or measure its condition. Specific controls for reasons of environment, contamination, security, or safety may be required.
- o. **Storage Area/Stockroom** – A designated area used for storing product that will protect the product from damage, deterioration, and mixing. This includes holding areas for receiving, staging, inspection,

shipping, and segregation. These areas may be controlled either by the Logistics Management Division (Code 230) for the Center or by a Directorate or subordinate organization.

p. Transportation – The process of moving product from one location to another, including the moving of materials during production and interim storage phases and for delivery.

PROCEDURES

1. RESPONSIBILITIES

1.1 The manager of a Project Office (or Division-level or higher office, as appropriate) is responsible for determining those individuals within their organization authorized to approve shipments.

1.2 The Logistics Management Division (Code 230) is responsible for the operation of GSFC's central logistics services for GSFC products, which involve handling, storage, packaging, marking, preservation, and transportation. This responsibility is primarily accomplished through the authority of the Center Transportation Officer, the Center Supply and Equipment Management Officer, and the Center Storage Manager.

1.3 The Product Manager (PM) is responsible for the following actions, which may be delegated to the Product Design Lead (PDL):

a. Identifying requirements for the handling, storage, packaging, marking, preservation, and transportation of GSFC products, including schedules, and handling devices and equipment. These requirements shall address environmental control, special handling and storage, packaging, safety and property accountability, and shall be updated as necessary to address design or schedule changes and comply with the following: ANSI/ESD S20.20, NASA-STD-8719.9, NPG 4100.1, NPG 4200.1, NPG 6000.1, NPG 6200.1, NPG 8715.3, GMI 1710.6, GHB 1720.1, GHB 1860.1, GPG 1310.1, GPG 3410.2, GPG 5330.1, GPG 5340.2, GPG 8700.1, GPG 8700.2, and GPG 8730.3.

b. Coordinating such requirements in advance with the Center Transportation Officer (TO), the Center Supply and Equipment Management Officer (SEMO), and the Center Storage Manager (SM) to determine which logistics services should be performed by the Logistics Management Division on behalf of the PM. The individuals performing those responsibilities are identified in the GPG 6400.1 training module located at <http://ohr.gsfc.nasa.gov/DevGuide/ISO/home.htm>.

c. Submitting transportation requirements to the TO in accordance with NPG 6000.1, ensuring that adequate funds are available to pay for shipping charges, and that proper authorizations are obtained.

d. Coordinating the establishment of materials inventories with the SEMO, and maintaining and managing those inventories in accordance with NPG 4100.1.

e. Submitting storage requirements to the SM, ensuring that adequate funds are available to pay for storage charges if commercially leased facilities are required, and that proper authorizations are obtained.

The PM is also responsible for the actions in Sections 1.3f – 1.3q except for those actions that are performed by the Logistics Management Division on behalf of the PM.

f. Ensuring appropriate storage is available to meet product requirements, and establishing and maintaining appropriate processes and procedures for storage areas/stockrooms in accordance with NPG 4100.1.

g. Considering shelf life requirements in their storage procedures, and ensuring that no product is used unless it can be shown that it is within the manufacturer's recommended shelf life.

h. Coordinating programmatic handling requirements with responsible technical organizations.

i. Ensuring product that is sensitive to electrostatic discharge (ESD) is handled in accordance with ANSI/ESD S20.20. When a Product Manager determines that it is in the best interest of the organization that specific requirements of the standard be waived or deviated from (e.g., full conformance to the standard is considered excessive), a waiver request shall be prepared and forwarded to the appropriate Project (or equivalent Division-level) Office for approval. The waiver request shall include the following: requirements to be waived, the reasons for requesting a waiver, alternate procedures or processes that will be used, and potential effects on quality. Approved product specific ESD handling controls that differ from those required by ANSI/ESD S20.20 shall be identified directly or by reference on the applicable [GSFC Form 4-30](#) (Work Order Authorization) in accordance with GPG 5330.1.

j. Ensuring that appropriate processes are established for the manual handling of products.

k. Ensuring Product Handlers are properly trained, qualified, and certified, as appropriate, in accordance with GPG 3410.2.

l. Ensuring handling devices and equipment are properly certified in accordance with NASA-STD-8719.9 and GMI 1710.6.

m. Ensuring product is packaged, marked, and preserved to ensure conformance to product and customer requirements, including environmental control during shipping, handling, and storage, and complies with applicable hazardous materials requirements in accordance with 49 CFR Parts 171-180, NPG 6000.1, and NPG 6200.1.

n. Ensuring product is monitored for condition and deterioration during storage and transportation in accordance with NPG 4100.1, NPG 4200.1, NPG 6000.1, and NPG 6200.1.

o. Ensuring appropriate records of product shipping, handling, storage, and accountability are kept and maintained in accordance with NPG 4100.1, NPG 4200.1, NPG 6000.1, NPG 6200.1, GPG 5330.1, and GPG 5340.2.

p. Ensuring requirements for the handling, storage, packaging, marking, preservation, and transportation of GSFC products that involve radioactive materials are in accordance with GHB 1860.1.

q. Ensuring requirements for the handling, storage, packaging, marking, preservation, and transportation of GSFC products that involve explosive materials are in accordance with GHB 1720.1.

1.4 The Product Handler is responsible for:

a. Ensuring product is accounted for, handled and stored in accordance with the references of this procedure and any such additional requirements established by the PM.

b. Ensuring handling devices and equipment are certified before use.

1.5 The Center Transportation Officer is responsible for:

a. Ensuring requirements received from the PM for the shipping, handling, storage, packaging, marking, preservation, and transportation of GSFC product, including schedules, and handling devices and equipment, are evaluated and that the PM is advised regarding the results of the evaluation.

b. Ensuring for those requirements accepted from the PM, that product is packaged, marked, and preserved to ensure conformance to product and customer requirements, including environmental control during transportation, and complies with applicable regulations, policies, and procedures, including those for hazardous materials. Those regulations, policies, and procedures are identified in Section 1.3 and also include 49 CFR Parts 100-199.

c. Ensuring for those requirements accepted from the PM, that product is shipped in accordance with applicable regulations, policies, and procedures (including those for export control) and that appropriate documentation and records (e.g., GSFC Form 20-4) of product transportation are kept and maintained. Those regulations, policies, and procedures are identified in Section 1.3 and also include 15 CFR Parts 730-774, 22 CFR Parts 120-130, and 49 CFR Parts 100-199.

d. Ensuring that the Contracting Officer or Grants Officer, as appropriate, has indicated concurrence for shipment of material/equipment to contractors or consignees on grants.

1.6 The Center Supply and Equipment Management Officer is responsible for:

a. Ensuring requirements received from the PM for materials inventories and property accountability of GSFC Product are evaluated and that the PM is advised regarding the results of the evaluation.

b. Ensuring for those requirements accepted from the PM, that materials inventories are managed and property accountability maintained in accordance with applicable regulations, policies, and procedures. Those regulations, policies, and procedures are identified in Section 1.3.

1.7 The Center Storage Manager is responsible for:

- a. Coordinating the development of policy and procedures governing GSFC's Inactive Equipment Storage Program, and for the functional administration and operation of that program.
- b. Ensuring requirements received from the PM for storage of GSFC Product are evaluated and that the PM is advised regarding the results of the evaluation.
- c. Ensuring for those requirements accepted from the PM, that product is stored in accordance with applicable regulations, policies, and procedures and that appropriate records (e.g., [GSFC Form 20-16](#) and [GSFC Form 20-62](#)) of product storage are kept and maintained. Those regulations, policies, and procedures are identified in Section 1.3.
- d. Coordinating the leasing of all off-Center commercially leased storage facilities.

2. SHIPMENT PROCESS

Government-owned property will only be shipped for authorized purposes. Depending on whether the items are small packages, express shipments, or require special handling (e.g., large, critical, or hazardous material shipments) different processes will be required.

2.1 Small Packages, Express Shipments, and Non-Critical and Non-Hazardous Material Shipments

- a. Small packages or express shipments containing material that is non-critical and non-hazardous may be shipped through the Small Package Office (SPO). Multiple piece shipments weighing more than 50 pounds total going to the same destination must be processed through the Traffic Management Office (TMO) using a GSFC Form 20-4, Transfer/Shipping Request.
- b. Small packages or express shipments containing material not involving controlled equipment may be documented using a GSFC Form 11-54, Shipping and Mailing Request Form. Packages and shipments involving controlled equipment or which are subject to Department of State or Commerce regulations will be documented using a GSFC Form 20-4.

2.2 Large, Critical, or Hazardous Material Shipments

- a. Shipments of any material other than small and express packages from GSFC must use a GSFC Form 20-4 to process the shipment. The GSFC Form 20-4 must also be used for the following cases:
 - (1) Transferring property to/from a contractor.
 - (2) Shipping property out for repair and servicing.
 - (3) Transferring property from one contractor to another.
 - (4) Any shipment having an international origin or destination that is restricted under the U.S. Munitions List contained in the International Traffic in Arms Regulations (22 CFR Part 121) or

commodities listed on the Commerce Control List (15 CFR Part 774). This includes hardware, technical data, and software.

- (5) Any shipment of controlled equipment (i.e., equipment tagged with NASA Equipment Management System (NEMS) barcode tags).
- (6) Any shipment of hazardous material.
- (7) Any shipment of a mission critical nature.
- (8) Any shipment requiring quality assurance (QA) concurrence.
- (9) Any shipment having special transportation requirements.

b. For all items of controlled equipment, a NASA Form 1602 must be forwarded with the GSFC Form 20-4, (except when an item is being sent for repair). The responsible property custodian will provide a NASA Form 1602 for each item shipped and the property custodian will sign the GSFC Form 20-4.

c. The GSFC Form 20-4 must be submitted to the Traffic Management Office, Code 239.

2.3 Special Approvals

a. Contracting Officers will review and indicate concurrence on GSFC Form 20-4 for shipments to/from contractors to ensure that the applicable provisions contained in Subpart 1845.7101-2 of the NASA FAR Supplement and applicable contract provisions are met.

b. Grants Officers will review and indicate concurrence on GSFC Form 20-4 for shipments to consignees on grants.

c. When mandated by a project, the originating organization's QA representative will review and indicate concurrence on GSFC Form 20-4 for shipments requiring special quality assurance reviews (e.g., shipments of flight critical hardware).

3. STORAGE PROCESS

a. Storage requirements are submitted to the SM using a [GSFC Form 20-16](#), GSFC Form 20-16A, [GSFC Form 20-62](#), or [GSFC Form 20-62A](#).

b. Customers will be billed annually for off-site storage areas leased and managed by the Logistics Management Division. This will also include any charges for items stored after the normal billing cycle.

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CHANGE HISTORY LOG

Revision	Effective Date	Description of Changes
Baseline	08/12/98	Initial Release
A	05/07/99	<ul style="list-style-type: none"> • Incorporated format changes to comply with GPG 1410.1. • 1.3 – Clarified the responsibilities of the PM, TO, and SEMO. • 1.3i – Added requirements for electrostatic discharge. • 1.3p and 1.3q – Added requirements for radioactive and explosive materials.
B	08/17/99	<ul style="list-style-type: none"> • 1.3g – Included additional information on shelf-life requirements. • 1.3i – Included process for granting waivers to ESD requirements.
C	08/05/02	<ul style="list-style-type: none"> • Changed directive title. • Incorporated format changes to comply with GPG 1410.1 (P.6 – Safety, P.7 – Training, and P.9 – Metrics). • P.8 – Clarified who the Record Custodians are for the various records. • P.10 – Included definitions for the following terms: Center Storage Manager, controlled equipment, hazardous materials, Product Design Lead, Product Manager, Property Custodian, and small package. • 1.1, 1.5d, and 3 – Included information on the shipment process that was previously included in a cancelled directive (GMI 6000.1). • 1.3e and 3 – Included information on the storage process that was previously included in a cancelled directive (GMI 4521.1). • 1.3i – Clarified process for granting waivers to ESD requirements and added ESD waivers as a record. • 1.7 – Included the responsibilities of the Center Storage Manager.