

JSC Safety and Health Requirements	JPR No.	1700.1L
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Chapter 6.6 JSC's Policy for Handling New or Unique Hardware or Materials

This could be you . . .

A foreign mock-up fell from a crane because it wasn't properly rigged. All of the rigging equipment used was foreign. There was no policy to ensure the Americans understood the foreign hardware or would handle it properly.

6.6.1. Applicability of this chapter

6.6.1.1 You are required to follow this chapter if you are:

- a. A line manager at any level and your organization handles new or unique items as defined in paragraph 6.6.2.
- b. Appointed to oversee operations involving new or unique items. Paragraph 6.6. 8 lists your responsibilities.

6.6.2. New or unique items this chapter covers

6.6.2.1 For this chapter, new or unique items are defined as any systems, components, materials, or substances that are unfamiliar to your organization. They can be spaceflight or institutional items. They can come from any foreign country, any U. S. company or organization, or any JSC organization. New or unique items include:

- a. Unfamiliar hardware or systems that will require material handling operations or that an organization will test, evaluate, modify, or repair.
- b. Unfamiliar substances or materials that an organization will use to make hardware or use in its processes.

6.6.3. Process for handling new or unique items

6.6.3.1 Organizations handling new or unique items shall have a written process describing how the organization handles these items. Organizations may tailor your process to apply to the types of items handled. The Safety and Test Operations Division and Occupational Health can help if needed. The process shall address the following or document why they don't apply to the type of items handled:

- a. Identify what documentation needs to accompany new or unique items delivered to the organization. It should address how to handle the documents and where to keep them. English translations are necessary for foreign items. Such documentation should include the following, as necessary:
 - (1) Drawings of the items.
 - (2) Procedures for handling, operating, or maintaining the items, to include the use of hazardous materials and chemicals.
 - (3) Hazard analyses of the items, processes, and materials and recommendations for control of hazards (such as engineering solutions and PPE).

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- (4) A list of changes to items used previously
- b. Identify requirements for shipping and receiving the items. This should include the following, as necessary:
 - (1) Shipping manifests.
 - (2) Safety Data Sheets on any hazardous materials.
 - (3) A list of hazardous materials and their quantities.
 - (4) Schedules for shipping and receiving the items.
 - (5) A list of items not complying with U.S. law - Department of Transportation (DOT), OSHA, and the Environmental Protection Agency (EPA) - NASA requirements, or JSC requirements. Determine how to meet those requirements or request relief per chapter 1.3.
 - (6) Specifications for containers and packing.
 - (7) A list of personnel designated to receive the items.
 - (8) Export authorizations.
- c. Define how to accept new or unique items. This should include, as necessary:
 - (1) A list of personnel authorized to accept the items.
 - (2) Inspections or reviews before accepting the items. A series of readiness reviews, appropriate to the risk, is recommended to ensure the new hardware or equipment will be handled properly and safely during the process. These could be pre-receipt reviews, pre-handling reviews, pre-installation reviews, pre-process reviews, etc. Reviews known by other names, such as a critical lift review or a test readiness review can be modified to fit the need. The reviews should be documented and retained in the organization's files. If the new equipment is to be incorporated into the facilities or existing test systems, a pre-use analysis per Chapter 2.1. is required.
 - (3) Criteria used to determine whether the items are acceptable.
 - (4) How to track the items while they are with the organization.
- d. Special storage and handling requirements, such as:
 - (1) Lifting requirements.
 - (2) Environmental and security restrictions during storage.
 - (3) Limited life considerations.
 - (4) Other safety and health precautions.
- e. Define how to report problems with the items and to whom. Such problems may include:
 - (1) Nonconformances with applicable requirements.
 - (2) Mishaps occurring during handling, test, or training.
 - (3) Damage to the items.
- f. Define how to train or certify anyone involved with handling the items, such as:

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- (1) Material and hardware handlers.
- (2) Test team members.
- (3) Flight crews.
- g. Define how to handle any excess items and byproducts, such as:
 - (1) Hazardous wastes.
 - (2) Unused hazardous materials.
 - (3) Recyclable materials.
- h. Define how to resupply any consumables used in processing the items, such as batteries, oxygen, and fuel.
- i. Define how to inform management of the risks of handling the items.
- j. Assign persons to be responsible for the applicable issues (always required).
- k. Include responsible manager signature approval at the level that oversees all handling (always required).

NOTE: A checklist is available to help you with your analysis of new or unique hardware ([NS-PA-CH05](https://smasp.jsc.nasa.gov/ns/ns1/Checklists/Home.aspx)) at URL: <https://smasp.jsc.nasa.gov/ns/ns1/Checklists/Home.aspx>.

6.6.4. Other requirements for handling new or unique items

6.6.4.1 Managers whose organization handles any new or unique items shall:

- a. Make sure employees follow the process when handling new or unique items.
- b. Make sure anyone who handles new or unique items understands the items and their interfaces with JSC equipment.
- c. Provide adequate precautions to safeguard both those handling the items and the items themselves.
- d. Make sure all operations involving new or unique items follow applicable JSC, NASA, and other federal requirements (see paragraph 6.6.6).
- e. Make sure configuration control is maintained on the items. This should be to a level appropriate for the type of items, such as flight, development, training, etc.
- f. Assign someone at the project level to oversee handling of new or unique items while the items are with your organization. This person will:
 - (1) Have primary responsibility for the new or unique items and their interfaces with JSC systems.
 - (2) Be accountable for all decisions involving the new or unique items.
- g. Fulfill the responsibilities listed in paragraph 6.6.8.

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6.6.5. Special precautions for handling foreign items

6.6.5.1 Employees who handle new or unique items that are foreign shall:

- Account for differences between Standard International units of measurement and English units, if necessary. The foreign items will use Standard International units. JSC equipment may use English units.
- Have English translations of all documents accompanying the items.
- Understand any cultural differences that may affect to handle foreign items. Engineering conventions may differ between the U.S. and the country from which the items came.

6.6.6. Other requirements to ensure safety while handling new or unique items

The process and any individual project procedures shall make sure that operations involving new or unique items follow these requirements, as they apply, or request relief.

<i>For operations involving . . .</i>	<i>Follow . . .</i>
General handling	<ul style="list-style-type: none"> • 29 CFR 1910, "Occupational Safety and Health Standards, General Industry," and 29 CFR 1960, "Basic Program Elements for Federal Employee Occupational Safety and Health Programs and Related Matters," (OSHA) • 49 CFR, "Transportation" • 40 CFR, "Protection of Environment" • JPR 1700.1, "JSC Safety and Health Requirements"
Lifting the items	<ul style="list-style-type: none"> • NASA-STD-8719.9, "Standard for Lifting Devices and Equipment" • Chapter 8.5, "Lifting operations and equipment safety"
Pressurized systems	<ul style="list-style-type: none"> • JPR 1710.13, "Design, Inspection, and Certification of Pressure Vessels and Pressurized Systems," (current version)
Human research	<ul style="list-style-type: none"> • JSC 20483, "JSC Institutional Review Board, Guidelines for Investigators Proposing Human Research for Spaceflight and Related Investigations" • NPD 7100.8, "Protection of Human Research Subjects" • 45 CFR 46, "Protection of Human Research Subjects"
Zero-gravity aircraft	<ul style="list-style-type: none"> • JSC 22803, "JSC Reduced Gravity Program User's Guide"
Radioactive materials, lasers, and other ionizing and nonionizing radiation devices	<ul style="list-style-type: none"> • 10 CFR, "U.S. Nuclear Regulatory Commission Rules and Regulations," with particular emphasis on parts 19, 20, 30, 31, and 35 • 29 CFR 1910.97, "Non-Ionizing Radiation" • 29 CFR 1910.1096, "Ionizing Radiation" • Applicable consensus safety and health standards for ionizing and nonionizing radiation exposures

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	<ul style="list-style-type: none"> • Approvals and guidance from the JSC Radiation Safety Committee and the Radiation Safety Office
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6.6.7. Responsibilities of an organizational director or program manager for handling new or unique items

6.6.7.1 If your directorate or office handles new or unique items, you shall:

- Develop policies for handling new or unique items within your organization.
- Make sure processes for handling new or unique items are developed in your organization, as necessary, and are reviewed by safety and health professionals.
- Designate which level of management needs to approve processes or project procedures for handling new or unique items.

6.6.8. Responsibilities for those appointed to oversee handling of new or unique items

6.6.8.1 If you are appointed to oversee the handling of new or unique items, you are responsible for:

- Serving as the single point-of-contact for all decisions about the new or unique items and their interfaces with JSC systems.
- Developing project-specific procedures to follow all safety and health regulations applicable to the specific project.
- Determining what safety and health regulations apply to the project before developing any project procedures. The Safety and Test Operations Division and Occupational Health can help you with this.
- Obtaining signature approval from the appropriate level of management on any project-specific procedures before anyone begins any work on the project.