



**Johnson Space Center
Procedural
Requirements**

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JSC SAFETY AND HEALTH HANDBOOK

Responsible Office: Safety and Mission Assurance Office

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**Change Record for JPR 1700.1, “JSC for Safety and Health Handbook”
(Baseline – Revision G)**

<i>Change . .</i>	<i>Date . . .</i>	<i>Originator...</i>	<i>Chapters affected . . .</i>	<i>Description of change . . .</i>
Change 1 to Rev G	11/14/97	D. L. Clem, extension 34272	106 203 505	Adds process for reporting international mishaps Removes requirement for bicycle helmets Updates lifting requirements
Editorial	7/10/98	D. L. Clem, extension 34272	Preface	Revises JSC Safety Policy per ESC direction
Change 2 to Rev G	8/6/98	D. L. Clem, extension 34272	114	Updates safety committee structure Changes time to serve on committees and allows for volunteer members
Revision H	2/3/99	D. L. Clem, extension 34272	Entire Document	Includes upgrades from comparing JPG 1700.1 with NASA requirements Includes upgrades from comparing JPG 1700.1 with 29 CFR 1960 requirements Includes upgrades from comparing JPG 1700.1 with VPP and PEP requirements Includes other changes suggested by various JSC organizations
Change 1 to Rev H (Editorial Included in hard copies)	3/99	D. L. Clem, extension 34272	100 101 108 309	Update URL to on- line version and paragraph 5 Include JSC Safety Policy and rearrange chapter Update cross references Clarify “enough time” to “3 - 5 days before TRR”
Editorial	7/2000	D. L. Clem, extension 34272	Subject Index	Changed “Job Safety Analysis” to “Job Hazard Analysis” to be consistent with Chapter 111.
Revision I	7/2002	D. L. Clem, extension 34272	Entire document	Reorganizes program requirements around VPP elements. New Lockout/Tagout and Chemical alarm chapters. Updates to other chapters.

Change 1 to Rev I	11/7/02	D. L. Clem, extension 34272	3.6 5.1 5.2 6.8 7.3 Glossary 2.7, 6.8, 6.10, 8.1, 9.3, and Attachment 3.6A – Appendix 3B	Changes to medical exam requirements. Clarifies storage requirements. Clarifies requirements for space heaters New safe work practices and design requirements. Added responsibility for radiation equipment. Changed Oxygen Enriched Atmosphere definition. Clarifies emergency number for the Sonny Carter Training Facility.
Change 2 to Rev I	5/11/04	D. L. Clem, extension 34272	5.7 Part 12	Changes to accommodate new Part 12 Adds new Asbestos Control Requirements. This is a revision of the Asbestos Control Manual
Change 3 to Rev I	6/2/05	D. L. Clem, extension 34272	Document number 5.9 6.1 6.5 6.8 6.13 8.5 & Appendix 5B 8.6 8.7 9.1 9.2 10.1 12.1 and Part 12	Changed number to JPR 1700.1 New chapter on Weather Safety Updates emergency eyewash & shower reqmts Updates emergency eyewash & shower reqmts Updates emergency eyewash & shower reqmts Updates emergency eyewash & shower reqmts New chapter on breathing gases Adds inspection program for forklifts & slings, eliminates duplicate requirements Adds inspection program for power tools Adds inspection program for ladders Updates several hazardous material requirements Updates several hazardous material requirements Updates emergency eyewash & shower reqmts Clarifies applicability to JSC field sites Removes advisory language and updates organizational titles & document numbers in several other chapters

Change 4 to Rev I	9/25/06	D. L. Clem, extension 34272	2.4	Adds reference to NASA Facility System Safety Guidebook.
			2.7	Updates mishap investigation products to reference NASA mishap reporting and investigation requirements.
			5.2	Adds requirement not to wear jewelry during maintenance or troubleshooting on any electrical or mechanical system.
			6.1	Revises processes for handling and disposing of batteries.
			6.4	Revises food safety requirements.
			6.11	Adds a requirement to test oxygen and oxygen enriched gas systems with oxygen or oxygen-enriched gas before introducing a human into the loop.
			6.13	Adds requirement to allow the Safety and Test Operations Division to waive cleanliness requirements.
			10.1	Adds construction safety requirements as a result of a mishap investigation and updates requirements for construction barriers.
			10.3	Adds provisions for a less-rigorous Use Readiness Review.
			11.2	Adds requirements for construction contracts as a result of a mishap investigation.
			Glossary	Updates the definition of “oxygen enriched” consistent with the changes to Chapter 6.11.
Several	Updates title of the Occupational Health Branch			
Change 5 to Rev I	1/12/07	D. L. Clem, extension 34272	8.2 Appendix 8B	Temporary change via JSC Announcement to update Lockout/Tagout requirements pending a complete revision of JPR 1700.1. Also deletes Attachment 8.2A and revises Attachment 8.2B of Appendix 8B.
Revision J	4/16/08	D. L. Clem, extension 34272	Entire Document	Complete revision to several chapters.

Change 1 to Rev J	06/10	D. L. Clem, extension 34272	Chapter 5.6	Update process for getting prescription safety glasses.
			Chapter 6.2	Updates to laser safety consistent with higher level requirements.
			Chapter 6.6	Make physical exam requirements consistent with chapter 3.6.
			Chapter 6.11	Update to gas cylinder requirements.

Change 2 to Rev J	6/9//11	D. L. Clem, extension 34272	Chapter 1.4	Change process for waivers and changing the handbook to be consistent with revised higher-level requirements.
			Chapter 2.4	Revised list of required hazard analyses. Added clarification on verification methods. Clarified JHA content. Added list of approvals for hazard analyses. Clarified RAC criteria.
			Chapter 2.5	Added reference to NPR 8705.6 for Headquarters audits.
			Chapter 2.7	Added requirement to notify Headquarters of injury reports to OSHA, per NPR 8621.1 Made mishap levels consistent w/NPR 8621.1.
			Attachment 2.7D	Mishap levels consistent w/NPR 8621.1
			Chapter 5.2	Added clarification to ensure feet are clear of floor obstacles and to contact Logistics for help with furniture.
			Chapter 5.8	Updates to be consistent with NPR 8715.3. Includes hard requirement for written tests, adding SCBA certification, clarification of training for category III jobs, and clarification of work shift limitations.
			Chapter 5.10	New chapter describing JSC Automatic External Defibrillator program.
			Chapter 6.5	Removed requirement for eyewash & shower for cryogenic areas.
			Chapter 6.6	Assigned responsibility for annual audits to the Safety & Test Operations Division. Changed Med Ops Branch to Space Medicine Division, removed redundant requirements.
Chapter 6.9	Clarified requirements for operating procedures. Clarified that tests may proceed after TRR action item are complete. Revised time frame for submitting test documentation to Safety. Clarified mishap reporting requirements. Removed requirements for safety to sign detailed test procedures and to monitor physiological training. Added requirement for biosafety. Added reference to paragraph 1.14.2.b of NPR 8715.3 for offsite tests. Updated organizational titles and document numbers.			

Change 2 to Rev J (cont.)	6/9//11	D. L. Clem, extension 34272	Chapter 6.10	Added requirements for controlled areas. Clarified def of JSC space. Added other clarifications.
			Chapter 6.11	Added clarification for commercial off-the-shelf flex hoses. Added clarification to requirements for gas cylinders.
			Appendix 6A	Added JSC Form 1023.
			Chapter 8.2	Clarified LO/TO exception for plug and cord electrical equipment.
			Chapter 8.5	Removed reference to JPD 8719.1.
			Chapter 8.6	Added requirement for training in the manufacturer's instructions.
			Chapter 8.7	Added clarification that fall protection is not required for small jobs from ladders.
			Chapter 9.1	Added URL for JSC list of restricted and prohibited chemicals.
			Attachment 9.1A	Deleted due to on-line list.
			Chapter 9.5	Updated document references.
			Chapter 10.3	Clarified coverage of URRs and ORIs. Added flowchart for criteria on URRs and ORIs. Added other clarifications.
			Chapter 10.4	Added clarification that Center-wide data is an acceptable means of maintaining facility baseline documentation, provided access methods are included in general operating procedures. Moved list in Attachment 10.4A to web page.
			Chapter 12.5	Clarified protective clothing for asbestos work.
			Chapter 12.7	Clarified definition of and added qualifications for a "competent person."
			Chapter 12.9	Added requirements for negative pressure enclosures.
Chapter 12.15	Reclassified some spot removal of asbestos. Added requirements for removing plaster or sheetrock ceilings below ceiling plenum			
Attachments 12A, 12B, 12D, 12E	Updated to be consistent with requirements changes in asbestos chapters.			
Glossary	Replaced "Variance" with "Waiver." Added definition of Test Equipment," Revised mishap levels to be consistent with NPR 8621.1.			
Administrative Changes	11-3-11	D. L. Clem, extension 34272	Chapter 12.15	Updated URL in paragraph 3.a.4 & made grammatical correction.

Administrative Changes	3-6-12	D. L. Clem, extension 34272	Chapter 5.9, Appendix 5A & 5B	Replace appendix forms with JSC form numbers.
Administrative Changes	4-25-12	D. L. Clem, extension 34272	Chapters 2.7, 3.6, 3.8, 5.8, 5.10, 5.10, 6.1, 6.5, 6.8, 6.10, 7.4, 8.1, 9.1, 9.3, 9.5, 10.1, 12.3, 12.14, Appendix 2B & 3B	Replace obsolete Ellington Field emergency number (x44444) with new emergency number (x33333) to match the emergency number at JSC and SCTF.
Change 3 to Rev J	4/26/12	D. L. Clem, extension 34272	Preface Chapter 1.0 Chapter 2.3 Chapter 2.7 Chapter 3.6 Chapter 4.4 Chapter 5.8 Chapter 5.10 Chapter 6.4 Chapter 6.7 Chapter 7.3 Chapter 7.4 Chapter 8.1	Corrected outdated references. Added policy paragraph for commercial activities. Added option for use readiness review and reference to checklists. Updated process for investigation boards and added references to checklists. Updated office titles, updated emergency numbers, revised requirement for medical exams. Clarified SATERN record of evacuation drills and JF 2150. Added considerations for procedures and clarified certification card requirements. Removed limits to suited hard vacuum. Changed “chest pains” to “heart attack symptoms, updated organization names and training requirements.. Updated inspection schedules. Added considerations for handling process and references to checklists. Added visiting product vendors and requests for evaluation of radiation. Changed “Biosafety Control Board” to “Biosafety Review Board” and added requirements for the Board. Defined elements of JSC electrical safety program per NFPA 70E to address IFO audit findings. Added other references to NFPA 70E.

Change 3 to Rev J (cont.)	4/26/12	D. L. Clem, extension 34272	Chapter 8.2	Added “operational control” concept for non-LO/TO and referenced appendix. Added clarifications for tagout only, removing locks, group lockout, and training per IFO audit findings. Added provision for orange locks with red shrink wrap for high voltage.
			Appendix 8B	Clarified process for issuing locks and added attachment for Operational Control.
			Chapter 9.2	Added prohibition against transporting hazardous materials in POVs or taking them into the office. Clarified transfer of hazardous materials. Added requirements for updating MSDSs and MSDS databases. Updated training requirements. Clarified responsibility for providing information.
			Chapter 9.3	Added requirement to ventilate pesticide areas for 10 minutes before entering.
			Chapter 10.1	Changed Uniform Building Code to International Building Code. Clarified a “qualified electrical worker.
			Chapter 12.1	Updated planning and conduct of asbestos operations.
			Chapter 12.2	Added project design.
			Chapter 12.3	Updated sampling requirements.
			Chapter 12.4	Deleted incorrect document reference.
			Chapter 12.5	Updated training requirements, to include offsite contractors.
			Chapter 12.6	Added project design requirements.
			Chapter 12.7	Added requirements for Class III & Class VI competent persons.
			Chapter 12.8	Updated sampling requirements and CFR references.
			Chapter 12.9	Updated barrier requirements.
			Chapter 12.13	Updated disposal instructions.
Chapter 12.14	Updated contact information for emergencies.			
Chapter 12.15	Added project design. Updated Job Performance Requirements.			
Appendix 12B	Updated Job Performance Requirements. Added Attachment 12H for Custodial Work.			
Administrative Changes	5-31-12	D. L. Clem, extension 34272	Chapters 2.7, 3.8, 6/12, & Appendix 1	Updated document number of the JSC Emergency Preparedness Plan.
			Appendix 12B	Updated asbestos definitions

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JSC Directives System Procedural Requirements

Preface

Title: JSC Safety and Health Handbook

P1. Purpose

This document defines JSC's Safety and Health Program and provides basic safety and health requirements for the Johnson Space Center (JSC) and for other locations under JSC's jurisdiction. It is important that you follow the safety and health requirements that apply to your job.

P2. Applicability

This handbook applies to anyone at JSC or JSC field sites, unless exempted in a specific chapter. For this handbook, "JSC" includes all JSC sites in the Houston area such as Ellington Field and the Sonny Carter Training Facility. The handbook applies to operations involving JSC personnel or equipment at non-JSC locations, including foreign countries. See Chapter 1.4, paragraph 6, for more information on following standards at non-JSC locations.

a. The following table tells you who must follow this handbook.

<i>If you . . .</i>	<i>Then you shall follow . . .</i>
Are a federal employee	This handbook unless you work at a site that involves unique military equipment and operations
Are a JSC contractor	This handbook as called out in your contract. Prime contractors must flow down these requirements to subcontractors
Work at a JSC remote site (such as White Sands Test Facility) as a civil service employee or contractor employee	All chapters that don't exempt you and local requirements that meet the intent of any chapter that exempts you If a chapter exempts you, develop your own requirements that meet the intent of that chapter The local Quality Assurance, Reliability, and Safety Office or equivalent carries out the responsibilities of the Safety and Test Operations Division at your site
Are a non-NASA or non-contract employee	This handbook while you are on JSC property

b. If you are a federal employee working in a private employer's facility, you are covered by the JSC safety and health program. Although NASA may not have the authority to correct hazardous conditions in a private sector workplace, NASA makes sure your working conditions are safe and healthful. NASA does this by administrative controls or personal protective equipment, or your withdrawal from the private employer's facility.

- c. If you are a private employer, neither Executive Order 12196, “Occupational Safety and Health Programs for Federal Employees,” nor this handbook relieves you or your employees of any rights or responsibilities under the Occupational Safety and Health Administration (OSHA).

P3. Authority

- a. NPD 8700.1, “NASA Policy for Safety and Mission Success”
- b. NPR 8715.1, “NASA Occupational Safety and Health Programs”
- c. NPR 8715.3, “NASA General Safety Program Requirements”
- d. Executive Order 12196, dated February 26, 1980, "Occupational Safety and Health Programs for Federal Employees," (3 CFR 1980 Compilation)
- e. 29 Code of Federal Regulations, Part 1960, “Basic Program Elements for Federal Employee Occupational Safety and Health Programs and Related Matters”

P4. References

- a. OSHA Instruction TED 8.4, “Voluntary Protection Programs (VPP) Policies and Procedures Manual”
- b. 29 Code of Federal Regulations, Part 1910, “Occupational Safety and Health Standards”
- c. NPD 1800.2, “NASA Occupational Health Program”
- d. NPR 1800.1, “NASA Occupational Health Program Procedures”

P5. Cancellation

This handbook replaces JPR 1700.1I.