



Procedures and Guidelines (PG)

DIRECTIVE NO. 800-PG-1700.1.1

EFFECTIVE DATE: October 30, 2018

EXPIRATION DATE: October 30, 2023

APPROVED BY Signature: Original Signed by

NAME: William Wrobel

TITLE: Director of Wallops Flight Facility

COMPLIANCE IS MANDATORY

Responsible Office: 803/Safety Office

Title: Wallops Flight Facility Personal Protective Equipment Program

PREFACE

P.1 PURPOSE

This directive establishes a standard practice for the use of personal protective equipment (PPE). Where engineering or administrative controls cannot be successfully implemented to reduce or eliminate hazards, PPE will be provided to reduce the risk of injury to employees. The use of PPE is required to mitigate this risk and help protect the health and safety of the employee.

P.2 APPLICABILITY

This PG applies to the following in support of Code 800 projects/programs:

- a. All WFF civil service employees who perform work or complete tasks where PPE may be required,
- b. All WFF contractors and construction contractors to the extent specified by their respective contracts, exposures, and governmental regulations, and;
- c. Visitors who enter areas where specific PPE is required.
- d. In this document citations are assumed to be the latest version unless otherwise noted.
- e. In this document, 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.

P.3 AUTHORITY

GPR 1700.1, Occupational Safety Program at GSFC

P.4 APPLICABLE DOCUMENTS AND FORMS

- a. GPR 1820.2 Respiratory Protection Program
- b. ANSI A10.14, Requirements for Safety Belts, Harnesses, Lanyards and Lifelines for Construction and Demolition Use

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- c. ANSI AIHA Z88.6-2006, Respiratory Protection – Respirator Use – Physical Qualifications for Personnel
- d. ANSI/ISEA 107-2015, American National Standard for High – Visibility Safety Apparel, Section 1A.11
- e. ANSI Z87.1 - 2009, American National Standard for Occupational and Educational Eye and Face Protection
- f. ANSI Z89.1 - 2009, American National Standard for Personnel Protection - Protective Headwear for Industrial Workers – Requirements
- g. ANSI Z358.1 – 2009, American National Standard for Emergency Eyewash and Shower Equipment
- h. ANSI Z359.1, Safety Requirements for Personal Fall Arrest Systems, Sub-Systems and Components
- i. ASTM F-1461-07, Standard Practice for Chemical Protective Clothing Program
- j. ASTM F- 2412-05 and F-2414-05, American Society for Testing and Materials (ASTM) Standards for Personal Protection - Protective Footwear
- k. NFPA 70E, Standard for Electrical Safety in the Workplace, Table 130.7(C) (8)
- l. OSHA 29 CFR 1910.66, Powered Platforms for Building Maintenance
- m. OSHA 29 CFR 1910.132 -138, Personal Protective Equipment
- n. OSHA 29 CFR 1910.134, Respiratory Protection
- o. OSHA 29 CFR 1926.28, Personal Protective Equipment
- p. OSHA 29 CFR 1926.502 Fall Protection Systems Criteria and Practices

P.5 CANCELLATION

800-PG-1700.1.1, Wallops Flight Facility Personal Protective Equipment Program

P.6 SAFETY

All personnel who perform work in conjunction with this directive shall comply with all worksite safety and health requirements.

P.7 TRAINING

- a. The contractor or responsible office for civil servants shall provide training to each employee who is required to use PPE. (If a civil servant is assigned to an organization it is the office requiring the use of PPE who is responsible for providing the training)
- b. Training shall include the ability to use PPE properly before being allowed to perform work requiring its use.
- c. At a minimum, the responsible office shall retrain employees when there is reason to believe those employees do not have the understanding and skill required for proper use and care of PPE.
- d. The responsible office shall verify each employee has received and understood the required training through a written confirmation that contains the name of each employee trained, the date(s) of training, and the subject of the training.
- e. Training will be completed initially for employees and as required thereafter.

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f. Records of completed training will be retained by the individual’s supervisor and when feasible in the System for Administration, Training, and Educational Resources for NASA (SATERN).

P.8 RECORDS

Record Title	Record Custodian	Retention
Training Records of PPE Program Participation	Individual Supervisors, SATERN	*NRRS 3/33 G1. Destroy 5 years after employee discontinues or completes training.
Job Hazard Analysis	Supervisor	*NRRS 1/125B Destroy 2 years after superseded or obsolete, whichever is sooner.
Emergency Eye Wash/Shower visual inspection and functional test	Attach log sheet to unit if feasible or readily available upon request.	*NRRS 1/117 Destroy when 4 years old.

* NRRS 1441.1 – NASA Records Retention Schedule

P.9 MEASUREMENT/VERIFICATION

Supervisors will track personnel requiring PPE training and will provide training within the time frame specified in 29 CFR 1910 or 1926 as applicable.

The Safety Office will identify employees not using PPE when required. Identification may occur during periodic work area inspection. The Safety Office will convey this information to the employee and the employee’s supervisor for corrective actions.

PROCEDURES

1.0 RESPONSIBILITY

1.1 WFF Managers and Supervisors shall:

- a. Ensure all personnel under their control comply with the requirements of this procedure as applicable.
- b. Prepare and maintain Job Hazard Analysis (JHA) to determine the correct PPE usage for employees in areas of responsibility.
- c. Notify the WFF Safety Office (Code 803) for approval of any Civil Service employee work assignment requiring the use of respiratory protection or to request approval for the voluntary use of respiratory protection.
- d. Ensure all personnel who are required to wear PPE in the performance of their duties complete training required for the PPE associated with their assigned duties.
- e. Verify 100% training and retraining is achieved, documented and training records retained in SATERN.

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- f. Purchase PPE for NASA civil servant employees that meets applicable recommendations listed in the job hazard analysis.
- g. Ensure employees maintain PPE in a satisfactory usable condition as identified in training or applicable PPE instructions.
- h. When there are changes to job duties, an assessment of the new job duties will be completed and all new hazards identified. Proper PPE will be chosen to reduce the risk of injury from the new hazards. Inform the Code 803 Safety Office when such changes in procedures or processes occur.
- i. Ensure employees comply with PPE requirements in the areas where they are required to work and/or visit.
- j. Verify eligibility for safety shoes and maintain records of procurement.
- k. Ensure all employees who perform duties as visitor escorts understand their responsibility to equip visitors with the required PPE for the areas visited.
- l. Ensure that language is written into NASA contracts to the effect that NASA and WFF standards for PPE are applied to the contract.

1.2 Contractors shall:

- a. Comply with all applicable requirements of 29 CFR 1910.132 - 138, *Personal Protective Equipment* and ensure that subcontractors are also in compliance.
- b. Complete job hazard assessments for all jobs/tasks in the operation.
- c. Ensure Job Hazard Analysis (JHA) are documented and retained.
- d. Develop written procedures that explain the PPE program and how it is administered within the organization.
- e. Establish a system for evaluating PPE needed by employees and have the documentation available for government inspection.
- f. Review and update PPE assessments as changes in operations dictate.
- g. Establish a process to reevaluate JHAs when job duties change or are modified. Notify Code 803 Safety Office whenever process or procedure modifications are made.
- h. Establish procedures defining how PPE assessments and JHA processes are used to protect employees and accomplish compliance, when the two processes are integrated.
- i. Ensure documentation of compliance is readily available for review.
- j. Train and retrain employees as required by the applicable standards.
- k. Maintain training record keeping systems that can verify that 100% of the employees who require training have received the training.
- l. Implement a process to verify employee understanding of training.
- m. Ensure training includes when PPE is required, the necessary type, how to properly don, doff, adjust and wear PPE, proper care and maintenance, and functional duration of PPE.
- n. Develop and implement systems for the proper storage of PPE.
- o. Ensure all employees who perform duties as visitor escorts understand their responsibility to verify that visitors are equipped with proper PPE. (Visitors will not be allowed to enter hazard areas until properly equipped).

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1.3 Construction Contractors shall:

- a. Comply with this directive.
- b. Comply with all applicable requirements of 29 CFR 1926.28, *Personal Protective Equipment* and ensure that subcontractors are also in compliance.
- c. Ensure if a sub-contractor lacks a clear program for administering PPE requirements, the General or Site Contractor will be responsible to ensure PPE compliance.
- d. Develop written procedures that explain the PPE program and how it is administered within the organization.
- e. Complete JHA for all jobs/tasks in the operation identifying what, if any, PPE shall be required.
- f. Ensure documentation of compliance is readily available for review.
- g. Train and retrain employees as required by the applicable standards.

1.4 Safety Office (Code 803) shall:

- a. Verify through periodic audits or checks that JHA/PPE Hazard Assessments are complete for NASA WFF civil servants, contractors, and applicable construction contractors.
- b. Maintain records associated with this directive.
- c. Verify that the JHA specifies the necessary PPE to be used by NASA WFF Civil Service employees.
- d. Ensure that a contract or purchase agreement for safety equipment /PPE is established and maintained for NASA WFF personnel.

1.5 WFF Industrial Hygienist shall:

- a. Support the Code 803 in the implementation of this directive.
- b. Review Civil Service employee tasks that would require the use of respiratory protection and work with the Civil Service organization to configure the task and implement control measures to eliminate the need for respiratory protection when possible.
- c. Approve the voluntary use of respiratory protection only if it is determined that such respirator use will not in itself create a hazard.

1.6 WFF Employees

NASA WFF civil servant and contract employees shall utilize PPE as instructed in training and as required by JHA, safety data sheets (SDS), and area postings, maintain and properly store PPE, and report to supervisor for replacement of PPE as appropriate.

2.0 JOB HAZARD ANALYSIS (JHA)

The purpose of the JHA is to determine if hazards are present or are likely to be present and to identify control measures including PPE requirements. Each Directorate and Organization shall review their work areas to determine the job/task performed by employees and the PPE requirements necessary.

- a. The JHA shall include the following criteria:
 - (1) The work area and task evaluated.
 - (2) Evaluation of SDS for processes and determination of appropriate PPE to use.

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- (3) The signature of the person certifying that the evaluation has been performed.
 - (4) The date(s) of the hazard analysis.
 - (5) The identification of each hazard associated with each task evaluated and the determination of appropriate PPE.
- b. Each work area and job will be evaluated with consideration given to the basic hazard categories: impact, penetration, compression, chemical, heat, harmful dust, and light (optical) radiation.
 - c. Upon completion, the JHA will be distributed to all affected personnel and a file copy available for inspection. New employees will be briefed on all JHA's that will impact their duties.
 - d. The most current hazard assessment training will be kept on file by the area manager and available for Code 803 Safety Office review upon request.
 - e. Each work area will be reviewed, as operations are added or changed, to determine if changes to the PPE requirements are needed. Changes will be documented on the JHA.
 - f. Employees that participate in the JHA are required to sign the analysis form.
 - g. Area management will advise the area employees of the analysis results, the precautions necessary, and make this information readily available.
 - h. Defective, damaged, or otherwise unserviceable PPE or PPE that does not fit properly shall not be used and shall be destroyed if appropriate.

3.0 PROCUREMENT OF PPE

PPE shall be purchased by the affected Directorate or Organization and made available to employees at no cost. Purchase of prescription safety glasses and safety shoes shall be provided to employees at no cost subject to limitations. Contractors shall follow their own policy and procedures for the acquisition of PPE.

4.0 INSTRUCTIONS AND RULES FOR FOOT, HEAD, CHEMICAL, RESPIRATORY, AND EYE, FACE, SKIN, AND ELECTRICAL WORK PROTECTION

4.1 Foot Protection

- a. Open toed shoes such as sandals, flip flops etc. are **NOT** permitted in industrial or laboratory type work areas due to the inadequate protection afforded to the foot.
- b. Safety shoes with fabric uppers shall **NOT** be permitted for use in the following operations:
 - (1) Heavy construction areas since minimal protection are provided to the sides of the foot.

NOTE: This primarily deals with laceration hazards from materials that project out and snag the foot (i.e., rebar, nails, heavy wire/banding, etc.)

 - (2) Welding/cutting operations as molten slag could easily penetrate the fabric.
 - (3) Cryogenic transfer operations.
- c. Shoes selected for personnel present during cryogenic transfer operations should have medium to high tops to assure that the pants legs cover the cuff of the shoe, and be constructed of leather to provide protection given an inadvertent spill. Shoes with fabric uppers are not approved for cryogenic operations.
- d. Safety shoes with fabric uppers will be permitted for use in routine industrial operations.

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- e. Visitors are required to wear protective footwear when in operational areas, maintenance shops, construction areas and when in close proximity of operations such as moving equipment, materials handling, or storage areas that cause exposure to a foot hazard. If these situations are not present, a solid leather shoe that covers the entire foot will be acceptable. Open-toe sandals/pumps and narrow high heels are not permitted within these areas.
- f. Construction Workers are required to wear safety footwear that meets ASTM F- 2412-05 and F- 2414-05 requirements.

4.2 Head Protection

- a. Hard Hats meeting the requirements of ANSI Z89.1 – 2009, are required in all construction areas. In the event maintenance employees must work in areas where construction work is underway, the maintenance employees shall wear Hard Hats.
- b. Hard Hats must be worn by maintenance personnel performing construction type work or when the JHA requires it.
- c. Hard Hats shall be worn when working or exposed to overhead activities, at all construction activities (indoor and outdoor), and around all suspended loads (crane operations and any time employees are exposed to overhead or bumping hazards).
- d. Hard Hats shall always be used and maintained in accordance with the manufacturer’s requirements.

4.3 Chemical Protective Clothing

The following instructions and rules shall apply to gloves and other clothing used to protect the skin from contact with chemicals:

- a. Selection, use and maintenance of chemical protective clothing shall comply with ASTM F1461-07, *Standard Practice for Chemical Protective Clothing Program*.
- b. Review the SDS for recommended PPE.
- c. Contact Code 803 for assistance in selecting PPE

4.4 Respiratory Protection

- a. Respirators will be selected, used, and maintained in accordance with a written respiratory protection program that complies with Occupational Safety and Health Administration (OSHA) 29 CFR 1910.134, *Respiratory Protection* and GPR 1820.2 *Respiratory Protection Program*.
- b. Determination of an employee’s physical capability to use a respirator will follow the guidance in ANSI/AIHA Z88.6 - 2006, *Respiratory Protection – Respirator Use – Physical Qualifications for Personnel*.
- c. Personnel who wish to voluntarily use a respirator in their work will contact the Industrial Hygienist or Safety Representative for approval. The employee must meet the physical qualifications for respirator use and will read the information contained in OSHA 29 CFR 1910.134, *Appendix D, and Information for Employees Using Respirators When Not Required* under the same standard.

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4.5 Eye and Face Protection

- a. All protective eye and face devices must comply with ANSI Z87.1 - 2009, *American National Standard Practice for Occupational and Educational Eye and Face Protection*. (Prescription glasses do not meet the ANSI requirements unless marked accordingly)
- b. All safety glasses must protect the eye from the side as well as the front. Safety glasses with removable side shields must have the side shields firmly affixed to meet this requirement.
- c. All NASA WFF employees, visitors, vendors, and contractors will be required to wear safety glasses in all posted areas and wherever potentially hazardous work may be performed.
NOTE: Office areas, cafeterias, designated break areas, control rooms, restrooms, and designated aisle ways are normally exempt unless work is being performed.
- d. Glasses with dark lenses are not allowed inside any building.
- e. Employees working with lasers with the beam exposed must wear the appropriate laser safety glasses.
- f. Goggles shall be required in operations where chemical splashing, misting, or dusting may occur (e.g., labs). Ensure that goggles meet the impact standard and are resistant to the chemicals in use.
- g. Face shields shall be required for severe exposures to cryogenic sampling, chemical splashing, flying particles, hot sparks, and splashes from molten metal, or high temperatures. Goggles or safety glasses shall be worn under face shield.

4.6 Electrical Safety Personal Protective Clothing

PPE used by personnel performing electrical work at WFF shall comply with the standards on protective equipment requirements found in Table 130.7(C) (8) of the National Fire Protection Standard (NFPA) 70E, *Standard for Electrical Safety in the Workplace*.

4.7 Miscellaneous Protection

- a. Where employees are working over or near water, where the danger of drowning exists, employees shall be provided with U.S. Coast Guard-Approved personal flotation device (PFD).
- b. A PFD shall be worn while in skiffs, small boats, or launches, unless in an enclosed cabin or cockpit.
- c. A PFD shall be worn on structures or equipment (including heavy operating equipment that is not secured to the structure) extending over or next to water except where guardrails, personal fall protection system, or safety nets are provided for employees.
- d. Employees working on or adjacent to WFF roadways, around heavy equipment (flagmen, spotters, operators, etc.), and established construction sites shall wear a reflective vest meeting the requirements of ANSI/ISEA 107-2015, *American National Standard for High-Visibility Apparel* (Section 1A.11) and be labeled as meeting ANSI 107-2015 standard performance for Class 2 risk exposure.
- e. Employees working at heights may need to be trained and outfitted with proper fall protection equipment. Fall protection shall meet the requirements specified in OSHA 29 CFR 1926.502; 1910.66 and ANSI A10.14; ANSI Z359.1.

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5.0 EMERGENCY EYEWASHES AND SHOWERS

- a. Emergency eyewash stations and showers meeting the requirements found in ANSI Z358.1 *Emergency Eyewash, and Shower Equipment*, will be available in all work areas where the eyes or body may be exposed to injurious corrosive materials, to allow for quick drenching or flushing of the eyes and body.
- b. Safety showers and eye wash fountains will be located no more than 10 seconds away and on the same level as the hazard. Paths to safety showers/eye wash fountains shall be kept free from obstructions at all times.
- c. For each activity/operation conducted at WFF, Code 803 must approve the installation/location of all safety showers and eye wash units.
- d. Supervisors shall insure that a visual inspection and functional test for all permanent emergency eye/body wash units is performed at least once a week. The functional test should be long enough to verify operation and ensure that flushing fluid is available. Units that fail the inspection or function test may be temporarily replaced with a portable unit until the permanent unit is repaired or replaced. Where practical, all units will have a tag affixed that is marked with the date of the last inspection or service. The tag will be legibly signed by the person performing the inspection or servicing of the unit. If attaching a tag to the unit is not practical then the users will maintain the same information in a log that will be made available upon request.
- e. Portable units shall be serviced in accordance with the manufacturer's recommendations. Portable units will not be functionally tested but inspected for serviceability and accessibility. Units will not be allowed to freeze or be left in areas that are not heated. A log or tag on the unit indicating the inspection date will be maintained.
- f. Units found not to be in compliance shall be tagged or labeled as "Unsafe for Use" and removed from use.
- g. Flushing Fluids shall be free of contaminants and tepid between 60 – 100° F.

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Appendix A – Definitions

A.1 **Construction Area:** An area where construction activities are in progress including alteration, and/or repair, painting, and decorating.

A.2 **Personal Protective Equipment (PPE):** Devices or clothing worn to help isolate a worker from direct exposure to hazardous materials or physical hazards capable of causing injury or impairment in the function of any part of the body through absorption, inhalation, or physical contact.

A.3 **PPE Instruction:** Documents describing the proper use of personal protective equipment for specific operations. This may be in the form of a Work Instruction, Job Hazard Analysis, Activity Hazard Analysis, Procedure, or similar format.

A.4 **Transient:** Personnel who are not assigned to work in a particular area on a routine basis. This may include management personnel, engineers, vendors, and contractors.

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Appendix B – Acronyms

ANSI	American National Standards Institute
ASTM	American Society for Testing and Materials
CFR	Code of Federal Regulations
JHA	Job Hazard Analysis
SDS	Safety Data Sheets
NFPA	National Fire Protection Standard
OSHA	Occupational Safety and Health Administration
PFD	Personal Flotation Device
PPE	Personal Protective Equipment
SATERN	System for Administration, Training, and Educational Resources for NASA

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CHANGE HISTORY LOG

Revision	Effective Date	Description of Changes
Baseline	August 29, 2012	Initial Release
	August 28, 2017	Administratively Extended while in the signature phase.
A	October 30, 2018	Updated PG template to latest version. Updated references. Changed 803.2/Safety & Mission Assurance Office to 803/Safety Office.

For Best Practices refer to:

<https://gs279gdmsias.gsfc.nasa.gov/GDMSv2/downloadFile.htm?docId=28819>

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