


ATTACHMENT “J”

PERSONAL PROTECTIVE EQUIPMENT (“PPE”) POLICY

	Northeastern Illinois Public Safety Training Academy	
	Personal Protective Equipment (“PPE”) Policy	
Operations Policy		
Effective: 2/2020	Revised:	Approved: _____ <i>Executive Director</i>

Purpose

To provide an understanding personal protective equipment (“PPE”) requirements during both routine campus operations and first responder training programs delivered by the Northeastern Illinois Public Safety Training Academy (“NIPSTA”).

Scope

This document provides guidance for PPE hazard assessment, selection and communication for campus operations and first responder training. The emphasis remains on consistency, safety, and efficiency of operation.

Policy

NIPSTA is committed to the prevention of accidents and injuries. As such, NIPSTA has established this PPE policy which is designed to identify, eliminate and protect NIPSTA employees, instructors/contractors and students/participants from such events while on campus or when associated with NIPSTA-sponsored training programs.

NIPSTA’s PPE policy outlines key elements identified in the Occupational Health and Safety Administration’s Occupational Safety and Health Standards, 29 CFR 1910.132138 (1974). All NIPSTA employees, instructors/contractors and students/participants are required to comply with this policy when participating in applicable programming or activities. As outlined in the *NIPSTA Instructor Agreement* and the *NIPSTA Instructor/Contractor Orientation Manual*, it is the instructor/contractor’s responsibility to provide and maintain their own industry approved PPE. Students/participants may be required to provide their own industry approved PPE; specific information is listed in the following documents: Course-specific syllabi; *Student/Participant Policy Manual*; *NIPSTA Fire Academy Candidate Policy Manual*. Additional hazard information specific to individual training props can be found in the Training Pop Operating Guidelines (see *Campus Operations and Risk Management Policy Manual*, **SECTION VII**).

Hazard Identification and Control

Statement on Controlling Hazards

In an effort to control pre-identified hazards, PPE shall be used in conjunction with mechanical/equipment guards, engineering controls, established safety measures, specific policies, and sound risk management practices.

Identifying Hazard Sources

The Executive Director or their qualified designee shall identify and recognize sources of hazards on the NIPSTA campus or associated with mobile training programming. Examples of hazard sources include, but are not limited to:

- **Motion:** Machinery, processes or training evolutions where any movement of tools, machine elements, particles, or other related equipment could exist, including include forklifts or other similar devices.
- **Temperature:** High temperatures that could result in burns, eye injuries or ignition of protective equipment, including steam, hot water, or surface temperatures.
- **Chemicals:** Exposure or potential exposure to chemicals outlined in the Hazard Communication Program (see *Campus Operations and Risk Management Policy Manual*).
- **Airborne Particles:** Nuisance dust, powders, mists, gases, fumes or other similar materials.
- **Light:** Light radiation from welding, brazing, cutting, furnaces, high intensity lights, etc.
- **Falling Objects:** Sources of falling objects or potential for dropping objects, such as those from overhead hoists or work/training platforms.
- **Sharp Objects:** Work or training materials that may pierce feet or cut hands.
- **Rolling or Pinch Points:** Rolling or pinching objects, which could crush hands or feet.
- **Workstations:** Facility layout and location of co-workers, instructors or students.
- **Electrical:** Any electrical hazards.

Periodic reviews by the NIPSTA Safety Committee of illness, injury, and accident data will contribute to identifying unique or emerging campus hazard sources.

Hazard Surveys

At the direction of the Executive Director or their qualified designee, each functional division will complete hazard surveys to identify potential hazard sources for instructors/contractors and students/participants. A designee of the Executive Director will conduct a hazard survey to identify potential hazard sources for NIPSTA administrative employees. Surveys will be conducted annually or at the beginning of a new program. Completed surveys will be reviewed and maintained by the Executive Director or their qualified designee. (See **ATTACHMENT: NIPSTA Task Hazard Assessment Form**). Consideration will be given (but not limited) to the following seven (7) basic categories of hazards:

1. Impact
2. Penetration
3. Compression (roll-over)
4. Chemical
5. Heat
6. Harmful dust
7. Optical light radiation

Campus Hazard Analysis

Findings from hazard surveys will be evaluated and assembled into the **ATTACHMENT: NIPSTA Campus Hazard Analysis and Associated PPE Usage Chart**. The chart will be updated annually and made publicly available to all NIPSTA employees, independent contractors/instructors and students/participants. Division Managers and Program Coordinators will reference the information

when developing curriculum, creating action plans, or planning to supervise independent contractors/instructors and/or students/participants.

Hazard Reassessment

NIPSTA will annually reassess campus hazards by reviewing current industry recommendations and identifying new PPE products and procedures. Regular reviews of accidents and/or injury reports will also be used for hazard analysis and easement.

Types of Personal Protective Equipment

This guideline addresses seven basic forms of PPE recognized in 29 CFR 1910.132–138 (OSHA, 1974).

1. Eye and Face Protection
2. Head Protection
3. Foot Protection
4. Hand Protection
5. Hearing Protection
6. Respirators
7. Electrical Protection

Eye and Face Protection

NIPSTA recognizes that campus operations may require the use of various types of eye and face protection. Eye and face protection must comply with the standards outlined in ANSI/ISEA's Standard on Safety Eyewear and Protection, Z87.1 (ANSI, 2010). In addition to the manufacturer's guidelines, employees, instructor/contractors and students/participants should consider the following when selecting eye and face protection:

- **Impact:** Chipping, grinding machining, sawing, drilling, powered fastening, and sanding may produce flying fragments, objects large chips, sand, dirt, etc. Safety glasses with side-protection, goggles, and face shields will be considered reasonable methods of eye protection. For conditions with the potential for severe exposure and/or injury, face shields will be utilized.
- **Heat:** Welding and cutting may produce hot sparks. Face shields, goggles, and spectacles with side protection are required. Splash from molten metals (welding) or use of steam may also produce a potentially hazardous environment. Face shields worn over goggles should be considered.
- **Chemicals:** Acid and chemicals handling, degreasing, etc. may create splash exposures requiring additional eye and face protection. For situations with the potential for severe exposure and/or injury, goggles and face shields should be considered.
- **Dust:** Nuisance dust or dust from training operations may require goggles and eye protection with additional coverage.
- **Light and/or Radiation:** Electrical arc from welding equipment produces optical radiation requiring welding helmets or welding shields. (Typical shades: 10-14).
 - Welding: Gas produces optical radiation requiring welding goggles or welding face shield. Typical shades: gas welding 4-8, cutting 3-6, brazing 3-4.
 - Torch: Cutting, brazing, and soldering produces optical radiation requiring spectacles or welding face-shield. Typical shades, 1.5-3.
 - Glare may result in poor vision requiring spectacles with shaded or special-purpose lenses, as suitable.

Additional Considerations

When selecting eye and face protection, contractors and students should also consider the following criteria:

- Care should be taken to recognize the possibility of multiple and simultaneous exposure to a variety of hazards. Adequate protection against the highest level of each of the hazards should be provided. Protective devices do not provide unlimited protection.
- Operations involving heat may also involve light radiation. As required by OSHA, protection from both hazards must be used.
- Face shields should only be worn over primary eye protection (spectacles or goggles).
- Filter lenses must meet the requirements for shade designations in 29 CFR 1910.133(a)(5) (OSHA, 1974). Tinted and shaded lenses are not filter lenses unless they are marked or identified as such.
- Persons whose vision requires the use of prescription lenses must wear either protective devices fitted with prescription lenses or protective devices designed to be worn over regular prescription eyewear.
- Wearers of contact lenses must also wear appropriate eye and face protection devices in a hazardous environment. Dusty and/or chemical environments may represent an additional hazard to contact lens wearers.
- Caution should be exercised in the use of metal frame protective devices in electrical hazard areas.
- Atmospheric conditions and the restricted ventilation of the protector can cause lenses to fog.
- Frequent cleansing may be necessary.
- Welding helmets or face shields should be used only over primary eye protection (spectacles or goggles).
- Non-side shield spectacles are available for frontal protection only, but are not acceptable eye protection for the sources and operations listed for "impact."
- Ventilation should be adequate, but well protected from splash entry. Eye and face protection should be designed and used so that it provides both adequate ventilation and protects the wearer from splash entry.
- Protection from light radiation is directly related to filter lens density. Select the darkest shade that allows task performance.

Head Protection

NIPSTA recognizes that numerous campus activities require the use of head protection (e.g. helmets). Head protection is designed to provide protection from impact and penetration hazards caused by falling objects, as well as electrical shock and thermal burns. Head protection must comply

with the standards outlined in American National Standards Institute's (ANSI) Standard for Industrial Head Protection Z89.1 (2003). In addition to the manufacturer's guidelines, instructors/contractors and students/participants should consider the following when selecting head protection for campus activities.

- **Impact Types:** There are two types of impact classes that should be considered when selecting helmets for campus activities.
 - Type I: Helmets intended to reduce the force of impact resulting from a blow only to the top of the head.
 - Type II: Helmets intended to reduce the force of impact resulting from a blow to the top or sides of the head.
- **Electrical Classes:** There are two types of impact classes that should be considered when selecting helmets for campus activities.
 - Class G (General): Helmets intended to reduce the danger of contact with low voltage conductors. Test samples shall be proof-tested at 2200 volts (phase to ground). This voltage is not intended as an indication of the voltage at which the helmet protects the wearer.
 - Class E (Electrical): Helmets intended to reduce the danger of contact with higher voltage conductors. Test samples are proof-tested at 20,000 volts (phase to ground). This voltage is not intended as an indication of the voltage at which the helmet protects the wearer.
 - Class C (Conductive): Helmets that are not indented to provide protection against contact with electrical hazards.

All helmets must be stamped with both a type and an electrical class, accordingly. Selection shall be based on potential hazard exposures, accordingly.

Where falling object hazards are present, helmets must be worn. Some examples include:

- Fire and technical rescue training
- Fire and technical rescue program set up
- Industrial rescue and access training
- Prop service and repair
- Campus maintenance and repair
- Material handling (loading/off-loading)

Foot Protection

NIPSTA recognizes that numerous campus activities require the use of foot protection. Foot protection is designed to provide protection from falling or rolling objects as well as impact and compression hazards. Foot protection must comply with the standards outlined in ANSI's Standard for Footwear Protection Z41 (ANSI, 1999), as well as the American Society for Testing and Materials' ("ASTM"), Standard Test Methods for Foot Protection, F-2412-2005 (ASTM, 2018) and Standard Specification for Performance Requirements for Protective Footwear, F-2412-2005 (ASTM, 2018).

In addition to the manufacturers guidelines instructors/contractors and students/participants should consider the following when selecting foot protection for campus activities.

- **Type of work or training being performed:**
 - Campus maintenance and repair
 - Fire or technical rescue training
 - Law enforcement training
 - Public works training
 - Emergency medical training
 - Industrial access training

- **Level of protection needed:**
 - Crush or compression
 - Thermal or electrical
 - Foot/ankle stability
 - Water/snow/ice

Hand Protection

NIPSTA recognizes that numerous campus activities require the use of hand protection. Gloves should be used on campus to prevent cuts, abrasions, burns, and skin contact with chemicals that are capable of causing local or systemic effects following dermal exposure.

Gloves cannot provide protection against all potential hand hazards; commonly available glove materials provide only limited protection against many chemicals. Therefore, it is important to select the most appropriate glove for a particular application and to determine how long it can be worn, and whether it can be reused.

While hand protection may be beneficial, extreme caution must be used when working around rotating or spinning equipment due to the potential for the glove to create an entanglement hazard. Therefore, supervisors, program coordinators and instructors/contractors should determine if gloves should be used on a task specific basis. In some cases, hazards other than the rotating equipment may be greater than if the employee were to work without the use of a glove. In these instances a determination should be made on whether or not a glove actually reduces the hazard.

It is important to select the most appropriate glove for a particular application, how long it can be worn, and whether it can be reused. It is also important to know the performance characteristics of gloves relative to the specific hazard anticipated; e.g., chemical hazards, cut hazards, flame hazards, rotating equipment, etc.

Other factors to be considered for glove selection in general include:

- **Durability:** As long as the performance characteristics are acceptable, in certain circumstances, it may be more cost effective to regularly change to cheaper gloves than to reuse more expensive types; and,
- **Dexterity:** The work activities of the employee should be studied to determine the degree of dexterity required, the duration, frequency, and degree of exposure of the hazard, and the physical stresses that will be applied.

With respect to selection of gloves for protection against chemical hazards:

- **Toxicity:** The toxic properties of the chemical(s) must be determined; in particular, the ability of the chemical to cause local effects on the skin and/or to pass through the skin and cause systemic effects. Generally, any "chemical resistant" glove can be used for dry powders;
- **Penetration:** For mixtures and formulated products (unless specific test data are available), a glove should be selected on the basis of the chemical component with the shortest breakthrough time, since it is possible for solvents to carry active ingredients through polymeric materials; and,
- **Removal:** Employees must be able to remove the gloves in such a manner as to prevent skin contamination.

Hearing Protection

Refer to the *NIPSTA Risk Management and Campus Operations Policy Manual* (**SECTION 3.4.3: Occupational Noise Exposure**) for specific details relating to hearing conservation.

Respirators

Refer to the *NIPSTA Respiratory Protection Policy* (**ATTACHMENT "K"**) for specific details pertaining to respirators.

Electrical Protection

Rubberized protective equipment designed to protect workers from live electrical current greater than 50 volts must comply with the following ASTM Standards:

- ASTM D120-09, Standard Specification for Rubber Insulating Gloves (2014)
- ASTM D178-01, Standard Specification for Rubber Insulating Matting (2010)
- ASTM D1048-12, Standard Specification for Rubber Insulating Blankets (2012)
- ASTM D1049-98, Standard Specification for Rubber Insulating Covers (2010)
- ASTM D1050-05, Standard Specification for Rubber Insulating Line Hose (2011)
- ASTM D1051-08, Standard Specification for Rubber Insulating Sleeves (2008)

Employees and instructors/independent contractors should check with campus maintenance personnel before working near any electrical sources. Instructors/contactors and students/participants are *not authorized* to make repairs or alterations to campus electrical sources.

Additional information on electrical hazard protection can be found in the NIPSTA Lock-Out/Tag-Out Policy found in the *NIPSTA Risk Management and Campus Operations Policy Manual* (**SECTION 3.3.3**).

PPE Assessment, Selection, Maintenance and Training/Certification

PPE Assessment and Selection Guidelines

NIPSTA will identify and communicate the types of PPE required for particular work or training scenarios. The operational divisions or functional areas most likely to require PPE during operations or training include the following:

1. Buildings, Grounds and Maintenance
2. Fire & Technical Rescue
3. Center for Disaster and Emergency Medicine
4. Law Enforcement
5. Public Works
6. Center for Security and Life Safety

PPE Selection Guidelines

In general, the process for selecting the appropriate PPE for a task shall be as follows:

The employee, instructor/contractor and/or student/participant will:

1. Become familiar with the potential hazard(s) and type of protective equipment available.
 - *Example: hearing protection, impact protection, etc.*
2. Compare the hazards associated with the environment with the capabilities of the available protective equipment.
 - *Example: impact velocities, projectile shape, etc.*
3. Select the protective equipment which ensures a level of protection *greater* than the minimum required to protect employees from the hazards.
4. Ensure the protective device fits properly and follow instructions on care and use of the PPE. End users should pay special attention to manufacturer warning labels and information regarding limitations of their PPE.

PPE Fit

In selecting PPE, careful consideration must be given to comfort and fit. PPE that fits poorly will not afford the necessary protection. Continued wearing of the device is more likely if it fits the wearer comfortably. Protective devices are generally available in a variety of sizes. Care should be taken to ensure that the right size is selected.

Cleaning & Maintenance

It is the instructor/contractor's and/or student/participant's responsibility to inspect, maintain and clean industry approved PPE. As such, NIPSTA requires that instructor/contractor and student/participant PPE be kept clean and properly maintained. Cleaning is particularly important for eye and face protection where dirty or fogged lenses could impair vision.

In accordance with 29 CFR 1910.132 (a) and (b), and (f)(1)(v) (OSHA, 1974), PPE should be inspected, cleaned, and maintained at regular intervals so that the PPE provides the requisite protection. It is also important to ensure that contaminated PPE, that *cannot be decontaminated*, is disposed of in a manner that protects employees, instructors/contractors and students/participants from exposure to hazards. Manufacturer's guidelines should be followed for specific requirements and procedures for inspection, maintenance, cleaning and disposal.

Training & Certification

It is the instructor/contractor's and/or student/participant's responsibility to ensure they have been trained and are qualified to use industry approved PPE. Information on PPE required for campus training/tasks will be made available via the Campus PPE Usage Chart. At a minimum, instructors/contractors and/or students/participants should seek training on the following:

- When PPE is necessary to protect instructors/contractors and/or participants/students. Campus specific information found in can be found in the following sections of the *NIPSTA Risk Management and Campus Operation Policy Manual*:
 - Campus PPE Usage Chart
 - Individual Prop Safety Guidelines
- How to properly don (put on)/doff (take off), adjust, and wear PPE.
- The limitations of the PPE.
- The proper care and maintenance of the equipment.
- The useful life and disposal of the PPE.
- Retraining should be occur when:
 - Industry or curriculum changes render previous training obsolete.
 - Changes in the workplace or on campus render previous training obsolete.
 - Changes in the types of PPE to be used render previous training obsolete

ATTACHMENTS

None

DISTRIBUTION

REFERENCES

American National Standards Institute (ANSI). (2015). *Fall protection and arrest* (Standard No. z359.11).

National Fire Protection Administration (NFPA). (2017). *Standard on life safety rope and equipment for emergency services* (Standard No. 1983).

Occupational Safety and Health Standards, 29 C.F.R. §1910 (1974).

Occupational Safety and Health Standards, 29 C.F.R. § 1926 (1979).

DATES

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