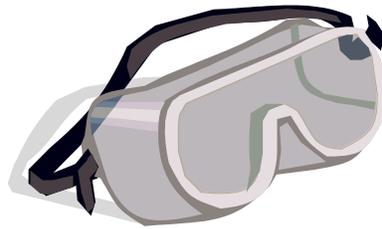


City of Newport News

Personal Protective Equipment Program



29 CFR 1910 Subpart I

TABLE OF CONTENTS

| | |
|--|-----------|
| I. Purpose | 3 |
| II. Scope | 3 |
| III. Definitions | 3 |
| IV. General Requirements | 6 |
| V. Hazard Assessments | 6 |
| VI. Training Requirements | 7 |
| VII. Types of Personal Protective Equipment | 8 |
| VIII. Chemical Protective Clothing and Equipment Program Requirements | 14 |
| IX. EPA Levels of Protection | 19 |
| X. Program Review | 21 |

I. Purpose

The City of Newport News recognizes its responsibility to provide appropriate and adequate personal protective equipment (PPE) to employees to protect them from hazards in the workplace and to comply with OSHA regulations. The Personal Protective Equipment Program is to establish standards for the proper use and maintenance of protective equipment by City employees and detail departmental responsibilities regarding PPE. The goals of this program include protecting employees from safety and health hazards and preventing injury from incorrect use of PPE through hazard assessments and training. The rules and responsibilities detailed in this program are minimum requirements that must be met. Departments implementing specialized Personal Protective Equipment programs are still to meet all requirements set forth in this program.

II. Scope

The Personal Protective Equipment Program is to be implemented for all employees of the City of Newport News who is require to wear PPE based on hazards associated with their job tasks.

The Safety Program Administrator will evaluate the Personal Protective Equipment Program annually to ensure compliance, effectiveness, and to account for any applicable changes regarding hazardous tasks requiring the use of Personal Protective Equipment.

III. Definitions

“air-purifying respirator” means a respirator with an air-purifying filter, cartridge, or canister that removes specific air contaminants by passing ambient air through the air-purifying element.

“buddy system” is a system of organizing employees into work groups in such a manner that each employee of the work group is designated to be observed by at least one other employee in the work group for the purpose of providing rapid assistance to employees in the event of an emergency.

“clean-up operation” means an operation where hazardous substances are removed, contained, incinerated, neutralized, destabilized, cleared-up or in any other manner processed or handled with the ultimate goal of making the site safer for people or the environment.

“decontamination” means the removal of hazardous substances from employee and their equipment to the extent necessary to preclude the occurrence of foreseeable adverse health effects.

“emergency response *or* responding to emergencies” means a response effort by employees from outside the immediate release area or by other designated responders (ex. NNFd) to an occurrence which results, or is likely to result, in an uncontrolled release of a hazardous substance. Responses to incidental releases of hazardous

substances where the substance can be absorbed, neutralized, or otherwise controlled at the time of release by employees in the immediate release area, or by maintenance personnel are not considered to be "emergency responses" within the scope of the HAZWOPER standard. Responses to releases of hazardous substances where there is no potential safety or health hazard such as fire, explosion, or chemical exposure are not considered to be emergency responses under the HAZWOPER standard.

"face shield" is a supplementary protective device worn to shield the wearer's face from certain hazards such as flying debris or chemical splash, and are secondary protectors to be worn with safety glasses or goggles.

"facility" means 1) any building, structure, installation, equipment, pipe or pipeline, well, pit, pond, lagoon, impoundment, ditch, storage container, motor vehicle, rolling stock, or aircraft, OR 2) any site or area where a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise come to be located, but does not include any consumer product in consumer use or any water-borne vessel.

"goggles" are a wraparound protective device that fits to the face surrounding the eyes to shield from impact, splash, and vapor hazards.

"hazardous materials response (HAZMAT) team" is defined in the HAZWOPER standard as an organized group of employees, designated by the employer, who are expected to perform work to handle and control actual or potential leaks or spills of hazardous substances requiring possible close approach to the substance. The team members perform responses to releases or potential releases of hazardous substances for the purpose of control or stabilization of the incident.

"hazardous substance" means any of the following:

1. Any substance defined under section 101(14) of CERCLA
2. Any biologic agent or other disease causing agent which after release into the environment and upon exposure, ingestion, inhalation, or assimilation into any person, either directly from the environment or indirectly by ingestion through food chains, will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological or reproductive malfunctions, or physical deformations in such persons or their offspring.
3. Any substance listed by the U.S. Department of Transportation as hazardous materials under 49 CFR 172.101 and appendices
4. Hazardous wastes

"hazardous waste" is a waste or combination of wastes as defined by **40 CFR 261.3**, or those substances defined as hazardous wastes in **49 CFR 171.8**.

"hazardous waste operations" means any operation conducted within the scope of the HAZWOPER standard.

"health hazard" means a chemical for which there is statistically significant evidence based on at least one study conducted in accordance with established scientific

principles that acute or chronic health effects may occur in exposed employees. The term "health hazard" includes chemicals which are carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosives, sensitizers, hepatotoxins, nephrotoxins, neurotoxins, agents which act on the hematopoietic system and agents which damage the lungs, skin, eyes, or mucous membranes.

"Immediately Dangerous to Life or Health (IDLH)" means an atmospheric concentration of any toxic, corrosive or asphyxiant substance that poses an immediate threat to life or would interfere with an individual's ability to escape from a dangerous atmosphere.

"laser wavelength" and optical density determine the correct type of protective eyewear when working with lasers.

"NIOSH" is the National Institute for Occupational Safety and Health.

"optical density" is the degree of opacity of a translucent medium.

"permissible exposure limit (PEL)" means the exposure, inhalation or dermal permissible exposure limit specified in **29 CFR Part 1910, Subparts G and Z.**

"published exposure level" means the exposure limits published in "NIOSH Recommendations for Occupational Health Standards" dated 1986, which is incorporated by reference as specified in § 1910.6, or if none is specified, the exposure limits published in the standards specified by the American Conference of Governmental Industrial Hygienists in their publication "Threshold Limit Values and Biological Exposure Indices for 1987-88" dated 1987, which is incorporated by reference as specified in § 1910.6.

"qualified person" means a person with specific training, knowledge and experience in the area for which the person has the responsibility and the authority to control.

"self contained breathing apparatus" means an atmosphere-supplying respirator for which the breathing air source is designed to be carried by the user.

"sideshield" is a part of safety glasses commonly attached to spectacles that provide protection to the side of the eye.

"site" means any facility or location at which hazardous waste operations take place.

"spectacle" is a protective device to shield the wearer's eyes from a variety of hazards, and usually have prescription corrective lenses.

"supplied air respirator" or airline respirator means an atmosphere-supplying respirator for which the source of breathing air is not designed to be carried by the user.

“ultraviolet light” is electromagnetic radiation with a wavelength shorter than that of visible light, and can be subdivided into near UV (380-200 nm wavelength), far UV (200-10 nm), and extreme UV (1-31 nm).

“visible light transmission” is the ratio of the amount of total visible solar energy that is allowed to pass through a filter, to the amount of total solar energy falling on the filter.

“welding helmet” is a protective device intended to shield the eyes and face from optical radiation and impact, and are secondary protectors to be used only in conjunction with other personal protective equipment.

“work site” means any facility or location within the limits of the City of Newport News where City employees

IV. General Requirements

All personal protective equipment used by City employees shall be of safe design and construction for the work to be performed. Personal protective equipment shall be durable, capable of being disinfected, and easily cleaned.

Employees shall:

It is the employee’s responsibility to wear personal protective equipment provided by the City of Newport News to protect him/her from documented workplace hazards. Employees shall make a visual inspection of all pieces of personal protective equipment before use. The use of equipment with structural or optical defects or damages is prohibited, regardless of ownership.

Department Directors and Supervisors shall:

Departmental Directors and Supervisors shall enforce the use of required PPE at all times. The adequacy, proper maintenance, and sanitation of employee-owned personal protective equipment shall be ensured at all times. Employees requiring personal protective equipment for their work tasks shall be provided with the proper PPE prior to beginning tasks that may endanger their safety or health.

V. Hazard Assessments

Hazard assessments shall be conducted by supervisors at all work sites to identify potential hazards that necessitate the use of personal protective equipment. Potential hazards may include:

- Electrical Hazards
- Layout of the workspace
- Presence of sharp objects or edges
- Stacked or stored objects that could fall or roll
- Sources of light radiation
- Chemical exposure
- Pinch points
- Temperature extremes
- Exposed moving parts of equipment or machinery

- Harmful dusts

New hazard assessments shall be conducted when changes in the workplace or a change in work site necessitates an additional evaluation.

The hazard assessment(s) shall be documented. Verification that the workplace hazard assessment has been performed shall be via a written certification specifically stating that a hazard assessment has been performed. The written certification identifies the workplace evaluated, the person certifying the evaluation, and the date of the assessment.

Once hazards are identified, departments are responsible for the following:

- Ensure proper PPE is selected for affected employees. Proper selection will be based on hazards identified during the assessment and the employee's work requirements and task-specific conditions, including heat stress and duration of tasks.
- Notify affected employees at each work site of potential hazard(s).
- Ensure proper fit of PPE.
- Enforce the use of PPE.

VI. Training Requirements

Prior to initial assignment, all employees performing tasks requiring the use of personal protective equipment shall be provided training on the proper use of the specific protective equipment.

Training will be conducted by a knowledgeable designated person, such as Supervisors, the Senior Safety Officer, or his/her designated appointee. Personal protective equipment training shall be presented in a manner employees can understand.

Personal protective equipment training programs shall include the following information:

- When personal protective equipment is necessary.
- The type of personal protective equipment that is necessary.
- How to put on, take off, adjust, and wear the personal protective equipment.
- The limitations of the specific personal protective equipment.
- The proper care, maintenance, useful life, and disposal of personal protective equipment.

Each affected City employee who has been trained in the use of PPE shall demonstrate an understanding of the training and the ability to use the PPE in a proper manner before being allowed to perform work requiring its use. Employees shall be retrained in the proper use of personal protective equipment when:

- Changes in the workplace render training obsolete.
- Changes in the types of personal protective equipment to be used render previous training obsolete.

- The employee's inadequate knowledge or use of assigned PPE indicated the employee has not retained the requisite understanding or skill.

All required personal protective equipment training shall be documented for recordkeeping purposes. Following each training session, employees are required to sign a training record verifying attendance.

A written certificate shall verify each affected employee has received and understood the required training. The certificates will be kept in employee files and shall include the employee's name, date of training, and subject of certification.

VII. Types of Required Personal Protective Equipment

A. Eye/Face Protection for General Industry

1. Eye and face PPE shall comply with **ANSI Z87.1**, American National Standard Practice for Occupational and Educational Eye and Face Protection.
2. Eye and face PPE purchased by the City of Newport News shall be distinctly marked to facilitate distinction of the manufacturer.
3. Employees who wear prescription lenses or contacts shall use personal protective equipment that incorporates the prescription or use eye protection that can be worn over prescription lenses.
4. Affected employees using equipment with filter lenses must have a shade number appropriate for the work being performed for protection from injurious light radiation. For a detailed chart online go to:

<https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.133>

5. PPE designed to protect the wearer from dust or chemical splash should form a protective seal when fitted properly. Poorly fitting eye and face protection shall not be worn.
6. The fitting of employees with goggles and safety spectacles will be done by someone skilled in this procedure. Qualified optical personnel will fit prescription safety spectacles. Side shields will be attached to safety spectacles to provide protection to the side of the eye when projectile hazards necessitate.
7. When employees are assigned pieces of personal protective equipment for extended periods, the equipment will be cleaned and disinfected regularly.
8. Eye and face PPE that has been previously used will be disinfected prior to reissue to another employee.
9. A face shield, in combination with safety goggles/glasses, shall be used to protect the entire face from impact hazards such as flying fragments, objects, large chips, and particles.
10. An eyewash station shall be provided in work areas where employees' eyes may come in contact with injurious or corrosive substances. The eyewash station shall be inspected regularly and activated weekly to ensure it is in proper working order should the need arise.

11. Eye and face protective devices that have sustained an impact will not be used and will be thrown away.

B. Eye/Face Protection for Construction

1. Employees performing the following tasks, and similar tasks not listed, are responsible for wearing the appropriate PPE while performing these hazardous tasks. **Proper eye and face protectors that must be selected prior to undertaking the following:**

- Acetylene Burning, Cutting, or Welding
- Chemical Handling
- Chipping
- Electric (Arc) Welding
- Furnace Operations
- Light and Heavy Grinding
- Laboratory Work
- Machining
- Working with Molten Metals
- Spot Welding

2. The proper filter lens shade number must be selected for each welding operation to ensure the maximum level of protection against radiant energy. **For the proper selection of filter lens shades refer to chart 1910.133(a)(5) online at**

<https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.133>

3. Employees whose occupation or assignment requires exposure to laser beams shall be furnished suitable laser safety goggles to protect for the specific wavelength of the laser. The goggles will be of optical density adequate for the energy involved. **For the proper selection of laser safety goggles refer to chart 1926.102(c)(2)(i) online at**

<https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.102>

4. All protective goggles shall bear a label identifying the laser wave lengths for which use is intended, the optical density of the wavelengths, and the visible light transmission.
5. Welding helmets and face shields will be properly fitted to ensure they do not fall off during work operations.
6. OSHA provides an online e-tool to help determine eye and face protection selection at <https://www.osha.gov/SLTC/etools/eyeandface/ppe/heat.html>.

C. Head Protection

1. Each affected employee shall wear a protective helmet when the work area presents the following hazards:
 - Potential for injury to the head from falling objects

- Potential to bump one's head on a fixed object
 - Potential for accidental contact with electrical hazards
2. Bump caps are not appropriate for work tasks requiring ANSI-compliant hard hats and shall not be used.
 3. Protective helmets purchased by the City of Newport News for employee use shall comply with the most current ANSI standard for protective headwear for industrial workers (**ANSI Z89.1**).
 4. Protective helmets will be chosen based on the hazard:
 - Type I hard hats are intended to reduce the force of impact from a blow to the top of the head. The brim fully encircles the dome of the hat.
 - Type II hard hats are designed to provide protection against both side impact and blows to the top of the head. These hats may have a short bill on the front.
 - Class G (General) hard hats are intended to reduce the force of impact from falling objects and to reduce the danger of contact with exposed low-voltage electrical conductors. These hard hats are tested at 2,200 volts of electrical charge.
 - Class E (Electrical) hard hats are intended to reduce the force of impact from falling objects and are tested at 20,000 volts.
 - Class C (Conductive) hard hats are intended to reduce the force of impact from falling objects but provide no electrical insulation.
 5. Hard hats must bear a label inside the shell that lists the following information:
 - Name of the manufacturer
 - Date of manufacture
 - ANSI designation
 - Class of the hat
 6. Protective headgear accessories shall not compromise the safety elements of the equipment. Only accessories that form to the contours of the head are to be worn under hard hats.
 7. Before each use, hard hats will be inspected to identify the following:
 - Perforation or cracking
 - Deformity of the brim or shell
 - Indication of exposure to chemicals or ultraviolet light
 8. Hard hats shall be replaced upon sustaining an impact.
 9. Employees shall not alter hard hats in any fashion. Examples of alterations that render the hard hat ineffective include:
 - Drilling holes for added ventilation
 - Painting or inscribing the helmet
 - Allowing the helmet to be exposed to extreme temperatures or direct sunlight for long periods of time
 - Wearing the hat with the shell tilted to one side
 - Wearing the hat backward

- Applying stickers that can hide signs of deterioration

D. Foot Protection

1. Each affected employee shall wear protective footwear when working in areas where there is a danger of foot injuries due to falling or rolling objects, objects piercing the sole, and where the employees' feet are exposed to electrical hazards.
2. Safety footwear shall comply with **ANSI Z41.1**, American National Standard for Personal Protection – Protective Footwear.
3. Employees are responsible for inspecting protective footwear prior to each use and notifying supervisors if damage compromises the protective qualities of the shoe. Manufacturer's recommendations for cleaning and maintenance of protective footwear will be followed.
4. When electrical hazards are present in the work area, employees will wear electrically nonconductive safety shoes to protect from such hazards.
5. When puncture hazards are present in the work area, employees will wear safety shoes with puncture resistant soles to protect from such hazards.

E. Hearing Protection

1. When engineering controls, work practices, and administrative controls cannot reduce noise levels or duration of employee exposures to high levels of noise, the City of Newport News shall provide and enforce the use of ear protective devices. Proper hearing protection shall be selected according to the job to be performed. **See Table-16 of 1910.95(b)(2) for Permissible Noise Exposures at**

<https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.95>

2. Periodic monitoring shall be conducted to determine employees' exposure to noise. Monitoring will evaluate:
 - The loudness of the noise measured in decibels (dB)
 - The duration of employees' exposure to noise
 - Employees' movement between work areas with different noise levels
 - Whether noise is generated from multiple sources
3. Noise sources over 90dB must be accompanied by signage indicating ear protective devices are required.
4. All ear protective devices purchased by the City of Newport News will have the Noise Reduction Rating (NRR) clearly marked on the product packaging.
5. Ear protective devices inserted in the ear shall be of the fitted variety or deemed acceptable by a competent person. Employees will not reuse disposable ear protective devices.
6. Plain cotton shall not be worn as hearing protection.

The hearing protection requirements listed in this program are not to be considered an exhaustive list of the City's responsibilities to employees regarding hearing protection. The City of Newport News' Hearing Conservation Program details specific requirements and fulfills OSHA requirements.

F. Hand Protection

1. Engineering and work practice controls to eliminate potential hand hazards shall be implemented whenever possible. When these measures cannot adequately reduce potential hazards, hand protection shall be worn by employees.
2. Hand protection is required when employees' hands are exposed to the following hazards:
 - Absorption of harmful substances
 - Severe cuts or lacerations
 - Severe abrasions
 - Punctures
 - Chemical burns
 - Thermal burns
 - Harmful temperature extremes
3. Department Directors and Supervisors will ensure that employees requiring hand protection are outfitted with the proper glove for the posed hazard. **OSHA publication 3151** details common types of hand protection and the hazards each protects against. This document can be found online at

<https://www.osha.gov/Publications/osha3151.pdf>.

Appropriate hand protection shall be selected according to the following:

- The performance characteristics of the hand protection
 - The conditions present in the work environment
 - The duration of use
 - The hazards and potential hazards identified in the hazard assessment
4. Material Safety Data Sheets will be consulted to determine the proper type of glove for chemical hazards. **When specific information is not available from the MSDS, refer to OSHA publication 3151 for a chart listing common types of protective gloves and the chemical hazards they best protect against. This document can be found online at <https://www.osha.gov/Publications/osha3151.pdf>.**
 5. In work areas where latex gloves are required, alternatives to latex will be made available for employees allergic to this material.
 6. Reusable hand protection will be inspected and tested for defects before use.
 7. Glove packages purchased by the City of Newport News shall be marked in English with the following information as required by ANSI/ISEA 105:
 - Name, trademark, or identification of the manufacturer
 - Glove designation

- Size designation
- Expiration date, where necessary
- Type of glove material

G. Electrical Protective Equipment

1. The City of Newport News shall provide electrical protective equipment to employees working on or near electrical hazards.
2. Electrical protective equipment shall be maintained in a safe, reliable condition. All electrical protective equipment such as insulating blankets, matting, covers, line hose, gloves, and rubber sleeves shall meet OSHA and ANSI standards of manufacturing and marking. Rubber protective equipment for electrical workers must conform to the requirements established by ANSI:
 - Rubber insulating gloves (J6.6-1967)
 - Rubber matting for use around electrical apparatus (J6.7-1935 (R1962))
 - Rubber insulating blankets (J6.4-1970)
 - Rubber insulating hoods (J6.2-1950 (R1962))
 - Rubber insulating line hose (J6.1-1950 (R1962))
 - Rubber Insulating sleeves (J6.5-1962)
3. Maximum usage voltages for each piece of electrical protective equipment shall conform to those detailed in 1910.137(c)(2)(xii) at <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.137>
4. Electrical protective equipment shall be inspected for damage before each day's use and immediately following any incident that could have caused damage to the equipment. Insulating equipment with holes, tears, punctures, cuts, ozone cutting, or ozone checking shall not be used. Insulating gloves will be given an air test along with the daily inspection.
5. Electrical protective equipment shall be cleaned as needed and stored in a manner to protect it from the elements and other injurious substances and conditions.
6. Electrical protective equipment shall be subjected to periodic electrical tests. Refer to 1910.137(c)(2)(xii) at <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.137> for periodic testing intervals.
Equipment failing to pass inspections or tests shall not be used, with the following OSHA-approved exceptions:
 - Rubber insulating line hose may be used in shorter lengths with the defective portion cut off.
 - Rubber insulating blankets may be repaired using a compatible patch or severing the defective area from the undamaged portion of the blanket, which may be no smaller than 22x22 inches.
 - Insulating gloves and sleeves may be repaired with compatible patches or liquid compounds.
7. The following measures shall ensure that each employee will be protected from hazards that may arise from equipment contact with energized power lines:
 - Use the best available ground to minimize the time that lines remain energized.

- Bond equipment together to minimize potential differences.
 - Provide ground mats to extend areas of equipotential.
 - Use insulating protective equipment or barricades to guard against any remaining hazardous potential differences.
8. When poles are set, moved, or removed near an exposed energized overhead conductor, each employee shall wear electrical protective equipment or use insulated devices to reduce the risk of employee contact with the pole with unprotected parts of his/her body.
 9. All remotely and automatically controlled conveyors and conveyors with unmanned or out-of-range operating stations (beyond voice and visual contact from drive areas, loading areas, or transfer points) shall be equipped with emergency stop buttons. The emergency stop button shall be easily recognized and reached by employees, and cannot be installed so it can be overridden from other locations.

H. Body Protection

1. Employees who face potential bodily injury of any kind which cannot be eliminated through engineering or work practice controls must wear appropriate body protection. Potential bodily hazards include:
 - Temperature extremes
 - Splashes from hot liquids
 - Potential impacts from tools, machinery, and materials
 - Hazardous chemicals (See Section IX)
2. Body protection shall be of the correct type to protect against the potential hazards.

VIII. Chemical Protective Clothing and Equipment Program Requirements

Employees performing operations involving hazardous materials where exposure to chemical, physical, or biological hazards is eminent shall wear chemical protective clothing and equipment to shield their person from such hazards. Departments in which operations necessitate employee use of such protective clothing will establish a written Chemical Protective Clothing and Equipment Management Program. The program will include policy statements, procedures, guidelines for use, technical data, maintenance manuals, and all other information essential to compliant and effective use of the clothing. The program will address training requirements, hazard assessments, medical monitoring and environmental surveillance, selection and use, evaluation, inspection, decontamination, as well as storage and maintenance of chemical protective equipment.

The respiratory protection requirements listed in this program are not to be considered an exhaustive list of the City's responsibilities to employees regarding respiratory protection. The City of Newport News' Respiratory Protection Program details the specific requirements and fulfills the OSHA requirements.

A. Training

City employees responsible for responding to emergencies may encounter hazardous environments and health hazards and shall receive training on the proper use of the specific personal protective equipment required for the tasks to be performed. The chemical protective equipment training program, to be completed prior to introducing employees into hazardous environments, will be conducted as frequently as OSHA SARA III requires it. Training will consist of the following:

- Proper use and maintenance of PPE
- Capabilities and limitations of PPE
- Nature of possible hazards and consequences of improper PPE use
- Human error in PPE failure
- How to inspect, don, check, fit, and doff protective clothing
- Employee experience wearing PPE in normal environment for familiarity
- Employee responsibility for decontamination, cleaning, and maintenance
- The "buddy system"

B. Medical Monitoring and Environmental Surveillance

When employees may be exposed to hazardous concentrations of hazardous substances in excess of permissible exposure limits (PEL) or published exposure limits, monitoring shall be performed in accordance with OSHA regulations to facilitate the proper selection of engineering controls, work practices, and personal protective equipment.

When site evaluations show potential for ionizing radiation or Immediately Dangerous to Life and Health (IDLH) conditions, or when sufficient hazard information cannot be gathered, monitoring will be conducted.

Air-monitoring shall be used to identify and quantify airborne levels of hazardous substances and safety and health standards in order to determine the appropriate level of employee protection needed. Ongoing air monitoring programs will be implemented after it is deemed safe to begin operations at a hazardous site. Periodic monitoring shall be conducted when situational variables change such as atmospheric developments indicate an increase in potential exposure.

Employees with the highest exposures to hazardous substances and health hazards will be monitored through the implementation of frequent personal sampling to characterize the exposure.

Supervisors shall monitor employee health risks created by chemical protective equipment during training and in the field. To the best of their ability, supervisors will ensure employees do not fall victim to the dangers of heat stress, increased heart rate, increased body temperature, and water loss.

C. Hazard Assessment

Sites where employee exposure to hazardous materials, chemicals, or wastes is likely shall be evaluated by a qualified individual to identify existing hazards such as confined space entry, potentially explosive or flammable situations, visible vapor clouds, or areas where biological indicators such as dead plants and animals are located.

D. Selection and Use

Selection of personal protective equipment and engineering controls shall be based on an evaluation of the performance characteristics of the personal protective equipment relative to the requirements and limitations of the site, the task-specific conditions and duration, and the hazards and potential hazards identified at the site. Effectiveness of clothing design, material chemical resistance, and physical properties of the clothing to protect against the posed hazard(s) will be considered. If hazards cannot be identified during the assessment, an ensemble providing equivalent to Level B personal protective equipment shall be provided as minimum protection and direct reading instruments shall be used as appropriate for identifying Immediately Dangerous to Life and Health (IDLH) conditions. Section X of this program details the EPA Levels of Protection for chemical protective equipment.

Ensembles of clothing and equipment items shall integrate easily to provide the appropriate level of protection and allow employees freedom of movement. Components of chemical protective clothing and equipment shall not be worn together if the required protection level will be sacrificed.

Personal protective clothing and equipment for hazardous material clean-up operations shall be selected and used during initial site entry to provide protection to a level of exposure below permissible exposure limits and published exposure levels for known suspected hazardous substances and health hazards.

Personal protective clothing and equipment shall be decontaminated, cleaned, laundered, maintained, or replaced as needed to maintain effectiveness. To prevent contaminant migration, ensure regulatory compliance, and protect personal/crew safety and health, employees will comply with manufacturer instructions, departmental standard operating procedures, and all applicable OSHA regulations when wearing, removing, decontaminating, and inspecting protective equipment.

When chemical exposure levels present will create a substantial possibility of immediate death, immediate serious illness or injury, or impair the ability to escape, each affected employee shall be given a positive pressure self-contained breathing apparatus (SCBA) or positive pressure air-line respirator equipped with an escape air supply. Employees shall wear these pieces of personal protective equipment during the emergency response operation and remove only under the direction of the site supervisor or departmental Safety Officer.

Totally-encapsulating chemical protective suits equivalent to Level A protection shall be used in conditions where skin absorption of a hazardous substance may result in a substantial possibility of immediate death, immediate serious illness or injury, or impair the ability to escape. Employees assigned to site assessments shall wear these suits. The suits shall also be capable of maintaining positive air pressure and capable of preventing inward test gas leakage of more than 0.5%.

Employees working near drums of hazardous materials during hazardous waste clean-up operations shall be protected from accidental explosion of said drums. A suitable shield that does not interfere with work operations shall be placed between employees and drums or containers being opened when the employee's assigned task necessitates close proximity to the drum or container.

Unauthorized employees shall not handle personal protective clothing and equipment.

E. Evaluation

Chemical protective clothing and equipment program evaluations shall be conducted at least annually. Evaluations will include the following basic elements:

- Number of work hours employees wear each piece of protective equipment
- Accident, incident, and employee injury rates
- Levels of exposure
- Equipment adequacy
- Adequacy of operational guidelines
- Adequacy of decontamination, cleaning, inspection, maintenance, and storage programs
- Training and fit programs adequacy
- Coordination with the departmental safety and health program and the City's safety and health policies
- Recordkeeping procedures
- Cost
- Proposed improvements and modifications
- Fulfillment of program objectives:
 1. Protecting workers from safety and health hazards
 2. Preventing injury to employees from incorrect use and/or malfunctions of the protective clothing and equipment

F. Inspection

Periodic exercises in which employees don and doff protective clothing and equipment will be performed to test the fit and adequacy of the equipment. Any applicable changes to maximize protective qualities or eliminate problems will be recommended and implemented at the time of the evaluation. Manufacturer instructions and standard operating procedures to don and doff equipment while preventing contaminant migration will be followed at all times during the exercises.

See **TABLE VIII: 1-5 & 1-6** online at

<https://www.osha.gov/otm/section-8-ppe/chapter-1>

Chemical protective equipment and clothing will be inspected regularly. Employees responsible for inspections will follow manufacturer instructions or applicable technical guidelines. See **TABLE VIII: 1-7** online at

<https://www.osha.gov/otm/section-8-ppe/chapter-1>

The chemical protective clothing inspection program should include the following:

- Inspection and operational testing of new equipment
- Inspection of equipment for particular operations
- Inspection of equipment after use/training, and prior to maintenance
- Periodic inspection of stored equipment

All protective equipment inspections will be documented. The following information is to be recorded for each inspection: the identifying number of the equipment, date of inspection, person conducting the inspection, results of the inspection, and any discrepancies noted. Documentation will be kept on file for a minimum of 3 years.

G. Decontamination Procedures

The viability of chemical protective clothing and equipment after use in a hazardous environment will dictate whether the protective gear can be reused without endangering employee safety or health. Full decontamination of chemical protective equipment will be ensured through visual inspection, testing, and sampling. Under the guidance of Departmental Directors, their designees, Safety Officers, or a HAZMAT specialist, protective clothing can be reused if no significant exposure has occurred and the method(s) of decontamination have been successful in reducing hazard levels to safe or acceptable concentrations.

A decontamination plan will be developed before employees enter an area where they may potentially be exposed to hazardous substances. The plan will be revised whenever the type of protective clothing or equipment changes, the conditions change, or chemical hazards are reassessed. The decontamination plan will include:

- Number and location(s) of decontamination station(s)
- The equipment needed
- The methods required
- The sequence of contamination prevention procedures
- Procedures to minimize employee contact with contaminants during removal of PPE
- Methods of disposal of clothing and equipment

Decontamination procedures will be monitored by qualified persons. Employees assisting with decontamination procedures will wear no more than one level lower protection than those working in contaminated areas.

H. Storage and Maintenance

Chemical protective equipment will be stored properly to prevent damage, malfunction, and exposure to harmful environmental factors such as dust and extreme temperatures. The equipment will be stored separately from employee street clothes and belongings and new protective clothing. Contaminated or potentially contaminated clothing will be stored in a well-ventilated area. Manufacturer instructions for storage will be followed.

Maintenance of chemical protective equipment shall be performed by authorized manufacturer-approved specially-trained individuals or groups. Employees shall not attempt repairs of chemical protective equipment.

I. Site-Specific Chemical Protective Equipment Plans

Site-specific safety and health plans for hazardous material clean-up operations are required. As the site safety and health plans relate to the overall subject of personal protective equipment, specifically chemical protective equipment, the plans shall detail PPE to be used by employees for all work tasks and operations, required training elements in relation to the personal protective equipment, and an emergency response plan for safe and effective responses to emergencies including necessary personal protective equipment for responders. Site-specific personal protective equipment programs shall address the following:

- PPE selection based upon site hazards
- PPE use and limitations of the equipment
- Work mission duration
- PPE maintenance and storage
- PPE decontamination and disposal
- PPE training and proper fitting
- PPE donning and doffing procedures
- PPE inspection procedures prior to, during, and after use
- Evaluation of the effectiveness of the PPE program
- Limitations during temperature extremes, heat stress, and other appropriate medical considerations

IX. EPA Levels of Protection

Employees who are part of hazardous materials response (HAZMAT) teams shall wear appropriate chemical protective equipment to protect against the posed hazards. The following levels of protection dictate the combination of protective devices to be worn based on the characteristics of the situation. Departmental Directors or their designees and Safety Officers shall ensure that all protective requirements are met before employees are allowed to enter hazardous environments. The level of protection afforded by personal protective equipment selection shall be increased when additional information or site conditions show that increased protection is

necessary to reduce employee exposures below permissible exposure limits and published exposure levels for hazardous substances with health hazards. The level of protection may be decreased when additional information or site conditions show that decreased protection will not result in hazardous exposures to employees.

See <https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.65AppB> for a listing of equipment corresponding to each level.

A. Level A

Level A Personal Protective Equipment is to be selected when the greatest level of skin, respiratory, and eye protection is required. Level A protection should be used when:

- The hazardous substance has been identified and requires the highest level of protection for skin, eyes, and the respiratory system based on either measured (or potential for) high concentrated of atmospheric vapors, gases, or particulates; or the site operations and work functions involve a high potential for splash, immersion, or exposure to unexpected vapors, gases, or particulates of materials that are harmful to skin or capable of being absorbed through the skin.
- Substances with a high degree of hazard to the skin are known or suspected to be present, and skin contact is possible.
- Operations are being conducted in confined, poorly ventilated areas, and the absence of conditions requiring Level A protection has not yet been determined.

B. Level B

Level B personal protective equipment is to be used when the highest level of respiratory protection is necessary but a lesser level of skin protection is needed. Level B protection should be used when:

- The type and atmospheric concentration of substances have been identified and require a high level of respiratory protection, but less skin protection.
- The atmosphere contains less than 19.5 percent oxygen, and/or immediately dangerous to life and health (IDLH) concentrations of specific substances that present severe inhalation hazards and that do not represent a severe skin hazard or require the use of air-purifying respirators.
- The presence of incompletely identified vapors or gases is indicated by a direct-reading organic vapor detection instrument, but vapors and gases are not suspected of containing high levels of chemicals harmful to skin or capable of being absorbed into the skin.

C. Level C

Level C personal protective equipment is to be used when the concentration(s) and type(s) of airborne substance(s) is known and the

criteria for using air-purifying respirators are met. Level C protection should be used when:

- The atmospheric contaminants, liquid splashes, or other direct contact will not adversely affect or be absorbed through any exposed skin.
- The types of air contaminants have been identified, concentrations measured, and an air-purifying respirator is available that can remove the contaminants.
- The work site and its hazards have been completely characterized.

D. Level D

Level D personal protective equipment is a work uniform affording minimal protection, used for nuisance contamination only. Level D protection is to be used when work functions preclude splashes, immersion, potential for inhalation, or direct contact with hazardous chemicals.

X. Program Review

This Personal Protective Equipment Program for the City of Newport News will be reviewed by the Safety Program Administrator annually and updated as necessary.

Departments that have chosen to create individual Personal Protective Equipment Programs and/or are required to comply with HAZWOPER regulations shall review those programs annually and update as necessary to maintain compliance.