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SAFETY POLICY & PROCEDURE

First Aid / CPR / AED

SPP# 1910.151

Contents

1.0	Purpose.....	2
2.0	Scope and Applicability.....	2
3.0	Reference	2
4.0	Policy	2
5.0	General Responsibilities.....	2
6.0	Procedure	3
6.1	Definitions.....	3
6.2	General Provisions	3
6.2.1	Training.....	3
6.2.2	Posting Requirements	4
6.2.3	First Aid Access for Buildings.....	4
6.2.4	First Aid Access for Field Personnel	4
6.2.5	First Aid Kits.....	4
6.2.6	AED (Automated External Defibrillator)	5
6.2.6	Emergency Eyewash, Shower, and Flushing Station.....	5
6.2.6.1	Plumbed Eyewash or Shower Station	6
6.2.6.2	Portable Eyewash Station	7
6.2.6.3	Inspection.....	7
6.3	Specific Responsibilities	7
6.3.1	Managers/Unit Heads	7
6.3.2	Supervisors.....	7
6.3.3	First Aid Trained Employees	8
6.3.4	Employees.....	8
6.3.5	Safety and Risk Management.....	8
6.3.6	Central Inventory Unit	8
Appendix A:	Inspection of Emergency Eyewash/Shower/Flushing Stations.....	9

1.0 Purpose

The purpose of this safety policy and procedure is to establish first aid, CPR (cardiopulmonary resuscitation), and AED (automated external defibrillator) requirements for North Carolina Department of Transportation (NCDOT).

2.0 Scope and Applicability

Prompt medical attention in case of injury on the job is critical to ensure the health and well-being of NCDOT employees. Having provisions for timely access to first aid, CPR, and AED if available helps to minimize the extent of injury to affected employees and fosters a caring attitude among the NCDOT organization.

This safety policy and procedure provides guidelines to determine what first aid, CPR, and AED requirements are applicable for the various operations in NCDOT. It includes provisions for training, discussion on posting requirements for first aid kit and AED locations.

This safety policy and procedure also details the areas of responsibility for managers/unit heads, supervisors, first aid/CPR/AED trained employees, employees, and Safety and Risk Management within NCDOT.

This document affects all NCDOT Units.

3.0 Reference

This safety policy and procedure is established in accordance with Occupational Safety and Health Standards for General Industry (29 CFR 1910.151) and (29CFR 1910.266) and Occupational Safety and Health Standards for Construction Industry (29 CFR 1926.50).

4.0 Policy

It is the policy of NCDOT to provide a place of employment that is free from recognized hazards that cause or are likely to cause death or serious physical harm to employees or the public. Because hazards may exist, NCDOT will train adequate numbers of employees in First Aid and provide first aid equipment to ensure that employees receive prompt assistance in case of injury.

5.0 General Responsibilities

It is the responsibility of each manager/unit head, supervisor, and employee to ensure implementation of NCDOT's safety policy and procedure for First Aid, CPR and AED. It is also the responsibility of each NCDOT employee to report immediately any unsafe act or condition to his or her supervisor. Specific responsibilities are found in Section 6.3.

6.0 Procedure

This section provides applicable definitions, establishes general provisions, and identifies specific responsibilities required by NCDOT's safety policy and procedure on First Aid.

6.1 Definitions

AED

An **AED (Automated External Defibrillator)** is a portable electronic medical device that automatically analyzes and administers an electric shock through the chest wall to the heart for sudden cardiac arrest victims. Built-in computers assess the patient's heart rhythm and determine if defibrillation is needed; the AED then advises if administering of shock is necessary.

CPR

Cardiopulmonary Resuscitation (CPR) is an emergency procedure in which the heart and lungs are made to work by compressing the chest overlying the heart and forcing air into the lungs. CPR is used to maintain circulation when the heart has stopped pumping on its own.

First Aid

The immediate, temporary care given to the injured or suddenly ill until proper medical attention can be given.

Sudden Cardiac Arrest

Sudden cardiac arrest occurs when ventricular fibrillation takes place or when the heart stops beating altogether.

6.2 General Provisions

This section details the provisions of this safety policy and procedure with each provision discussed in a separate subsection. These provisions are:

- Training
- Posting Requirements
- First Aid Access for Buildings
- First Aid Access for Field Personnel
- First Aid Kits
- AED
- Eyewash & Flushing Station

6.2.1 Training

The employees designated to be trained in first aid, CPR and AED will be trained upon their initial designation. This training must certify those in the American Red Cross First Aid, American Heart Association, and/or equivalent first aid, CPR and AED training. Red Cross-approved refresher training must be done every two years to retain their first aid, CPR and AED certification.

6.2.2 Posting Requirements

Information will be posted throughout buildings and on jobsites advising employees where the first aid kits are located and AED's if available on site are located.

6.2.3 First Aid Access for Buildings

All buildings shall have access to first aid supplies and/or 25-unit first aid kits.

- 25-unit wall-mounted first aid kits should be located on all floors or locations throughout the facility so they can be accessed within 3 – 4 minutes. Common areas such as break rooms or bulletin boards would be good locations. Security office or reception area may be another alternative.
- Lavatory with hot and cold water should be available.
- Automated external defibrillators (AEDs) should be considered for large office buildings or facilities especially those that provide services for the Public.
- In addition to first aid supplies, NCDOT will ensure that an adequate number of office employees are trained in first aid/CPR and AED if available in the building. It is recommended that at least one person trained in First Aid/CPR/AED for every (50) employees at each location.

6.2.4 First Aid Access for Field Personnel

All field employees will have access to first aid supplies. This will be achieved by ensuring each location/operation is equipped with a first aid kit. This kit will be adequate to service the number of employees normally found on a job site.

In addition to first aid supplies, NCDOT will ensure that an adequate number of field employees are trained in first aid/CPR/AED. Each work crew in the field should have at least one person trained in First Aid/CPR.

6.2.5 First Aid Kits

The 25-unit first aid kit will consist of the following items:

- 1-4"x4" Bandage Compress
- 1-Box 3"x3" Sterile Gauze Pads (4 per box)
- 1-Triangular Bandage (40"x40"x40")
- 1-2"x 4 yards Gauze Bandage
- ½" x 2.5 yards Adhesive Tape (2 per box)
- 1-Boxes of 1"x3" Adhesive Bandages (16 per box)
- 1-Sterile Buffered Isotonic Eyewash Kit (1 oz.) with 2 eye pads, 2 adhesive strips
- 1-Instant Cold Pack
- Hand Sanitizer (1/32 oz. pks 6 per box)
- Antiseptic Wipes (10 per box)
- Triple Antibiotic Ointment (1/57 oz. pks 10 per box)
- Sting Relief Swabs (10 per box)

- 1-Eye/Skin Wash 1oz.
- 1-CPR Breather Barrier
- Disposable Nitrile Gloves (2 per box)
- Burn Treatment (10 per box)
- 1-Burn Dressing (4"x4") gel soaked
- 2-Trauma Pads (5"x9")
- 1-Scissors
- First Aid Guide

Due to the potential severity of injury and excessive bleeding to a body part from a chainsaw cut, Loggers First Aid Kit should be available which includes additional and larger (8"x10" Gauze Pads) meeting OSHA 1910.266 requirements for logging operations.

First aid kits should be periodically inspected and replenished with any depleted items or at a minimum once per year.

6.2.6 AED (Automated External Defibrillator)

Automated external defibrillators (AEDs) are an important lifesaving technology and play a role in treating workplace cardiac arrest. Most sudden cardiac deaths occur outside of the hospital. It is estimated that 5 percent or less of victims of sudden cardiac arrest are successfully resuscitated and discharged alive from the hospital. Chances of survival from sudden cardiac death diminish by 7 – 10 percent for each minute without immediate CPR or defibrillation. After 10 minutes, resuscitation rarely succeeds.

AED's should be considered facilities with more than (50) employees or if you serve the General Public. If your location has one or more AED's, ensure that your personnel trained in First Aid and CPR are also trained in AED use. The placement of the AED is critical for adequate response time to reach a victim of sudden cardiac arrest.

The following procedure should be followed:

1. Have someone call 911 immediately to request emergency medical services.
2. Immediately begin CPR.
3. Have someone retrieve the AED stored at your facility.
4. If CPR has not revived the victim, attach the AED pads to the victim and follow prompts.

6.2.7 Emergency Eyewash, Shower, and Flushing Station

Where the eyes or body of any person may be exposed to injurious corrosive chemicals, suitable facilities for flushing of the eyes and body shall be provided within the work area for immediate emergency use. Stations should be located within 10 second access (approximately 50' from possible exposure to corrosive chemicals). Corrosive chemicals cause damage to living tissues such as eyes and skin. Some other material used for NCDOT operations may involve chemicals which may be an irritant to eye or skin exposure, but not classified as corrosive. Review SDS (Safety Data Sheet) for chemicals being used to determine if corrosive or an irritant.

NCDOT Operations which may require eyewash, shower, or flushing stations based on Hazard Assessments for each activity include the following:

1. Fork lift battery charging stations are primarily where NCDOT employees have a potential exposure hazard to corrosive electrolyte (acid) in batteries and would require eyewash, shower, or flushing stations. If a plumbed eyewash station or gravity fed eyewash station capable of providing flushing fluid for 15 minutes is not practical, a portable eyewash station may be used to initially flush skin exposure until access to plumbed sink, shower, or other water source for further flushing.
2. Calcium chloride mixing / storage stations for snow/ ice operations has been determined to be an eye and skin irritant based on SDS where eyewash, shower, or flushing station should be considered. .
3. Pesticide/herbicide storage or dispensing locations have been determined to be an eye and skin irritant based on SDS's for chemicals used where eyewash, shower, or flushing station should be considered.
4. Any other activities where chemicals used may be an eye or skin irritant based on SDS's where eyewash, shower, or flushing station should be considered.

6.2.7.1 Plumbed Eyewash or Shower Station

The following are requirements for Plumbed Eyewash Stations:

- Mounted with water flow pattern between 33" – 53" from floor
- Located 6" from closest wall or obstruction
- Plumbed w/ tepid water
- Hands free after activating push handle
- Located within 55' of corrosive exposure hazard
- Eyewash station must be maintained in sanitary condition



The following are requirements for Plumbed Shower Stations:

- Height of water column between 82" – 96" from floor
- Center of water pattern at least 16" from any obstruction
- Plumbed w/ tepid water
- Hands free after activating lever at maximum height of 69" from floor
- Located within 55' of corrosive exposure hazard
- Safety shower must be maintained in sanitary condition



6.2.7.2 Portable Eyewash Station

Gravity fed eyewash stations for splashes or spills where only the eyes are likely affected require flushing of 0.4 gallons per minute at 30 PSI for 15 minutes.

Eyewash bottle stations may be used for immediate use if a lavatory or other eyewash station is readily available to continue flushing eyes or other affected body parts.



- Saline solutions used for portable eyewash stations have a shelf-life and should be replaced accordingly. These stations shall be kept in sanitary conditions. Follow manufactures instructions for inspection and replacement of saline solution.

6.2.7.3 Inspection

Follow manufactures instructions for periodic inspection and replacement of saline solution to ensure proper operation, sanitary condition, and accessibility. Weekly inspection of Emergency Eyewash/Shower/Flushing Stations is recommended per manufacturer ANSI Z358.1-2014 provides recommended guidelines.

6.3 Specific Responsibilities

6.3.1 Managers/Unit Heads

Managers/Unit Heads are responsible for ensuring that adequate funds are available and budgeted for the purchase of first aid equipment and related supplies. They will designate which employees receive first aid, CPR and AED training. They will also obtain and coordinate the required training for the affected employees.

6.3.2 Supervisors

Supervisors will assist managers/unit heads as needed. Additionally, they will assist first aid-trained employees as needed.

6.3.3 First Aid Trained Employees

First aid trained employees will administer first aid, CPR and AED if available as conditions and circumstances dictate. They will also be responsible for ensuring that first aid supplies are replenished when used

6.3.4 Employees

Employees shall comply with all applicable guidelines contained in this safety policy and procedure.

6.3.5 Safety and Risk Management

Safety and Risk Management shall provide prompt assistance to managers/unit heads, supervisors, or others as applicable on any matter concerning this safety policy and procedure. Safety and Risk Management will assist in developing or providing First Aid and CPR/AED training.

Safety Engineers will provide consultative and audit assistance to ensure effective implementation of this safety policy and procedure

6.3.6 Central Inventory Unit

The Central Inventory Unit or MRO contract supplier will be responsible for maintaining an inventory of first aid kits and supplies.

Appendix A: Inspection of Emergency Eyewash/Shower/Flushing Stations

NCDOT Eyewash/Safety Shower/Drenching Hose Inspection Checklist						
Date:	Location:				ID:	
Inspection Conducted By:	Rating			Observations/Corrective Actions	Abatement Date	
Inspection Items (If Applicable)	S	U	N/A	S=Satisfactory, U=Unsatisfactory, N/A=Not Applicable	If corrective action required	
Eyewash Station(15 Minutes Minimum Flow)						
Sanitary, Free of Accumulated Dirt and Debris						
Located Within 20' of Hazard						
Visible Eyewash Sign Present						
Eyewash Station Readily Accessible; Not Blocked						
For Plumbed Eyewash; Activate for Proper Operation						
For Plumbed Eyewash; Tepid Water Used (60-100 Degrees F) Recommended						
For Portable Eyewash Station; Check for Proper Level of Sterile Eyewash Solution						
For Portable Eyewash Station; Check Expiration Date of Sterile Eyewash Solution						
Eyewash Bottles (Emergency Immediate Use)						
For Portable Eyewash Bottle Station; Check Expiration Date of Sterile Eyewash Solution						
Eyewash Bottle Station Readily Accessible; Not Blocked						
Visible Eyewash Sign Present						
Located Within 20' of Hazard						
Eyewash, Safety Shower, Combination, Drenching Hose						
Sanitary, Free of Accumulated Dirt and Debris						
Located Within 20' of Hazard						
Visible Eyewash & Shower Sign Present						
Eyewash Shower or Drenching Hose Station						
For Plumbed Station; Activate for Proper Operation						
For Plumbed Eyewash; Tepid Water Used (60-100 Degrees F) Recommended						

Inspection Tags should be used to verify periodic inspections have been conducted. Shown below are examples of Inspection Tags that could be utilized for appropriate emergency stations.

Use this type of tag for plumbed emergency stations.

Use this type of tag for portable eyewash stations.
Saline solution used will have shelf life expiration date
which should be used when to replace the solution.