

Access to Medical Records

SPP# 1910.20

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1.0 Purpose

The purpose of this safety policy and procedure is to establish the guidelines and procedures through which employees will be able to obtain and gain access to North Carolina Department of Transportation (NCDOT) maintained exposure and medical records. These exposure and medical records are those resulting from employment related exposures, injuries, and/or illnesses.

2.0 Scope and Applicability

NCDOT workers may be exposed to toxic substances and harmful physical agents to an extent that may severely impair their health. Workers must be informed about the toxic exposures they face and their potential health effects.

This safety policy and procedure provides guidelines for employees to obtain their exposure and medical records. It includes provisions on training, retention requirements for employee exposure and medical records, and response time to employee requests for exposure and medical records. Additionally, guidelines are presented on physician review of employee medical records, OSHA access to medical records, and information that must be shared with new employees.

This safety policy and procedure also details the areas of responsibility for managers/unit heads, supervisors, and employees within NCDOT.

SAFETY POLICY & PROCEDURE

This document affects all NCDOT employees who have been exposed to toxic substances and harmful physical agents due to their job duties.

3.0 Reference

This safety policy and procedure is established in accordance with Occupational Safety and Health Standards for General Industry (29 CFR 1910.20) and Occupational Safety and Health Standards for Construction Industry (29 CFR 1926.33).

4.0 Policy

It is the policy of NCDOT to provide a place of employment free from recognized hazards and to comply with applicable standards and regulations set forth by the Occupational Safety and Health Administration.

In accordance, NCDOT will provide all exposure and medical records when properly requested as outlined in this safety policy and procedure. NCDOT will ensure that those employees who request their exposure and medical records are provided with confidential, fair, and equal treatment.

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 on Access to Medical Records.

It is the general responsibility of NCDOT to ensure that each employee has access to all exposure and medical records pertaining to their present or past employment with NCDOT. Specific responsibilities are found in Section 6.3.

6.0 Procedure

This section provides definitions, establishes general provisions, and identifies responsibilities regarding access to employee exposure and medical records.

6.1 Definitions

Access

The right and opportunity to examine, copy, or use any or all exposure and medical records.

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Designated Representative

Any individual or organization to whom an employee gives written authorization to exercise a right of access to exposure or medical records.

Employee

An individual who is employed by NCDOT and who is being assigned or transferred to work where there will be exposure to toxic substances or harmful physical agents. In a case where the employee is deceased, the employee's legal representative may directly exercise all of the employee's rights under this policy.

Employee Exposure Record

A record containing information on the type of environment or hazards present in the workplace.

Employee Medical Record

A record concerning the health status of an employee which is made or maintained by a physician, nurse, or other health care personnel.

Exposure

A condition that occurs when an employee is subjected to toxic or hazardous environments as a result of his or her job duties.

Health Professional

A physician, occupational health nurse, industrial hygienist, toxicologist, or epidemiologist providing medical care or other occupational health services to exposed employees.

Record

Any item, collection, or grouping of information regardless of the form or process by which it is maintained.

Toxic Substance

Any chemical substance, biological agent (bacteria, virus, etc.), or physical stress (noise, heat, cold, vibration, etc.) to which employees could have been exposed as a result of performing their job function.

6.2 General Provisions

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

- Access to Records
- Employee Exposure and Medical Records
- NCDOT Representation by a Physician
- OSHA Access to Records
- Employee Information

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6.2.1 Access to Records

Whenever an employee or a designated representative of an employee requests access to exposure and/or medical records, NCDOT will provide these documents within 15 working days. If records cannot be provided within this time period, the employee or representative must be informed and given a date on which the records will be provided along with a reason for the delay. These records will be provided to the employee or representative at no cost for reproduction or for the document search itself.

6.2.2 Employee Exposure and Medical Records

Upon request, NCDOT must provide the employee or employee's designated representative access to employee exposure records. If no records exist, the employer must provide records of other employees with job duties similar to those of the employee. Access to exposure records does not require the written consent of the other employees.

In addition, these exposure records must reasonably indicate the identity, amount, and nature of the toxic substances or harmful physical agents to which the employee has been exposed.

NCDOT also must provide employees and their designated representatives access to employee medical records. Access to the medical records of another employee may be provided only with the written consent of that employee. A request for medical records can be made by using the form (or one substantially similar) shown in Appendix A.

NCDOT is responsible for maintaining employee medical records for the duration of employment plus 30 years. This recordkeeping does not include health insurance claims, first aid records (not including medical histories) of one-time treatment, and medical records of employees who have worked less than a year for NCDOT. Employee exposure records and data analysis are to be maintained for 30 years.

It is the responsibility of the employee to initiate any request for access to his or her medical records as outlined in this safety policy and procedure. (See Appendix A.)

6.2.3 NCDOT Representation by a Physician

NCDOT may request that a physician be appointed to review medical records with the employee or employee's designated representative to ensure records are reviewed and properly interpreted. The physician may deny the employee access to records if the physician detects a situation which may be detrimental to the health of the employee such as the identification of terminal illness or a psychiatric condition.

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In such cases, the employee's designated representative may request the records even if it is known that the representative may disclose the information to the employee.

6.2.4 OSHA Access to Records

Upon receiving a written request from OSHA, NCDOT will supply OSHA with any exposure or medical records for analysis. A copy of this request must be posted in a conspicuous place for at least 15 working days.

6.2.5 Employee Information

New NCDOT employees will be informed of the following information:

- The existence, location, and availability of any records covered by this safety policy and procedure
- The person responsible for maintaining and providing access to these records
- Employee's rights under this safety policy and procedure

6.3 Specific Responsibilities

6.3.1 Managers/Unit Heads

Managers/Unit Heads are responsible for maintaining employees' exposure and medical records and for ensuring compliance with this safety policy and procedure.

Managers/Unit Heads are also responsible for providing employees with copies of their exposure and medical records when properly requested.

Managers/Unit Heads will ensure the confidentiality of employees' medical records.

6.3.2 Supervisors

Supervisors will be responsible for educating and training employees about their rights under this safety policy and procedure.

6.3.3 Employees

Exposure and medical records may be kept in an employee's personnel files, in a physician's office, or contained within claim files such as Workers' Compensation.

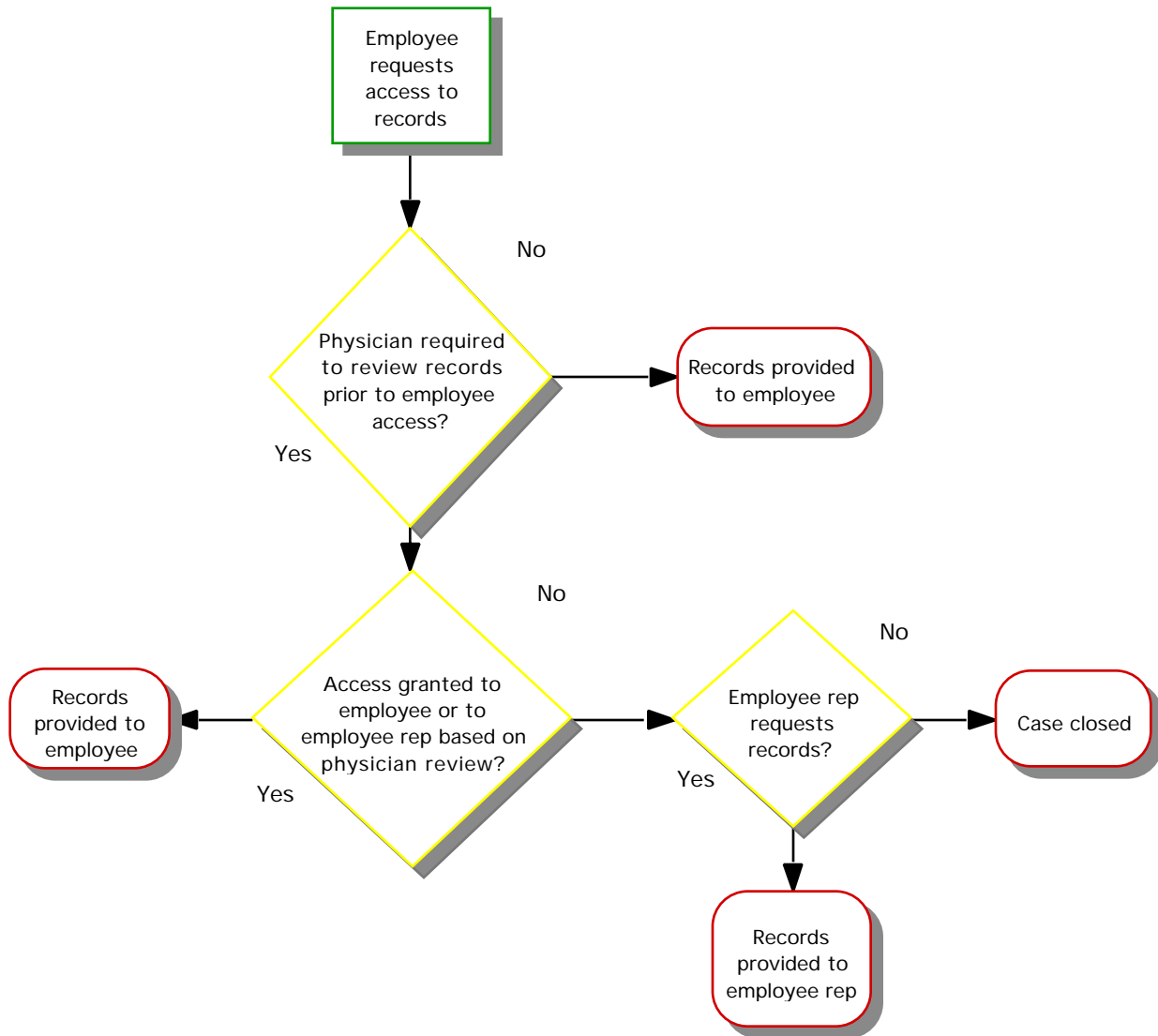
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6.3.4 Safety and Loss Control

Safety and Loss Control will provide prompt assistance to managers/unit heads or others on any matter concerning this safety policy and procedure. Safety and Loss Control will assist in developing or securing required training for the effective implementation of this safety policy and procedure.

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

Access to Medical Records Flow Chart



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APPENDIX A: Employee Request for Access to Medical Records

I, _____, hereby request access to any and all employment-related medical records, maintained on my behalf, by NCDOT. This request, unless specifically noted below, includes all employment-related medical records maintained by NCDOT and/or any private health care provider for which NCDOT has knowledge. I acknowledge that this request pertains only to access of employment related medical records as detailed in NCDOT's Safety Policy and Procedure # 1910.20.

Specific Records Being Requested

Employee Signature

____/____/____
Date

____-____-____
Social Security Number

DESIGNATED REPRESENTATIVE CERTIFICATION

I, _____, certify that I am the designated representative for the above named employee and that he/she has authorized me to obtain the medical records as indicated above. Please forward these records to my attention at the address below.

Name

Employee Signature

Address

Representative Signature

City State Zip Code

____/____/____
Date

SUBMIT COMPLETED FORM TO YOUR MANAGER OR UNIT HEAD

Aerial Truck Operations**SPP# 1910.67****Quick Reference**

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1.0 Purpose

The purpose of this safety policy and procedure is to establish guidelines for aerial truck operations in the servicing of traffic signals within the North Carolina Department of Transportation (NCDOT).

2.0 Scope and Applicability

This safety policy and procedure provides guidelines for safe aerial truck operations to protect traffic control technicians and other NCDOT employees and to eliminate collisions between aerial buckets and large trucks. It includes provisions for training, brief discussion of general hazards of aerial truck operations, a listing of some of the common aerial truck operations, and recommended safe work practices.

This document also details the areas of responsibility for managers/unit heads, supervisors, traffic control technicians, traffic control technician assistants, employees, and Safety and Loss Control within NCDOT.

This safety policy and procedure affects NCDOT employees in Traffic Services and Traffic Engineering and employees in any other operation who as a result of their job duties are exposed to aerial truck hazards due to the servicing of traffic signals.

SAFETY POLICY & PROCEDURE

3.0 Reference

This policy is established in accordance with Occupational Safety and Health Standards for General Industry (29 CFR 1910.67), Occupational Safety and Health Standards for Construction Industry (29 CFR 1926.556), and NCDOT traffic control practices.

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. Therefore, when an aerial truck device is used, two or more individuals will always be on scene during the traffic signal servicing operation. When aerial truck hazards exist that cannot be eliminated, then engineering practices, administrative practices, safe work practices, Personal Protective Equipment (PPE), and proper training regarding Aerial Truck Operations will be implemented. These measures will be implemented to minimize those hazards to ensure the safety of employees and the public.

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 on Aerial Truck Operations. 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 outlined under 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 Aerial Truck Operations.

6.1 Definitions

Aerial Truck

A truck that is designed to lift workers up in a bucket or platform by hydraulic lifting mechanisms.

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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
- Aerial Truck Hazards
- Aerial Truck Operations
- Aerial Truck Safe Work Practices

6.2.1 Training

Traffic control technicians and other employees as applicable (assistants, etc.) shall be instructed in the recognition and avoidance of hazards associated with aerial truck hazards.

Special training is required for traffic control technicians who operate the aerial truck and must set up traffic control as applicable. Those employees must be properly trained in the procedures for the safe performance of their assigned duties.

This training shall be made available upon initial employment or job re-assignment. Refresher training shall be provided upon the discretion of the supervisor.

6.2.2 Aerial Truck Hazards

The major hazards associated with aerial truck devices when performing traffic signal servicing include:

- Aerial devices coming into contact with electrical wiring
- Vehicle traffic
- Inclement weather during emergency call outs
- Fall hazards
- Aerial equipment upset

This list is not all inclusive. There are many other various hazards that arise with each situation and that must be properly anticipated, recognized, avoided, and controlled.

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6.2.3 Aerial Truck Operations

The servicing of traffic signals is several distinct operations. These operations are:

- Construction or new installation of a signal system
- Planned maintenance of a signal system
- Emergency repair of a signal system
- Emergency call out

Construction or new installation of a signal system involves setting poles, stringing span wire, hanging signal heads, running cable, cutting pavement, installing loop detectors, plowing loop wire in the shoulders, and installing the cabinet hardware.

Planned maintenance of a signal system involves replacing bulbs, cleaning the signal heads, adjusting the alignment of the heads and any other items that may apply during this type of operation.

Emergency repair of a signal system involves repairs due to accidents, storm damage, or electrical malfunction of the individual signal head.

Emergency call out involves emergency operations after normal working hours either at night or on holidays and weekends.

6.2.4 Aerial Truck Safe Work Practices

The following safe work practices shall be followed when aerial truck devices are used in the servicing of traffic signals:

- Two or more individuals will be on scene during the traffic servicing operation
- The second individual (individual on the ground) shall be trained in first aid
- Aerial truck is not to be touched if it comes into contact with electrical wiring
- The primary technician shall not belt off to an adjacent pole, structure, or equipment while working from the aerial bucket
- The primary technician shall wear a body belt with a lanyard attached to the aerial bucket when working in the aerial lift
- Sufficient signs, racks, and traffic cones shall be available for the appropriate traffic control
- The ground person shall be instructed in the operation of the aerial device
- Emergency phone numbers and location of cellular phones shall be readily known and accessible

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Technicians should also refer to the aerial lift manufacturer's safe operating practices for additional information.

Technicians can respond to trouble calls alone if the trouble is known to be cabinet work, where all the work is off the road and not involving traffic control or aerial work. Otherwise, two or more individuals should always be on the scene of traffic signal servicing.

6.3 Specific Responsibilities

6.3.1 Managers/Unit Heads

Managers/Unit Heads will ensure that the necessary traffic servicing and traffic control equipment and supplies are budgeted for and acquired. They will also be responsible for identifying the employees affected by this safety policy and procedure. Managers/Unit Heads will obtain and coordinate the required training for the affected employees. Managers/Unit Heads will also ensure compliance through their auditing process.

Managers/Unit Heads will ensure that supervisors are capable of recognizing and taking steps to avoid the exposure of any employee to aerial truck hazards due to traffic signal servicing.

6.3.2 Supervisors

Supervisors will ensure that all traffic control technicians have received the required training prior to performing any duties. They shall also ensure that the traffic control technicians have been instructed in the recognition and avoidance of hazards due to aerial truck operations.

Supervisors will ensure that the ground employees (helpers, additional technicians) have been instructed in the operation and hazards of aerial truck devices.

6.3.3 Traffic Control Technician

Traffic control technicians shall be responsible for knowing the potential hazards associated with aerial truck operations. They will also be responsible for refraining from work if the hazards due to the traffic servicing operation have not been addressed. Additionally, they will be responsible for instructing the ground personnel of any hazards during the traffic signal servicing operation.

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6.3.4 Traffic Control Technician Assistants

Traffic control technician assistants shall be responsible for assisting the traffic control technician in the aerial bucket. They shall be trained in first aid and be familiar in flagging and directing traffic as the situation warrants.

6.3.5 Employees

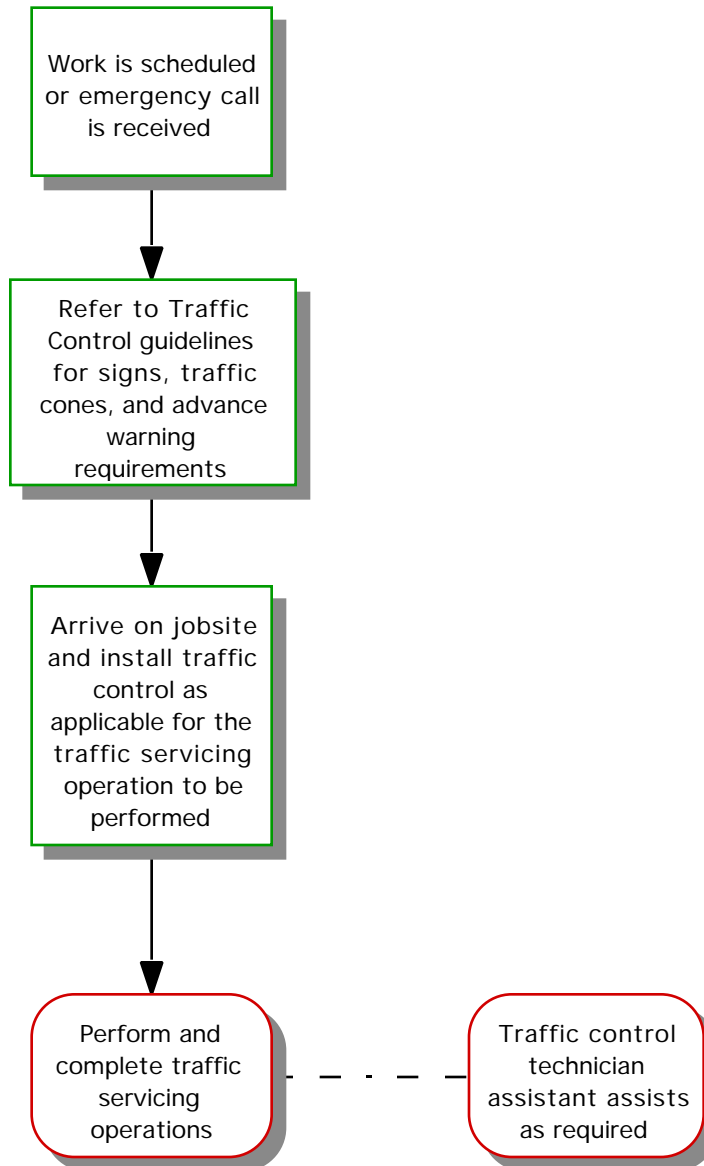
Employees will report suspected hazards to their immediate supervisor and are required to follow instructions by the trained responsible party in all matters of work with or near aerial truck devices.

6.3.6 Safety and Loss Control

Safety and Loss Control will provide prompt assistance to manager/unit heads, supervisors, or others as necessary on any matter concerning this safety policy and procedure. Safety and Loss Control will assist in developing or securing the required training.

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

Aerial Truck Operations Flowchart



Back Protection**SPP# 1910.001****Quick Reference**

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1.0 Purpose

The purpose of this safety policy and procedure is to establish guidelines and procedures for implementing the North Carolina Department of Transportation (NCDOT) Back Protection Program.

2.0 Scope and Applicability

Back injuries represent the most common type of workers' compensation claim in NCDOT. Jobs within NCDOT with high rates of back injuries tend to be those requiring a great amount of manual load handling. Eliminating and/or minimizing back injuries can result in lower workers' compensation costs and promote the well-being of employees.

This safety policy and procedure emphasizes the program management aspects of NCDOT's Back Protection Program. NCDOT's *Back at Work* Program, designed to emphasize proper lifting techniques, is a component of NCDOT's Back Protection Program.

This safety policy and procedure provides guidelines to implement an effective Back Protection Program in the workplace. It includes provisions for employee lifting training entitled, *Back at Work*, and discussion on work related risk factors for back pain. Additionally, to assist managers/unit heads, techniques are presented in

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identifying jobs with those risk factors and tools are provided to help analyze lifting tasks.

This document also details the areas of responsibility for managers/unit heads, supervisors, employees, Safety and Loss Control, and Central Equipment Unit within NCDOT.

This safety policy and procedure affects any NCDOT employee who as a result of his or her job duties performs manual lifting.

3.0 Reference

This safety policy and procedure is established in accordance with NCDOT's *Back to Work* Program as well as with recognized general industry safe work practices that have effectively minimized back injuries.

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. Therefore, NCDOT management will administer a back protection program and at risk employees will receive the required training. When lifting hazards exist that cannot be eliminated, then engineering practices, administrative practices, safe work practices, Personal Protective Equipment (PPE), and additional training regarding Back Protection will be implemented. These measures will be implemented to minimize those hazards to ensure the safety of employees and the public.

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 on Back Protection. 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.

6.1 Definitions

Behavior Modification

Changing an employee's action or motions from a negative, accident/injury prone behavior to a positive, safe action or motion.

Mechanical Equipment

Any device designed to aid in moving material including cranes, hand trucks, pallet jacks, forklifts, etc.

Lifting Belt

A support designed for the lumbar area of the lower back to provide additional support when lifting.

Risk Factors

Exposures and personal characteristics that affect an individual's chances of experiencing pain associated with lifting related injuries to the back.

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
- Risk Factors
- Identifying Jobs with Risk Factors
- Minimizing Lifting Related Back Injuries

6.2.1 Training

NCDOT employees who perform manual lifting shall attend ***Back at Work*** training on proper lifting techniques.

Back belts are not to be used or assigned to employees until they complete the ***Back at Work*** training. Figure 1 presents how a lifting belt is typically worn.

Training shall be provided upon initial employment and/or new job assignment. Periodic refresher training shall be conducted at the discretion of the supervisor.

Training will include, but is not limited to, proper lifting techniques, proper use of the back belt, injury prevention, and behavior modification.



Figure 1

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6.2.2 Risk Factors

There are major differences in the ability of individuals to withstand lifting and other demanding physical labor. Because back pain results from different circumstances, an individual's exposure and personal characteristics affect his or her chances of experiencing lifting related back injuries. Work related risk factors have been identified from various studies and include:

- Heavy lifting and heavy work
- Frequent lifting
- Lifting loads near one's strength capacity
- Occasional very stressful load handling
- Sudden unforeseen events (accidents)
- Prolonged standing or sitting
- Other suspected risk factors, including whole body vibration, pushing, pulling, carrying, twisting, and bending
- Employee's physical condition

Other personal factors that make certain individuals more susceptible to back injury are not included in the above list. Those jobs and tasks that have several or many of the above risk factors should receive a higher priority in assessing your operation's back injury risks.

6.2.3 Identifying Jobs with Risk Factors

Focusing on the more significant problem areas of back injury potential is the most cost-effective approach in examining the jobs and tasks in your operation. A two-stage prioritizing scheme is recommended when examining your manual lifting operations. First, identify those jobs that involve many of the risk factors. Second, for those identified jobs, specific lifting tasks should be singled out for further analysis.

Appendix A presents forms to identify jobs and specific lifting tasks at higher risk levels of lifting related back injuries. Once these specific lifting tasks are identified, Appendix B should be used to quantitatively assess those lifting tasks.

6.2.4 Minimizing Lifting Related Back Injuries

Once specific lifting tasks are identified and assessed, if required, examine options to eliminate or minimize those lifting related back injuries. Look at:

- Elimination of the lifting
- Substitution of the nature of task, if elimination is not possible
- Control stress level imposed on the back when lifting if the two previous approaches do not work

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Appendix C presents a checklist to assist the user in exploring ways to eliminate, substitute, or control the lifting tasks that could cause back injuries.

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 equipment and supplies to aid in minimizing lifting related back injuries. They will also be responsible for identifying the employees affected by this safety policy and procedure.

Managers/Unit Heads will obtain and coordinate the required training for the affected employees.

Managers/Unit Heads will also ensure compliance through their auditing process.

6.3.2 Supervisors

Supervisors will be responsible for communicating appropriate needs to managers/unit heads and/or supervisors.

Supervisors will ensure that employees are properly trained before using lifting belts and that they are being worn properly. Supervisors will ensure that no employee is required to lift beyond his or her capabilities. Upon request, employees are to receive assistance in lifting.

6.3.3 Employees

Employees are to report any unsafe act associated with this policy to their supervisors. Employees are to report any injury to their immediate supervisors.

Employees that are assigned lifting belts are to maintain them and have them replaced when torn or frayed. Employees must attend NCDOT's **Back at Work** program before being authorized to use lifting belts.

6.3.4 Safety and Loss Control

Safety and Loss Control will provide prompt assistance to managers/unit heads, supervisors, or others as applicable on any matter concerning this safety policy and procedure. Safety and Loss Control will assist in developing or securing the required training and will provide **Back at Work** training at the request of managers/unit heads.

Safety and Loss Control will also work with Purchasing and the Central Equipment Unit to ensure that all newly purchased lifting related equipment and supplies comply with current safety regulations.

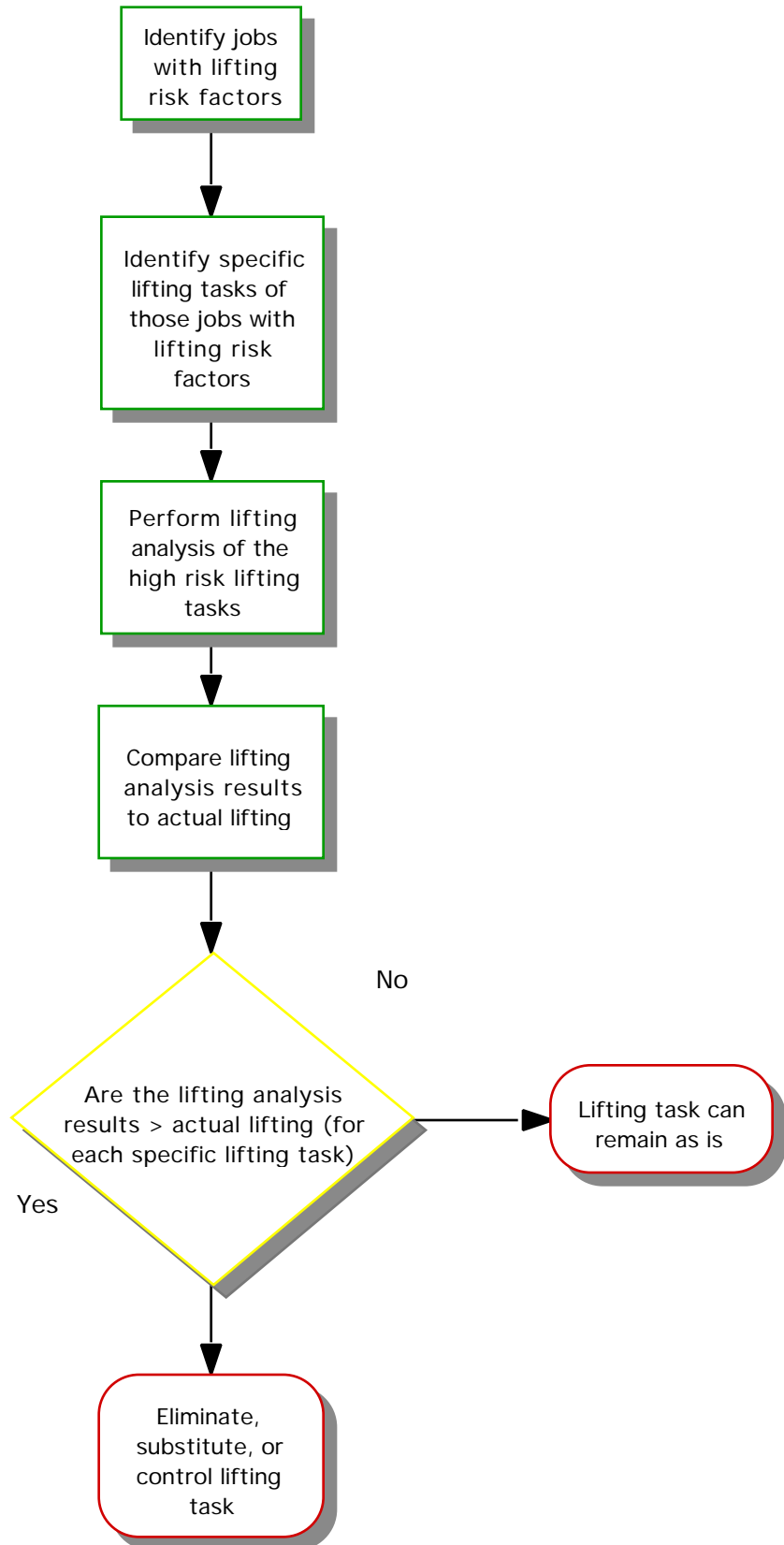
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Additionally, Safety Engineers will provide consultative and audit assistance to ensure effective implementation of this safety policy and procedure.

6.3.5 Central Equipment Unit

Central Equipment Unit will support Division/Units with the selection and purchase of lifting equipment and supplies.

Back Protection Flow chart



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APPENDIX A: Back Injury Risk Factor Assessment

Facility/Jobsite: _____ Location: _____
 Person Performing Assessment _____ Date: _____

Instructions

The following sequence is recommended to perform the Back Injury Risk Factor Assessment:

- Identify and list all the jobs in your facility or operation with frequent reports of back injuries (examine accident/injury data as needed).
- Indicate the risk factors that are present for each of those previously identified and listed jobs.
- Note the jobs that require frequent lifting and occasional very stressful lifting. Jobs with frequent lifting and occasional very stressful lifting should be ranked high.
- Make comparative assessments as to which jobs are the most physically stressful to the least physically stressful. (Obtain input as needed from employees experienced in performing several of the jobs.)
- Note the jobs which are the most physically stressful for further examination.
- List the lifting tasks for the highest priority jobs.
- Rank each lifting task, with input from employees, against each other in how stressful the task is to their backs. For example, if there are three lifting tasks, rank them as the most stressful, second most stressful, and least stressful.

Job	Heavy Lifting and Heavy Work	Frequent Lifting	Lifting Loads Near One's Strength Capacity	Occasional Very Stressful Load Handling	Sudden Unforeseen Events (Accidents)	Prolonged Standing or Sitting	Other Risk Factors

*Includes whole body vibration, pushing, pulling, carrying, twisting, and bending
 A check mark indicates a confirmatory condition.

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APPENDIX A: Back Injury Risk Factor Assessment (Continued) 2

Job: _____

Lifting Tasks Associated with Job	Stress Rank
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Job: _____

Lifting Tasks Associated with Job	Stress Rank
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Job: _____

Lifting Tasks Associated with Job	Stress Rank
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Once the lifting tasks are identified, perform a lifting task analysis as listed in Appendix B for each task.

APPENDIX B: Lifting Task Analysis

General

The lifting tasks that were identified as being the most stressful from the back injury risk factor assessment in Appendix A probably are exceeding the safe lifting weight for that particular situation. The most stressful lifting tasks should be evaluated to determine if the recommended weight for that particular lifting situation is being exceeded.

Lifting Analysis

A lifting task is considered to be the act of manually grasping and raising an object of definable size without mechanical aids.

The National Institute of Occupational Health (NIOSH) developed a lifting equation which quantifies the variables involved in lifting. This equation is:

$$AL = 90 (6/H) (1-0.01|V-30|) (0.7+3/D) (1-F/F_{max})$$

Where:

- AL = Action level, in lbs, that over 75 percent of women and 99 percent of men can safely lift
- H = Horizontal location forward of the ankles at origin of lift (inches)
- V = Vertical location at origin of lift (inches)
- D = Vertical travel distance, either up or down, between origin and destination of lift
- F = Average frequency of lifts (lifts/minute)
- F_{max} = Maximum frequency which can be sustained (See Table B-1)

These variables are assumed to have the following limits:

- H is between 6 inches and 32 inches.
- V is assumed between 0 inch and 70 inches representing the range of vertical reach for most people.
- D is assumed between 10 inches and (80-V) inches. For travel less than 10 inches, set D = 10.
- F is assumed between 0.2 (one lift every five minutes) and F_{max} (see Table B-1). For lifting less frequently than once per five minutes, set F = 0.

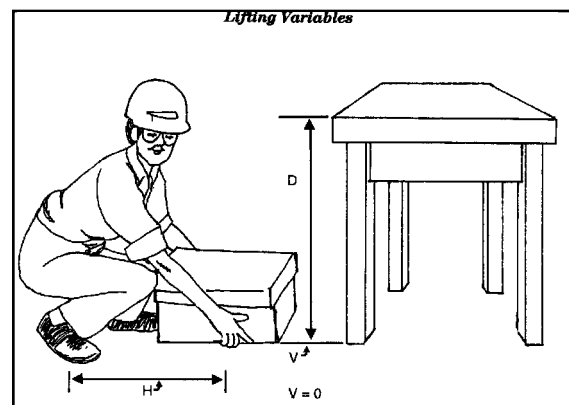


Figure 2

Figure 2 illustrates these lifting variables.

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APPENDIX B: Lifting Task Analysis (Continued) 2

Table B-1 presents the maximum frequency (F_{\max}) which can be sustained for either a standing or stooped position for a 1 hour (occasional) or 8 hour (continuous) period. Select the appropriate F_{\max} value for the particular lifting task being analyzed.

Table B-1: F_{\max} Table (lifts/minute)

Period	Average Vertical Location (inches)	
	$V > 30$ Standing	$V \leq 30$ Stooped
1 hour	18	15
8 hours	15	12

Example: Given a continuous stooped lifting situation for an 8 hour period with:

$$H = 8 \text{ inches}$$

$$V = 16 \text{ inches}$$

$$D = 40 \text{ inches (average distance)}$$

$$F = 6 \text{ lifts/minute}$$

$$F_{\max} = 12; \text{ From 8 hours for } V \leq 30 \text{ in a stooped position}$$

Then:

$$\begin{aligned} AL &= 90 (6/8) (1-0.01|16-30|) (0.7+3/40) (1-6/12) \\ &= 90 (0.75) (0.86) (0.78) (0.5) = 22.5 \text{ lbs} \end{aligned}$$

Comparison of Lifting Analysis to Actual Lifting

If the actual weight for the lifting task exceeds the calculated action level for that task, then that lifting task either needs to be eliminated, substituted, or controlled.

See Appendix C for additional guidance for addressing these circumstances.

SAFETY POLICY & PROCEDURE

APPENDIX C: Lifting Task Redesign Checklist

Lifting Task: _____

Yes No *Elimination Questions*

- | | | | |
|--------------------------|--------------------------|---|--|
| <input type="checkbox"/> | <input type="checkbox"/> | • | Is there really a need for the lifting task? |
| <input type="checkbox"/> | <input type="checkbox"/> | • | Can the need for lifting the load be eliminated? |

Substitution Questions

- | | | | |
|--------------------------|--------------------------|---|---|
| <input type="checkbox"/> | <input type="checkbox"/> | • | Could lifting equipment be used instead of the worker's arm and back muscles? |
| <input type="checkbox"/> | <input type="checkbox"/> | • | Could the weight of the load be reduced? |

Control Questions

- | | | | |
|--------------------------|--------------------------|---|--|
| <input type="checkbox"/> | <input type="checkbox"/> | • | Could the load be packaged differently so that the natural way to grasp it would place it closer to the body? |
| <input type="checkbox"/> | <input type="checkbox"/> | • | Could the load be stored differently to reduce the horizontal distance from the body at both pickup and set down points? |
| <input type="checkbox"/> | <input type="checkbox"/> | • | Could the load be packaged differently so that the vertical distance above the floor during both pickup and set down is above knee height and below shoulder height? |
| <input type="checkbox"/> | <input type="checkbox"/> | • | Could the load be stored differently so that the vertical distance above the floor during both pickup and set down is above knee height and below shoulder height? |
| <input type="checkbox"/> | <input type="checkbox"/> | • | Could the vertical distance between the pickup point and set down point be reduced? |
| <input type="checkbox"/> | <input type="checkbox"/> | • | Could the frequency rate of lifting be reduced? |
| <input type="checkbox"/> | <input type="checkbox"/> | • | Could the duration of a lifting session be shortened? |
| <input type="checkbox"/> | <input type="checkbox"/> | • | Could handles or another type of grasping point be made available to improve comfort and control during the lift? |
| <input type="checkbox"/> | <input type="checkbox"/> | • | Could the need to rotate from left to right, or right to left, be reduced? |

Housekeeping at Construction Sites

SPP# 1926.25

Quick Reference

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1.0 Purpose

The purpose of this safety policy and procedure is to establish guidelines for the protection and safety of North Carolina Department of Transportation (NCDOT) employees at construction sites.

2.0 Scope and Applicability

NCDOT construction sites can present many hazards to employees when they are performing construction-related activities. Keeping a construction site relatively clean of debris can further reduce hazards. The benefits of good housekeeping far exceeds the small additional effort required to establish good housekeeping practices at a construction site.

This safety policy and procedure provides information on activities to implement a housekeeping program at a construction site. It also details the areas of responsibility for managers/unit heads, supervisors, employees, and Safety and Loss Control within NCDOT. This document affects all NCDOT employees at NCDOT construction sites.

3.0 Reference

This safety policy and procedure is established in accordance with Occupational Safety and Health Standards for Construction Industry (29 CFR 1926.25).

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 and serious physical harm to employees or the public. Therefore, all employees on NCDOT construction sites will practice good housekeeping to further reduce hazards to employees. When construction hazards exist that cannot be eliminated, then engineering practices, administrative practices, safe work practices, Personal Protective Equipment (PPE), and proper training regarding Housekeeping will be implemented. These measures will be implemented to minimize those hazards to ensure the safety of employees and the public.

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 on Housekeeping. 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 Housekeeping.

6.1 Definitions

Debris

Unusable or unwanted construction waste material.

Form Lumber

Lumber that is used to contain liquid concrete into defined shapes until the concrete hardens.

Hazardous Waste

Waste that is either toxic to humans or to the environment.

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:

SAFETY POLICY & PROCEDURE

- Training
- Construction Scrap and Debris
- Construction Waste Disposal

6.2.1 Training

Employees will be trained to work safely on construction sites by following good housekeeping practices. Employees will be trained in:

- The importance of housekeeping
- The benefits of housekeeping

Employees will be trained at time of initial employment or assignment.

6.2.2 Construction Scrap and Debris

Scrap material and debris generated during construction usually consist of:

- Non-combustible scrap material and debris
- Combustible scrap material and debris

Non-combustible scrap material and debris that consist of form and scrap lumber with protruding nails, and all other debris, must be kept cleared from work areas, passageways, and stairs, and from around buildings or other structures.

Nails should be removed from used lumber before stacking. Combustible scrap and debris must be removed at regular intervals during the course of construction without increasing the hazard exposure to employees who remove such debris. See [SPP# 1910.141, Sanitation](#), for related information on construction sites.

6.2.3 Construction Waste Disposal

All construction waste must first be collected into containers before disposal. The categories of construction waste generated at a construction site include:

- General waste and trash (non-toxic, non-hazardous)
- Hazardous waste

Separate containers must be provided for the collection and separation of waste, trash, and other refuse.

Additional separate containers must be provided with lids for hazardous wastes to prevent sparks or other ignition sources from coming into contact with hazardous waste. Hazardous wastes can include used oil, used oil filters, oily rags and flammable wastes as well as caustics, acids, harmful dusts, etc.

SAFETY POLICY & PROCEDURE

Absorbent that is used to collect incidental used oil spills and oily rags can be disposed of in waste collection dumpsters. Used oil filters must be drained of oil before they can be disposed into separate waste containers.

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 containers and other related supplies to maintain effective housekeeping practices at construction sites. Managers/Unit Heads will obtain and coordinate the required training for employees. Managers/Unit Heads will also ensure compliance with this safety policy and procedure through their auditing process.

6.3.2 Supervisors

Supervisors will ensure that employees are instructed on good housekeeping practices when performing their job duties.

6.3.3 Employees

Employees are responsible for following good housekeeping practices in the performance of their job duties.

Employees shall report any hazardous conditions to their immediate supervisor.

6.3.5 Safety and Loss Control

Safety and Loss Control will provide prompt assistance to managers/unit heads, supervisors, or others as necessary on any matter concerning this safety policy and procedure. Safety and Loss Control will assist in developing or securing the required training.

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

SAFETY POLICY & PROCEDURE

APPENDIX A: Construction Housekeeping Checklist

Construction Site: _____

Location: _____

Division/Unit: _____

Date: _____

Yes No

- | | | |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | Are protruding nails, form and scrap lumber, and other debris kept clear from work areas, passageways, and stairs, in and around buildings or other structures? |
| <input type="checkbox"/> | <input type="checkbox"/> | Are combustible scrap and debris being removed at regular intervals during the course of construction? |
| <input type="checkbox"/> | <input type="checkbox"/> | Are containers being provided for the collection and separation of waste and trash? |
| <input type="checkbox"/> | <input type="checkbox"/> | Do the containers for the hazardous wastes (oily rags and flammable wastes such as caustics, acids, harmful dusts, etc.) have lids? |

Right of Inspection**SPP# 1926.03****Quick Reference**

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1.0 Purpose

The purpose of this safety policy and procedure is to establish guidelines for North Carolina Department of Transportation (NCDOT) employees to cooperate effectively with Occupational Safety and Health Administration (OSHA) compliance inspections and to ensure that OSHA compliance inspections are conducted in a professional and structured manner.

2.0 Scope and Applicability

The North Carolina Department of Labor, Division of Occupational Safety and Health, is designated to administer and enforce OSHA within both the private and public sectors in North Carolina. The enforcement of OSHA is accomplished in part by worksite inspections conducted by compliance officers.

This safety policy and procedure provides guidelines to be followed when an OSHA inspection occurs. It includes provisions for informing employees about typical OSHA inspections and discussion on the particular components of an OSHA inspection.

SAFETY POLICY & PROCEDURE

This safety policy and procedure also details the areas of responsibility for managers/unit heads, supervisors, employees, and Safety and Loss Control within NCDOT.

This safety policy and procedure affects every NCDOT employee.

3.0 Reference

This safety policy and procedure is established in accordance the Occupational Safety and Health Act of 1970 which authorizes OSHA to conduct workplace inspections.

4.0 Policy

It is the policy of NCDOT to provide the right of entry to any regulatory agency official or its representative to any worksite or facility owned or operated by NCDOT upon presentation of appropriate credentials.

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 on OSHA Inspections. It is also the responsibility of each NCDOT employee to report immediately any OSHA inspection activity to his or her supervisor.

6.0 Procedure

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

6.1 Definitions

Compliance Officer

A representative of OSHA who has been trained and has been authorized to conduct workplace safety inspections.

OSHA

Occupational Safety and Health Act. In North Carolina the OSHA Act is administered by the North Carolina Department of Labor (NCDOL).

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:

SAFETY POLICY & PROCEDURE

- Training
- Validating OSHA Officers' Credentials
- NCDOT Notification Process
- Opening Conference
- OSHA Inspection Process
- Closing Conference

6.2.1 Training

No formal training is to be provided to employees. However, employees should be informed about the typical inspection process that may be performed by North Carolina Occupational Safety and Health Administration (NCOSHA). This information should be provided upon initial employment or on a one time basis and should contain:

- How a typical OSHA compliance inspection is conducted
- Employees' responsibilities when an OSHA compliance officer arrives on a jobsite

6.2.2 Validating OSHA Officers' Credentials

OSHA compliance officers should present their credentials once they arrive on-site for an inspection. Employees should ask to see their ID if it is not presented. As needed, NCDOL can be called to verify the identity of the compliance officer.

6.2.3 NCDOT Notification Process

NCDOT management, your Safety Engineer, and Safety and Loss Control's office should be contacted immediately in the event of an OSHA inspection. All employees should inform the compliance officer that they are required to notify their supervisor and NCDOT's safety personnel. All employees should make every effort to contact their supervisor and NCDOT's safety personnel so they can assist with the inspection.

6.2.4 Opening Conference

The OSHA compliance officer will conduct an initial meeting in which he or she will explain how the site was selected, the purpose of the visit, the scope of the inspection, and the standards that apply.

NCDOT will be asked to select a representative(s) to accompany the officer during the inspection. This representative(s) should be NCDOT managers/unit heads or supervisors and a Safety and Loss Control representative, if possible.

SAFETY POLICY & PROCEDURE

6.2.5 OSHA Inspection Process

The inspection process typically begins with a walk-through of the worksite or facility. The compliance officer will take statements, photographs, videos, and measurements and talk with employees. The compliance officer will examine safety and health conditions and practices, examine records, collect air samples, measure noise levels, and monitor employee exposure to toxic fumes, gases, and dusts.

The compliance officer will interview employees and take statements from selected individuals. By regulatory mandate, NIOSH can conduct private interviews without management's presence.

All employees should truthfully respond to all questions from the compliance officer. If a response is not known to a particular question, employees should simply state, "I do not know. You will need to speak with my supervisor."

If possible, NCDOT should take the same photographs and videos of the same items as the compliance officer. This will allow NCDOT to document the conditions at the time of the inspection.

6.2.6 Closing Conference

At the conclusion of the inspection, the compliance officer will conduct a closing conference. The compliance officer will discuss all unsafe or unhealthful conditions observed during the inspection and will indicate all apparent violations for which a citation and a penalty may be issued or recommended. The compliance officer will apprise NCDOT of its rights under the OSHA Act.

6.3 Specific Responsibilities

6.3.1 Managers/Unit Heads

Managers/Unit Heads are responsible for ensuring that adequate funds are available for the purchase of proper equipment and training for compliance with applicable safety policy and procedures. Managers/Unit Heads will ensure they maintain on-site Workplace Safety and Safety Policy and Procedure Manuals. Compliance with applicable standard operating procedures and safety policy and procedures will help ensure compliance with applicable OSHA regulations.

SAFETY POLICY & PROCEDURE

Managers/Unit Heads will obtain and coordinate the required training for affected employees. Managers/Unit Heads will also ensure compliance with all applicable safety policy and procedures through their auditing process.

Managers/Unit Heads will contact Safety and Loss Control or their assigned Safety Engineer as soon as possible when OSHA compliance officers arrive on-site.

6.3.2 Supervisors

Supervisors are responsible for ensuring that employees follow approved work practices.

Supervisors are required to inform their managers/unit heads as soon as possible when OSHA compliance officers arrive on their worksite.

6.3.3 Employees

Employees are responsible for informing their supervisors when OSHA compliance officers arrive on-site.

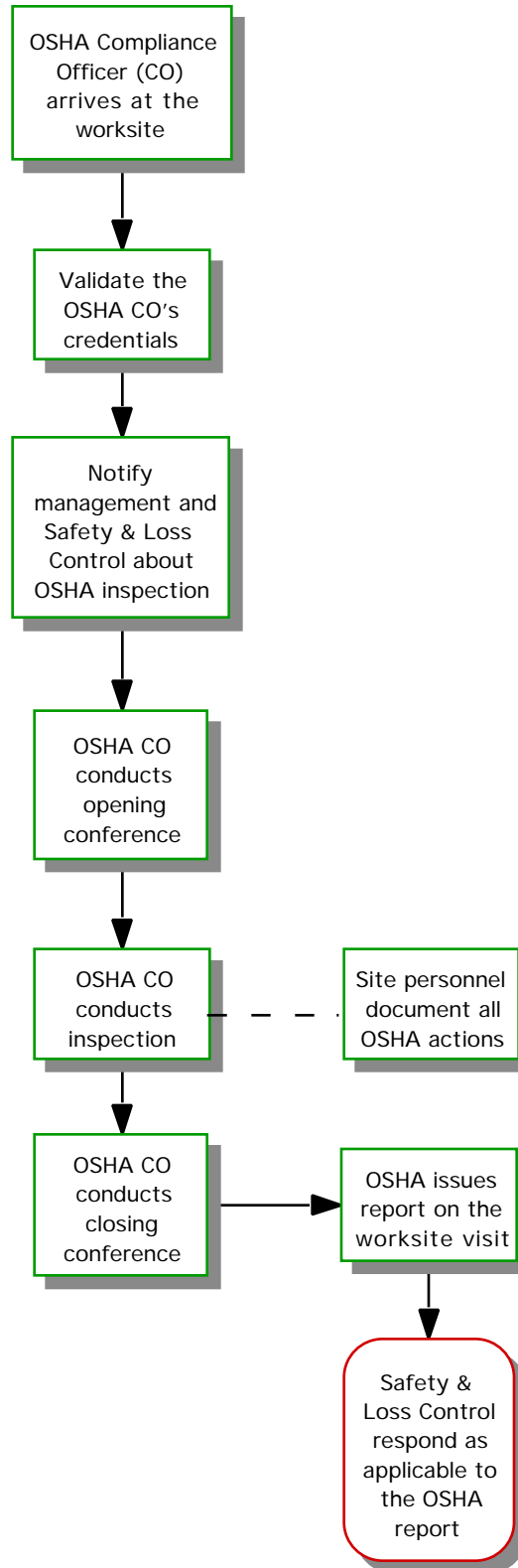
Employees should truthfully respond to all questions posed by the compliance officer.

6.3.4 Safety and Loss Control

Safety and Loss Control will provide prompt assistance to managers/unit heads, supervisors, or others as necessary when notified of an OSHA compliance inspection or on any matter concerning an OSHA inspection. Safety and Loss Control will assist in developing or securing the required training. Safety and Loss Control will take a lead role in assessing any outcome of an OSHA inspection and in determining the appropriate followup action to an OSHA inspection.

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

Right of Inspection Flowchart



SAFETY POLICY & PROCEDURE

APPENDIX A: NCDOT OSHA Inspection Checklist Form

YES NO

 Did the OSHA Compliance Officer show identification?

General

OSHA Compliance Officer's Name _____

Date of Inspection _____

Location of Inspection _____

Time Inspection Began _____

Time Inspection Ended _____

What safety and health conditions and practices were examined? _____

What records were examined? _____

Air Samples

YES NO

 Were any air samples taken? If yes, indicate below

Air Sample Log					
Air Sample #	Date	Time	Type of Sample	Location	Work Conditions

SAFETY POLICY & PROCEDURE

APPENDIX A: NCDOT OSHA Inspection Checklist Form (Continued) 2

Noise Measurements

YES

NO

Were any noise measurements taken? If yes, indicate below.

Noise Measurements Log						
Noise Sample #	Date	Time	Type of Instrument Used	Location	Work Conditions	dB Reading

Exposure Measurements

YES

NO

Were any other exposure measurements taken? If so, describe.

Exposure Measurements Log							
Contaminant	Sample ID	Date	Start Time	End Time	Media Measurement Instrument	Location	Work Conditions

SAFETY POLICY & PROCEDURE

APPENDIX A: NCDOT OSHA Inspection Checklist Form (Continued) 3
Personnel Interviewed by OSHA

Name	Job Location	Job Title
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Photo Log

Photo Log				
Photo #	Date	Time	Subject	Location

Video Log (Turn on Video Camera Frame Synchronizer)

Video Log						
Start Time Frame #	End Time Frame #	Date	Start Time	End Time	Subject	Location

Safety Assessment of Leased Property

SPP# A-3

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1.0 Purpose

The purpose of this safety policy and procedure is to provide guidelines and checklists for the evaluation of leased property within North Carolina Department of Transportation (NCDOT).

2.0 Scope and Applicability

Currently leased facilities and proposed leased space must be evaluated for fire protection and life safety. These evaluations are part of the leasing procedures coordinated by the State Property Office.

This safety policy and procedure provides guidelines and a checklist to assist NCDOT safety personnel in leased property assessments.

This document applies to those employees who perform leased property assessments for NCDOT.

3.0 Reference

This safety policy and procedure is established in accordance with State Property Office and Department of Insurance guidelines.

SAFETY POLICY & PROCEDURE

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. Therefore, all NCDOT leased properties will be assessed for life and fire safety.

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 on Safety Assessment of Leased Property. 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 Safety Assessment of Leased Property.

6.1 Definitions

Leased Property

Property that is rented from another property owner and used for NCDOT purposes.

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:

- Leasing Authority
- Fire and Safety Checklist

6.2.1 Leasing Authority

The State Property Office delegates leasing authority to NCDOT in a two-tier system. This two-tiered system is:

- Property leases with annual rental not exceeding \$5,000
- Property leases with annual rental between \$5,000 and \$12,000 and lease term not exceeding 3 years

SAFETY POLICY & PROCEDURE

NCDOT executes property leases with annual rental not exceeding \$5,000. NCDOT also executes leases for properties with annual rental between \$5,000 and \$12,000 and lease terms not exceeding 3 years by submitting a proposal to lease form to the State Property Office.

The State Property office executes those leases with annual rentals exceeding \$12,000 and/or terms exceeding 3 years.

6.2.2 Fire and Safety Checklist

Appendix A presents a fire and safety checklist developed by the Department of Insurance which is to be used in leased facilities evaluations. This checklist can be used to:

- Evaluate existing fire and safety conditions on leased properties (existing and proposed)
- Evaluate and compare competitive proposals for leased spaces

This checklist is to be used by NCDOT safety personnel (Division Safety Officers and Safety and Loss Control Safety Engineers) to evaluate existing and proposed leased spaces under NCDOT's leasing authority.

This checklist should be completed far enough in advance of the lease renewal or potential new lease to permit effective negotiations for building safety improvements. This list is not all-inclusive and a building which looks good may still have conditions detrimental to life safety or loss prevention.

For existing or proposed leases with annual rentals between \$5,000 and \$12,000 and the lease term not exceeding 3 years, a "*Proposal to Lease*" (State Property Office Form PO-28) must be attached. The Department of Insurance inspects proposed or existing leased locations that exceed \$12,000 in annual rental or the lease term exceeds three years.

6.3 Specific Responsibilities

6.3.1 Managers/Unit Heads

Managers/Unit Heads are responsible for identifying the leased buildings and/or facilities in their organizations. They will also identify which of these buildings and/or facilities are under NCDOT's direct leasing authority and which ones are not. They will coordinate and obtain fire and safety inspections as required by this safety policy and procedure.

Managers/Unit Heads are also responsible for communicating building and/or facility life and fire safety deficiencies to the State Property Office and the building owner.

Managers/Unit Heads will also ensure compliance with this safety policy and procedure through their auditing process.

SAFETY POLICY & PROCEDURE

6.3.2 Supervisors

Supervisors will assist as requested in the life and fire safety inspections of buildings and/or facilities. They will also note any life and fire safety deficiencies during their facility and jobsite audits.

6.3.3 Employees

Employees shall report any life and fire safety deficiencies in buildings and/or facilities to their immediate supervisor.

6.3.4 Safety and Loss Control

Safety and Loss Control will provide prompt assistance to managers/unit heads, supervisors, or others as necessary on any matter concerning this safety policy and procedure.

Safety and Loss Control Safety Engineers will perform life and fire safety assessments of buildings and/or facilities and provide technical guidance to other safety personnel performing such inspections.

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

SAFETY POLICY & PROCEDURE

APPENDIX A: Leased Property Fire and Life Safety Checklist (Continued) 2

YES	NO	<u>EXITS, EXIT ACCESS, AND SEPARATION</u>
<input type="radio"/>	<input type="radio"/>	4. Are all the exit stairs fully enclosed with at least one-hour fire rated construction, with “B”-labeled doors having closers and latching hardware? (The label is found on door edge, hinge side or top.) If NO, a Code deficiency exists.
<input type="radio"/>	<input type="radio"/>	5. Are all vision panels in stair doors wired glass in steel frames, not exceeding 100 square inches? If NO, a Code deficiency exists.
<input type="radio"/>	<input type="radio"/>	6. Do all exit stairs terminate outside the building, with direct access to a public space, and do not require re-entering the building? If NO, answer Item (7). If YES, skip to Item (8).
<input type="radio"/>	<input type="radio"/>	7. Answer (7) ONLY if Item (6) was NO: If upstairs occupants must re-enter the building at the exit level, is this area or vestibule separated from the remainder of the exit level floor by at least one-hour fire rated construction? If NO, see Note (A).
<input type="radio"/>	<input type="radio"/>	8. Are tenant spaces separated by one-hour fire rated construction? (This typically means at least gypsum board walls on steel studs.) If NO, answer (9). If YES, skip to (10).
<input type="radio"/>	<input type="radio"/>	9. Answer (9) ONLY if Item (8) was NO: Are the combined areas of multiple tenant spaces divided by walls of at least one-hour fire rated construction into spaces not exceeding 3000 square feet? If NO, a Code deficiency exists.
<input type="radio"/>	<input type="radio"/>	10. Is a copy of the Emergency Evacuation and Fire Prevention Plan required under SPP # 1910.38 on hand? Are all elements completed and up to date?

NOTE (A): The exit system may be deficient. The building will have to be evaluated by a building code professional.

SAFETY POLICY & PROCEDURE

APPENDIX A: Leased Property Fire and Life Safety Checklist (Continued) 3

YES	NO	<u>FIRE PROTECTION AND EMERGENCY EQUIPMENT</u>
<input type="radio"/>	<input type="radio"/>	11. Does the building have a complete sprinkler system? If NO, see Note B.
<input type="radio"/>	<input type="radio"/>	12. Does the building have an automatic fire detection system, with alarms transmitted off-premises? If NO, see Note B.
<input type="radio"/>	<input type="radio"/>	13. Are fire extinguishers rated at least 2A on every level and within 75 feet? If NO, a Code deficiency exists.
<input type="radio"/>	<input type="radio"/>	14. Do fire extinguishers have tags indicating they have been inspected annually and given a visual check monthly? If NO, a Code deficiency exists.
<input type="radio"/>	<input type="radio"/>	15. Is emergency egress lighting having a separate and independent source of power (battery or generator) provided? If NO, a Code deficiency may exist.
<input type="radio"/>	<input type="radio"/>	16. Where the location of or the direction to exits is not obvious, are exit signs and directional exit signs provided? If NO, a Code deficiency exists.

NOTE (B): Sprinklers and/or fire alarm may not be required by Code but are highly desirable for life safety and property protection. Because the State is self-insured, it gives preference to sprinklered lease facilities.

SAFETY POLICY & PROCEDURE

APPENDIX A: Leased Property Fire and Life Safety Checklist (Continued) 4

YES	NO	<u>GENERAL ITEMS AND ACCESSIBILITY</u>
<input type="radio"/>	<input type="radio"/>	17. Is the building accessible to the handicapped, including parking spaces? If NO, a Code deficiency and/or non-compliance with ADA exists.
<input type="radio"/>	<input type="radio"/>	18. Does the building have sufficient, accessible restroom facilities? If NO, a Code deficiency and/or non-compliance with ADA exists.
<input type="radio"/>	<input type="radio"/>	19. Are corridors maintained clear and unobstructed at all times? If NO, a Code deficiency exists.
<input type="radio"/>	<input type="radio"/>	20. Are all of the electrical panelboards provided with at least three feet clearance, for maintenance purposes and to allow rapid access to the disconnects in an emergency? If NO, a Code deficiency exists.
<input type="radio"/>	<input type="radio"/>	21. Are electrical and mechanical equipment rooms kept relatively clear and free of combustible material If NO, a Code deficiency exists.
<input type="radio"/>	<input type="radio"/>	22. Is building security acceptable? This includes street lighting, parking arrangements, the surrounding environment, and how well the building is secured against unauthorized entry. You may want to question previous tenants about any crime problems.

Occupational Safety Training**SPP# 1926.21****Quick Reference**

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1.0 Purpose

The purpose of this safety policy and procedure is to establish guidelines for the North Carolina Department of Transportation (NCDOT) employees to receive occupational safety training related to their assigned jobs.

2.0 Scope and Applicability

A direct relationship exists between the increase in accidents and/or severity of injuries and illnesses and a lack of attention to appropriate safety training. It can be shown through injury/illness statistics, medical and Workers' Compensation costs, and the intangibles of morale and human suffering that NCDOT must make training a vital element in its safety program.

Therefore, this safety policy and procedure provides guidelines to ensure NCDOT employees receive the appropriate safety and health training applicable to their jobs.

This document lists the applicable OSHA regulations for NCDOT operations, presents the safety training matrix, and provides discussion on methodologies for

SAFETY POLICY & PROCEDURE

estimating implementation resources. It outlines the minimum components of NCDOT's training program, provides training guidelines, and discusses the importance of matching training to employees. This document also details the areas of responsibility for managers/unit heads, supervisors, employees, Safety and Loss Control, and the Division Safety Officer.

This safety policy and procedure affects all NCDOT employees.

Specific applicability to a training requirement will be determined by:

- Job classification
- Incidents of accidents and injuries
- Use of hazardous substances
- New job assignments

3.0 Reference

This safety policy and procedure is established in accordance with Occupational Safety and Health Act of 1970, the Occupational Safety and Health Standards for General Industry (29 CFR 1910), the Occupational Safety and Health Standards for the Construction Industry (29 CFR 1926) and other applicable standards referenced in this safety policy and procedure manual.

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. Therefore, NCDOT will make training a primary element of its workplace safety program. No employee will be allowed to perform any job related task until the individual has been properly instructed and trained in the safe and proper methods of performing the task. When hazards exist that cannot be eliminated, then engineering practices, administrative practices, safe work practices, Personal Protective Equipment (PPE), and additional specialized training will be implemented. These measures will be implemented to minimize those hazards to ensure the safety of employees and the public.

5.0 General Responsibilities

It is the responsibility of each manager/unit head, supervisor, and employee to ensure NCDOT's safety policy and procedure on Occupational Safety Training is implemented in accordance with this safety policy and procedure. 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 Occupational Safety Training.

6.1 Definitions

Certified Internal Trainer (CIN)

A NCDOT employee/trainer who has been certified by Safety and Loss Control to teach a specific training course.

Community College (CC)

An educational institution that offers safety training courses and instruction.

Hazard Assessment

The process of reviewing job tasks prior to the operation and identifying any hazards associated with each particular tasks.

Hazard Recognition

Remembrance of the hazards identified in the assessment phase that are associated with a particular job task or operation.

Instructor Outline

A standardized outline, developed using the Instructional Systems Development model, for use by instructors who provide safety training. The outline includes information to be shared with the class as well as prompts for the instructor on when to use various audio-visual aids and other training activities.

Instructional Systems Development (ISD)

An international model used by corporate, government and military trainers to provide a systematic and consistent method of identifying and developing training solutions.

Internal Training (IN)

Safety training conducted by NCDOT employees/trainers.

Job Instructional Training (JIT)

On the job training that uses an informal method of training to instruct individuals on the procedures to follow for a particular operation, task, or procedure. JIT is primarily task related and usually involves one-on-one hands on training.

Lesson Plan

An organized plan containing information relevant to a course. Lesson plans include the purpose of the course, participant objectives, instructional method, the course length, references and other information used by the instructor to provide the appropriate instruction.

Participant Outline

A standardized outline for use by the attendees during safety training.

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Safety Training Video

A commercially purchased, or in-house produced, standard VHS video that contains relevant safety training material.

Third Party

An outside provider of safety training to NCDOT employees.

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:

- OSHA Training Requirements Applicable to NCDOT Operations
- Safety Training Matrix
- Estimating Resources to Implement a Safety Requirement
- Training Guidelines
- Minimum Components of Training
- Matching Training to Employees

The general elements of this program are found in the Occupational Safety and Health Act of North Carolina. More than 100 of the current standards contain training requirements. However, the goal of NCDOT is to provide all necessary safety training to employees whether it is OSHA mandatory or non-mandatory safety related training.

6.2.1 OSHA Training Requirements Applicable to NCDOT

NCDOT will instruct each employee in the recognition and avoidance of unsafe conditions and the regulations applicable to his or her work environment to control or eliminate any hazards or other exposure to illness or injury.

The following OSHA training requirements, as contained in the following General Industry (29 CFR Part 1910) and Construction (29 CFR Part 1926) Standards, are applicable to NCDOT operations:

- Arc Welding Equipment (1910.254 and 1926.351)
- Asbestos (1910.1001)
- Compressed Air (1926.803)
- Cranes and Derricks (1926.550)
- Cranes, Crawler Crane, Equipment Operators, Locomotive Crane, Wheel Mounted Crane (1910.180)
- Diving Operations (1910.410)
- Electrical Safety Related Work Practices (1910.331-335 and 1926.416-418)
- Employee Emergency Plans (1910.38)
- Excavation, Trenching, and Shoring (1926.650)

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- Explosives and Blasting Agents (1910.109 and 1926.900)
- Fire Detection Systems (1910.164)
- Fire Prevention and Protection for Welding, Cutting, and Brazing (1910.252 and 1926.352)
- Fire Prevention Plans (1910.38)
- Fixed Extinguishing System (1910.160)
- Flammable and Combustible Liquids (1910.106)
- Forklifts, Tractors, and Other Powered Industrial Trucks (1910.178 and 1916.602)
- Ground Fault Protection (1926.404)
- Ionizing Radiation (1910.96 and 1926.53)
- Lead in Construction (1926.62)
- Lockout/Tagout (1910.147)
- Machine Guarding for Mechanical Power Presses (1910.217)
- Machine Guarding for Woodworking Machinery (1910.213 and 1926.304)
- Medical and First Aid (1910.151 and 1926.50)
- Nonionizing Radiation (1926.54)
- Occupational Noise Exposure (1910.95)
- Overhead and Gantry Cranes (1910.179)
- Oxygen-Fuel Gas Welding and Cutting (1910.253 and 1926.350)
- Personal Protective Equipment (1910.135-138)
- Portable Fire Extinguishers (1910.157 and 1926.150)
- Power Operated Hand Tools (1926.302)
- Powered Platforms, Manlifts, and Vehicle Mounted Work Platforms Operations (1910.66)
- Resistance Welding (1910.255)
- Respiratory Protection (1910.134 and 1926.103)
- Roll-Over Protective Structures for Tractors Used in Agricultural Operations (1928.51)
- Safety Training and Education (1926.21)
- Scaffolding (1926.451)
- Servicing of Single Piece and Multi-Piece Rim Wheels (1910.177)
- Signaling (1926.201)
- Spill Response (1910.120)
- Stairways and Ladders (1910.25 - 27 and 1926.1060)
- Underground Construction (1926.800)
- Ventilation (1910.94)
- Woodworking Tools (1926.304)

Additional safety related training that is necessary but not currently listed in the OSHA regulations include:

- Back Belt Training
- Ergonomics

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- Fleet Safety
- New Employee Safety Orientation
- OSHA Inspection Training for Supervisor
- Safety Related Legal Issues for Managers
- Supervisor Safety Responsibilities
- Violence in the Workplace
- Workers' Compensation for Supervisors
- Workzone Safety

This safety policy and procedure manual consolidates many of the previously listed standards and related safety training into single safety policies and procedures. Refer to the indices contained in the back of this manual for a complete cross reference of the safety policies and procedures to the applicable OSHA standards.

6.2.2 Safety Training Matrix

Appendix A presents NCDOT's Safety Training matrix which outlines:

- The course name
- Applicable Safety Policy and Procedure
- Training frequency
- Affected employees
- Length of initial training
- Length of renewal training
- Minimum resources required for training
- Training method
- List of reference materials and sources

NCDOT's safety training matrix reflects all the applicable training requirements reflected in this Safety Policy and Procedure Manual. See the applicable safety policy and procedure for further details for a specific training requirement.

6.2.3 Estimating Resources to Implement a Safety Requirement

NCDOT managers can estimate total resources required for a particular safety requirement by evaluating mathematical expressions found in Appendix B. These expressions allow managers to calculate (in dollars) the resources required in training and implementation of any safety training requirement.

6.2.4 Minimum Components of Training

NCDOT is responsible for establishing training programs that will ensure that each employee is instructed regarding job hazards and the methods by which these hazards are controlled.

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The minimum components of NCDOT's training shall include:

- Orientation of New Employees to NCDOT's Safety Program
- Issuance of Employee Handbook
- Specialized Training
- Training Records

Orientation of new employees to NCDOT's Safety Program shall include training in:

- Employee responsibilities
- Employee rights under OSHA
- OSHA regulations applicable to their job
- Applicable requirements in NCDOT's Workplace Safety Manual and the Safety Policy and Procedure Manual

Orientation will include introduction to the NCDOT safety program, information about any known hazards in the workplace, a review of hazard recognition, the use of PPE, how to safely perform assigned job tasks, and the safe operating procedures for each task and piece of equipment to which the employee will be exposed.

Additional material to be covered during orientation includes all chapters applicable to the employee in both the NCDOT Safety Policy and Procedure Manual and the Workplace Safety Manual (WSM).

The issuance of employee handbook, titled *North Carolina State Employee's Safety and Health Handbook*, will occur to all NCDOT employees during their initial orientation. The contents of this handbook are to be reviewed with each employee. The employee must sign and date of the last page of the handbook and return this page to his or her supervisor. Figure 1 presents the contents of this handbook's last page. This page from the employee will be filed in the employee's personnel file.

Specialized training must be established in safety requirements for employees based on job function, job classification, and exposures to hazards.

<p>(Please sign, detach, and return to your supervisor.)</p> <p>I hereby acknowledge receipt of a copy of the</p> <p>North Carolina State Government Safety and Health Handbook</p> <p>I understand that it is my responsibility to become familiar with and abide by these instructions, insofar as they apply to the duties which I shall perform for State Government. (A copy of this certification will be filed with the employee's personnel records.)</p> <p>Employee's Signature: _____</p> <p>Department: _____</p> <p>Date: _____</p>

Figure 1

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Training records will be maintained of all training received by employees. As a minimum, training records shall consist of:

- Training course name of training and course outline and/or lesson plan
- Location, date and time the training was conducted
- Names, job title and unit of all employees in attendance
- The instructor(s) name, title and unit
- Copies of any certificates of training issued for the course

Training records shall be stored at the Division/unit office in a file folder (or via computer records) labeled with the corresponding course title for each course provided to employees.

Appendix C contains a training records form for use by NCDOT personnel.

6.2.5 Training Guidelines

NCDOT's safety training program uses the instructional systems development (ISD) process as a means to establish an ongoing training program. The components of the ISD model should be used as a process guideline when an individual within the department begins development or assessment of training products. The components of this process are:

- Analysis - recognition of a flaw that can be corrected through training
- Design - what needs to be taught and how and by whom
- Development - production or procurement of the training materials
- Implementation - provide the training
- Evaluation - measuring the results and making any necessary corrections to the course

Appendix D details the specifics of this training model.

6.2.6 Matching Training to Employees

Training appropriate to the assigned job task is crucial to the effectiveness of safety training. Therefore, it is recommended that NCDOT managers/unit heads:

- Identify the employees at risk
- Train the employees at risk

Identifying the employees at risk can be accomplished by pinpointing hazardous job classifications, examining the incidents of accidents and injuries, and identifying certain variables that disproportionately contribute to accidents and injuries.

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Pinpointing hazardous job classifications identifies employees at high levels of risk. In some cases, hazards of a job classification are influenced by the conditions under which the job is performed, such as noise, heat or cold, or safety or health hazards. In these situations, employees should be trained not only on how to perform their jobs safely, but also on how to operate within a hazardous environment.

Examining the incidents of accidents and injuries both within NCDOT and within transportation departments of other states is another good tool. If employees in certain job classifications are experiencing higher accident and injury rates than other employees, training may be one way to reduce that rate. In addition, thorough accident investigation can identify not only specific employees who could benefit from training but also identify NCDOT-wide training needs.

Identifying certain variables that disproportionately contribute to accidents and injuries can also be used to identify employees at risk. The following variables have been identified as contributing to a disproportionate share of injuries and illnesses at the worksite:

- The age of the employee (younger employees have higher incident rates)
- The length of time on the job (new employees have higher incident rates)
- The type of work performed
- The use of hazardous substances

These variables should be considered when identifying employees' safety training needs.

Training the employees at risk is the next step once the at risk employees are identified. Managers/Unit Heads should then consult the Safety Training Matrix (Appendix A) to match the appropriate training to the employee.

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 training in their areas. They will also be responsible for identifying the appropriate safety training for employees in their organization. Managers/Unit Heads will obtain and coordinate the required training for the affected employees.

Managers/Unit Heads will also ensure compliance with this safety policy and procedure through their auditing process.

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6.3.2 Supervisors

Supervisors will not allow any employee to perform hazardous tasks or activities without proper training.

Supervisors will be responsible for communicating appropriate needs to managers/unit heads and/or supervisors.

Supervisors are responsible for ensuring that only trained and qualified employees are assigned or permitted to perform duties that may be hazardous.

6.3.3 Employees

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

It is the responsibility of each employee to identify potential hazards associated with required work assignments and report those suspected hazards to his or his supervisor immediately.

It is also the responsibility of each employee to refrain from work involving exposure to potential hazards without instruction/training specific to the hazards of the tasks involved and/or close guidance by a responsible party trained in the recognition and avoidance of hazards.

6.3.4 Safety and Loss Control

Safety and Loss Control will provide prompt assistance to managers/unit heads, supervisors, or others as applicable on any matter concerning safety and health training. Additionally, the Safety Training Manager will coordinate the development of required safety training.

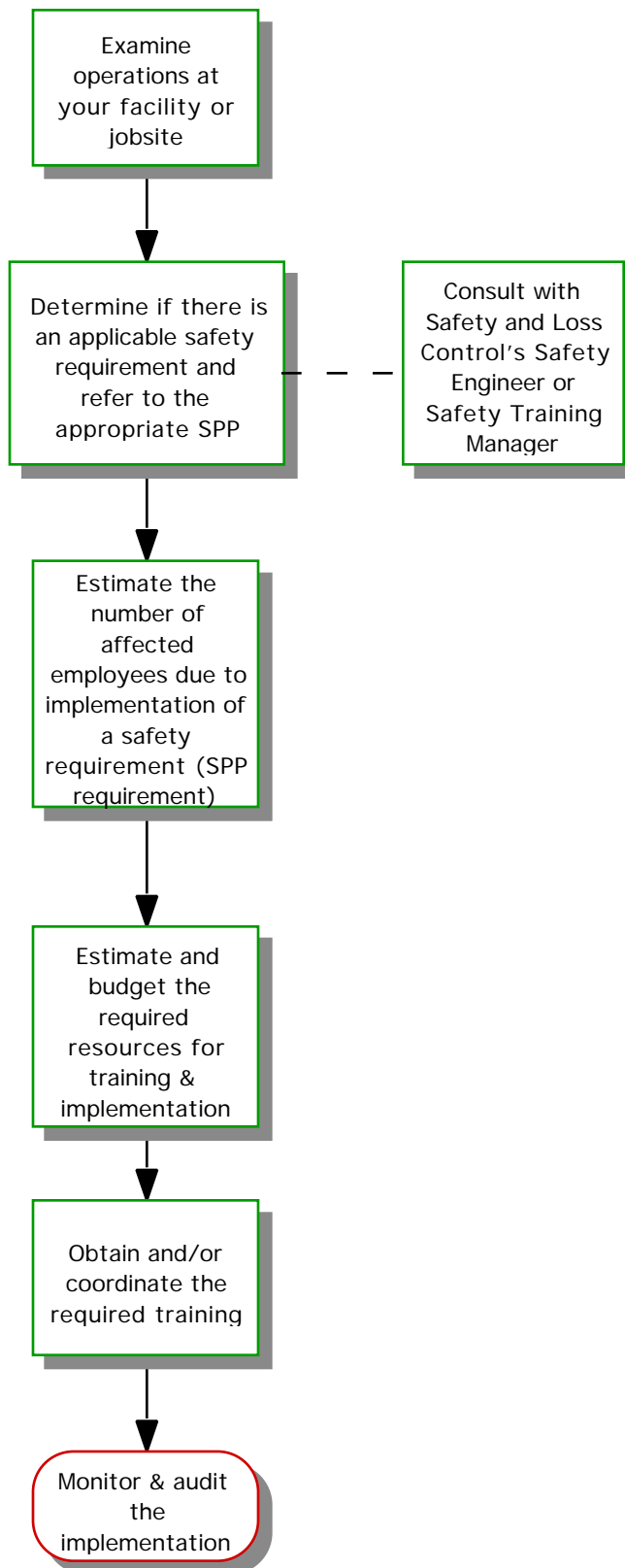
The Safety Training Program Standards Committee will have the general responsibility of reviewing new safety training courses prior to their implementation and also for reviewing modifications to any existing safety training courses.

The Safety Training Manager and Safety Engineers will provide consultative and audit assistance to ensure the effective implementation of this safety policy and procedure.

6.3.5 Division Safety Officers

Division Safety Officers will maintain training records in their divisions in accordance with the requirements in Section 6.2.2.

Safety Training Flowchart



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APPENDIX A: NCDOT's Safety and Health Training Matrix

Course Name and Number w/ Standard	SPP	Frequency	Examples of Job Class	Initial Length (Hrs)	Renew Length (Hrs)	Minimum Resources for Training	Training Method
Hazard Communication ((1910.1200(h))* & (1926.59(h))* (SAF# 130)	1910.12	Orientation, Pre-assignment / Post-incident & as new hazards are introduced	All DOT Employees	2	1.5	Placarding sign, MSDS sheets, HAZCOM posters, OSHA standards, TWVCR, PPE info, eyewash & shower instructions, crash and protector	IN/CC
Occupational Exposure to Hazardous Chemicals in the Laboratory(1910.1450 (1)(1))	TBD	Pre-assign, periodic	MLT lab	1.5	1	Laboratory, Placarding sign, bootcans, VCR/TV	JIT
Personal Protective Equipment & PPE Hazard Assessment (1910.134-138)*	1910.132	pre-assign & annual	At risk DOT employees identified through hazard assessment	(varies) 3 max.	(varies) 3 max.	Classroom, appropriate PPE, Hazard assessment for each station, VCR/TV, booklets	IN/TP
Asbestos-Level III (1910.1001)*	1910.1001A 1910.1001A	TBD	Operations & heavy maintenance, facilities management & their supervisors	16	16	Haz Assessment, PPE, TWVCR; hand-outs/brochures	CIN
Asbestos-Level IV-Awareness (vehicle brakes)(1910.1001)*	1910.1001	TBD	Equipment shop (Brake inspection/repair) & their supervisors	3	3	Haz Assessment, PPE, TWVCR; hand-outs/brochures	CIN
Asbestos-Level IV-Awareness(1910.1001)*	1910.1001	TBD	Custodial, equipment & maintenance shop	2	2	Haz Assessment, PPE, TWVCR; hand-outs/brochures	CIN
Bloodborne Pathogens (1910.1030)*	1910.1030	Orientation, pre-assign, annual	Custodial, construction, Safety Officers, MMT Techs, Drivers, maintenance, ferry crew & operators; DMV enforcement, supervisors, Designated Fleet Aid responders	2.5	1.5	TWVCR; PPE; Overhead projector, booklets. Trainee must be familiar with Hazard Assessment concepts or have successfully completed the Hazard Assessment/PPE course	IN (Personnel)

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APPENDIX A: NCDOT's Safety and Health Training Matrix (Continued) 2

Course Name and Number w/ Standard	SPP	Frequency	Examples of Job Class	Initial Length (Hrs)	Renew Length (Hrs)	Minimum Resources for Training	Training Method
Ergonomic Awareness for Employees(Proposed 1910 Appendix D)	TBD (Chapter 14)	Orientation, Pre-assignment, post hazard assessment	All clerical positions, warehouse, maintenance, equipment, DMV, HWY, DMV enforcement	1-3 (varies by job class)	1.5	Ergo standards, VCR/TV, booklet, manual	IN
Ergonomics-Risk Assessment (Proposed 1910 Appendix D)	TBD (Chapter 14)	Promotion & annual	Supervisors, SE's & others involved in Ergo risk assessment	24	10	Ergo standards, calculator, anthropometry tables, VCR/TV, booklet, manual, other	TP/CIN
Ionizing Radiation (1910.96(i)(2)* and 1926.63(k)(2)*) [SAF 100 & 200]	1910.96	pre-assign & periodic	Maintenance, Construction	8	2	Haz assessment, NRC info, PPE, TV VCR	IN&TP
Lead (1910.1025)*(1926.62)*	1910.1025	Pre-assignment, annual	SW, SI, DMV enforcement officer, equipment shop, Ferry maintenance	2.5	2.5 (includes proficiency exam)	Initial HAZ Assessment & PPE training, TV/VCR handouts, substance data sheet, Employee standard summary, other handouts	CIN
Medical and First Aid (1910.161(b)* ; 1926.50(c)* ; 1916.96*)*	1910.161	Pre-assigned, annual for CPR ; every 3 years for First Aid (pre-assigned & annual for Divers, Ferry Crew, DMV & Rest Area Custodians)	Two volunteer employees per candidate or office (All Divers, Ferry Crew, DMV enforcement, & Rest Area Custodians)	8	4 hrs. for First Aid; 8hrs for First Aid & CPR	CPR/First aid manuals, first aid kits, overhead, TV/VCR, bloodborne pathogens & hazard assessment, PPE training	TP/CC
Nonionizing Radiation (1910.97 & 1926.64)	1910.97	Pre-assign & annually	M&T, welders, Ferry, DMV Enforcement, Traffic Engineering, Highway Maintenance, Construction, Aviation, L&E, Geotech	1	1	Haz assessment, PPE, handouts/brochures, TV/VCR, MAT course's 250; 360; 375	IN
Nonionizing Radiation [(1910.97 & (1926.64 Laser*)*	1910.97	Pre-assign & annually	M&T lab	1.5	1	Haz Assessment, PPE, handouts/brochures, TV/VCR	IN

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APPENDIX A: NCDOT's Safety and Health Training Matrix (Continued) 3

Course Name and Number w/ Standard	SPP	Frequency	Examples of Job Class	Initial Length (Hrs)	Renew Length (Hrs)	Minimum Resources for Training	Training Method
Occupational Noise Exposure [SAF 245(1910.95)*	1910.95	Orientation, Pre-assignment, post hearing loss diagnosis	Determined by TWA exposure & through the NCP	2	2	VCR/TV, handout & hearing protection, OSHA standards poster	IN/TP
Employee Emergency Plan [1910.38 (a)(6)]*	1910.38	Orientation, new location assignment, periodic	All	1	1	Emergency plan, floor plan with emergency exits and routes marked, location of emergency showers (where applicable) & location of fire extinguishers, portable fire extinguisher	IN (This course should be taught in conjunction with the Fire Prevention course)
Fire Prevention Plans [1910.38(b)(4)]*	1910.38	Orientation, new location assignment, periodic	All	1.5	1.5	Emergency plan, VCR/TV, handouts, air-tight disposal cans, general housekeeping plan	IN (This course should be taught in conjunction with the Employee Emergency Plan course)
Employee Emergency Evacuation Team [1910.38 (Appendix 3)]	1910.38	Pre-assignment, periodic	All team members	3.5 (with demo)	3 (with demo)	Emergency plan, floor plan with ward zones, emergency exits and routes marked, location of fire extinguishers, a portable fire extinguisher, safety vests & hats, general housekeeping plans, flashlight, VCR, handouts	IN

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APPENDIX A: NCDOT's Safety and Health Training Matrix (Continued) 4

Course Name and Number w/ Standard	SPP	Frequency	Examples of Job Class	Initial Length (Hrs)	Renew Length (Hrs)	Minimum Resources for Training	Training Method
Portable Fire Extinguishers (SAF160)(1910.157(g) & 1928.150 & 1910.179(D)(3))*	1910.157	Initial assignment & annual	MCO, equipment operator, ferry crew, HMMW, equipment shop, crane operator, welders, evacuation team	2	1	Type ABC Portable fire extinguisher, fireproof bucket & materials, outdoor areas for burning, VCR/TV, overhead	IN
Fire Prevention and Protection for Welding, Cutting, and Brazing (MAP 155)(1928.352(e) & 1910.252(e))	1910.252	Pre-assign, periodic	Welders, watch personnel & their supervisors	1	1	Booklets; VCR/TV; PPE; Portable fire extinguisher	IN/JIT
Arc Welding Equipment (SAF155) (1910.254 and 1928.351)*	1910.252	Pre-assign, periodic	Welders	1.5	1	Welding equipment, PPE, booklets	IN/JIT or CC
Oxygen-Fuel Gas Welding and Cutting (EQP 106)(1910.253 and 1928.350)	1910.252 & 1910.101	Pre-assign, periodic	Welders	2	1	Welding equipment, PPE, booklets	IN/JIT or CC
Resistance Welding SAF 155(1910.255 (e)(3))	1910.252	Pre-assign, periodic	Welders	1.5	1	Welding equipment, PPE, booklets	IN/JIT or CC
Electrical Safety Related Work Practices (1910.331-335)*	1910.330	Orientation, Pre-assign, annual	Any employee exposed to a non-protected energized source: electrical crew, welders, riggers, maintenance, general services, utility crews, JCO, aerial truck operators, mechanic, BI, BW, warehouse, carpenter, HMMW, ferry & their supervisors	1-4 (varies by job class)	2	Mock electrical outlets, cords, lockout/tagout info, PPE,	IN/JIT
Ground Fault Protection-competent person (1928.404(b)(iii)) and 1916.502)	1910.330	Orientation, pre-assign for electricians, annual	Construction, maintenance, warehouse, ferry, BW, M&T lab	2.5	1.5	Mock electrical outlets, cords, lockout/tagout info, PPE	IN

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APPENDIX A: NCDOT's Safety and Health Training Matrix (Continued) 5

Course Name and Number w/ Standard	SPP	Frequency	Examples of Job Class	Initial Length (Hrs)	Renew Length (Hrs)	Minimum Resources for Training	Training Method
Lockout/Tagout (1910.147(c)(7))*	1910.147	Pre-assign, annual, periodic (general employees)	Electricians, maintenance, equipment, repair crews, construction, fill, ferry	0.5/3	2 (w/proficiency)	Mock electrical outlets, cords, pipe stem valves, lockout/tag out info & logs, PPE	IN
Compressed Air Equipment ((1910.169)(1926.308))	1910.169	Pre-assign, annual	Compressed air Equipment operators; Maintenance, construction, EDV, equipment	2	1.5	Equipment, power source, PPE, VCR/TV, manufacturer's info,	JIT
Cranes (BRG 150;SAF 210)((Crawler; Locomotive; Truck & Wheel Mounted) (1910.180(b)(3))	1910.178	Pre-assign, annual & post incident	All employees designated to serve as crane operators and crane competent persons	16	8	Crane, VCR/TV, manual, books & handouts	CIN
Overhead & Gantry Cranes (BRG 180;SAF 210) (1910.179)	1910.179	Pre-assign, annual & post incident	Any employee designated to serve as a crane operator	8	4	Facilities, overhead crane, VCR/TV, booklet	IN:JIT
Forklifts, Tractors, and Other Powered Industrial Trucks [SAF 240] (1910.178)*	1910.178	Pre-assign, post-incident & annual	All employees authorized to operate the equipment; Warehouse, depot maintenance, construction, ferry, equipment yard	3.5	1	TV/VCR, handouts/ booklets	IN:JIT
Excavation, Trenching, and Shoring-Competent Person Training(1926.850*) (SAF 250)	1926.850	Pre-assign & annual	Construction, EDV,	8	8	VCR/TV, overhead, manuals & course guides, OSHA standard	CIN OR TP(NCEU)
Shoring & Trenching Workshop-Train the Trainer (1926.850)	1926.850	DOT Construction Inspectors for Contract projects		32	32	Funding	TP(NCEU)
Explosives and Blasting Agents-Blaster (SAF 150)((1910.109 and 1926.801))*	1910.109	Pre-assign, annual	Designated blasters	32(inc. proficiency exam)	8(inc. review & proficiency exam)	VCR/TV, overhead, slides, course material, BAF info, blasting materials, signs, and outdoor facilities	CIN

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APPENDIX A: NCDOT's Safety and Health Training Matrix (Continued) 6

Course Name and Number w/ Standard	SPP	Frequency	Examples of Job Class	Initial Length (Hrs)	Renew Length (Hrs)	Minimum Resources for Training	Training Method
Explosives and Blasting Agents-Supervisors (1910.109 and 1926.900)	1910.109	Post designation of blaster	Supervisors of blasters	8	n/a	VCR/TV, overhead, slides, course materials, IATF info, blasting materials, signs, and outdoor facilities	GM
Chain Saw Safe Operations [SAF# 153]	TBD (Chapter 10)	Pre-assign, annual, post incident	All employees operating a chain saw	2	1.5	Chainsaws, ear guard & file, chaps, PPE, Hazard assessment, sample logs	IN
Wood Chipper Safety Training (EQP 250)	TBD	Pre-assign, periodic	Any employee assigned to use the wood chipper	2	1.5	Wood chipper & small limbs, fuel, PPE, Hazard assessment sheets	JIT
Flammable and Combustible Liquids (1910.106)	1910.106	Pre-assign, periodic	HAAP drivers, Pavement Management, construction, L&S, Hydraulic, Geotech, HAW, GW, Gas house attendants, spray paint operations	2	n/a	VCR/TV, overhead, fire extinguisher, approved flame cans, location of emergency cut off switches at pumps, first aid kit	IN:JIT
Confined Space-Entry & Observer Personnel (SAF 275)(1910.146(g))*	1910.146	Pre-assignment & annual	TBD but anyone having to enter a confined space as defined by 1910.146(b) (maintenance, equipment, ferry, EI, construction, Design Services, Geotech)	4-6 hrs inc. proficiency exam	4 inc. proficiency exam	Posting signs, HAZCOM posters, OSHA standards, TV VCR, PPE info, overhead projector	GM
Confined Space-Entry Supervisor(1910.146(g))*	1910.146	Prior to being placed on site as a confined space entry supervisor & annual	Any employee designated & trained as a confined space entry supervisor	8	8	Posting signs, HAZCOM posters, OSHA standards, TV/VCR, PPE info, overhead projector	GM/TP
Confined Space-Train the Trainer	1910.146	Pre-assignment	Any employee selected to provide Confined Space Training (inc. SE's)	8	4	Posting signs, HAZCOM posters, OSHA standards, TV/VCR, PPE info, overhead projector	GM/TP

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APPENDIX A: NCDOT's Safety and Health Training Matrix (Continued) 7

Course Name and Number w/ Standard	SPP	Frequency	Examples of Job Class	Initial Length (Hrs)	Renew Length (Hrs)	Minimum Resources for Training	Training Method
Ventilation (1910.94)(1926.57 & 353)	TBD (Chapter 14)	Orientation, pre-assignment	BW, PMA, welders, equipment shop, maintenance shop, MIT lab, photogrammetry, reproduction	1-3 (varies by job class & exposure)	As determined by periodic hazard analysis or post incident	Classroom, VCR/TV, handout	IN
Demolition (mechanical)-competent person(1926.858(g))	TBD	Pre-assign, periodic	Construction, facility management	2	2	Standard, VCR/TV, overhead, handouts, Asbestos standards, PPE, Hazard communication info	IN
Respiratory Protection [(1910.134(b)(3) & 1926.103(a)(3)]*	1910.134	pre-assign and where applicable, after passing physical	Bridge inspectors & certain BW, construction, alignment shop, landscape	6	3	Various respirators, overhead projector, VCR/TV	IN/TP
Power Operated Hand Tools & Power Lawn Mowers[(1926.302)(1910.241)]	1910.241	Pre-assign, post-incident & periodic	Bridge work, construction, shop, maintenance, HMM, Jan groups	2 (Practic. exam)	2(demo exam/discussion)	VCR/TV, various power hand tools, handouts, overhead	JIT
Machine Guarding for Mechanical Power Presses (1910.217(e)(3);(f)(2);(h)(13))*	1910.217	Pre-assign & annual	Equipment shop, mechanics	2.5	1.5	OSHA Standard, manufacturer info, ANSI B11.1-1971	IN
Machine Guarding for Woodworking Machinery (1910.211-216) (1926.300& 304)*	1910.211	Pre-assign & annual	Carpenter, HMM, equipment shop, BW	1.5	1(less if pass a competency exam)	Classroom, OSHA standards, posters, handouts, prior Hazard assessment training	IN
Scaffolding-Competent person (1910.28)(1926.451(a))	1910.28	Pre-assign, periodic, post incident	Construction, B W, maintenance, Ferry shipyard, competent person	3	2 (exam & on-site)	Yard, VCR/TV, Photos of scaffolding (Good & bad); Handouts	IN

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APPENDIX A: NCDOT's Safety and Health Training Matrix (Continued) 8

Course Name and Number w/ Standard	SPP	Frequency	Examples of Job Class	Initial Length (Hrs)	Renew Length (Hrs)	Minimum Resources for Training	Training Method
Ladders (1910.25-27 & 1926.1060(a)(b))*	1910.25 & 1910.27	Pre-assign & post incident	construction, maintenance, custodial, general services, facilities management	1.5	1	various ladders, lanyard, VCR/TV, booklets, training material	IN;JIT(w/ certification)
Aerial Truck Operations(1910.67(c)(II))*	1910.67	pre-assign & annual	Traffic services, bridge & inspectors	4	2.5	Aerial truck,VCR/TV, overhead, portable fire extinguisher, safety belts,lanyard,etc	IN/TP
Fall Protection [(Competent person)(1926.503)]*	TBD	Pre-assign, periodic	Designated competent persons in construction, bridge, aerial truck & ferry	2.5	2	Various fall protection devices, VCR/TV, booklets, training material	IN
Diving Operations [(1910.410(a))(1926.1076(a))]*	1910.410	Pre-assign & annual	Bridge Diver	16	12	SCUBA gear, charts,books,VC R/TV,HSP 5,Hazard assessment & PPE training	IN & TP(CPR)
Safety Training and Education (1926.21)*	1926.21	Orientation,pre-assign (pre-assign & annual for supervisors)	All DOT employees	3.5	3	VCR/TV,Supervisor Safety Manual	IN
Servicing of Single Piece and Multi-Piece Rim Wheels [SAF 198](1919.177(c)*	1910.177	Pre-assign,annual	Road maintenance, mechanics, MAP & bridge maintenance, others	5 (proficiency)	4 [(varies) (inc.pro fic- lency)]	Shop,tree,VCR/ TV,book- lets, pamphlets, equipment	JIT/IN/TP
Signaling & Traffic Control [SAF 238] (1926.201(a)) Flagger Training [ITRE]	1926.201	Pre-assign & annual	Construction, maintenance, HAW, BW, flaggers	4	4	classroom, TV/VCR,Outdoor training facilities	C/IN
Work Zone Safety Traffic Control (Basic) [SAF 230](1926.201) [ITRE]	1926.201	Pre-assign & annual	Field work zone supervisors of all flaggers	6	4	classroom, TV/VCR,Outdoor training facilities	TP(ITRE)
Work Zone Traffic Control (1926.201) (Intermediate) [ITRE]	1926.201	Pre-assign & annual	Division & Resident Engineers; Supervisors of Construction, maintenance,H BW, & BW flaggers	6	6	classroom, TV/VCR,Outdoor training facilities	TP(ITRE)

SAFETY POLICY & PROCEDURE

APPENDIX A: NCDOT's Safety and Health Training Matrix (Continued) 9

Course Name and Number w/ Standard	SPP1	Frequency	Examples of Job Class	Initial Length (Hrs)	Renew Length (Hrs)	Minimum Resources for Training	Training Method
Work Zone Traffic Control (1828.201) (Advanced) [ITRE]	1928.201	Pre-assign & annual	Division & Resident Engineers; Supervisors of Construction, maintenance, HAW, & BW Signage	12	8	classrooms, TV/VCR, Outdoor training facilities	TP(ITRE)
Spill Response (1910.120 (q)(6)(i)) (First Responder-Awareness & Operations)[SAF 315]*	TBD (Chapter 9)	Orientation, pre-assign	HAW, Construction, BW, GUY, Divers, Ferry crew, maintenance & support; construction, maintenance & equipment supervisors; General Services, MAP, D&V Enforcement	8	8	classroom, TV/VCR, Outdoor training facilities, equipment	IN/TP
Spill Response (1910.120 (q)(6)(ii)) (First Responder-Awareness Plus for MAP Drivers)[SAF]*	TBD	Before assignment & annual	MAP Drivers	8	8	VCR/TV, Outdoor training facilities, equipment, manual, overhead, booklets	CIN
Spill Response [SAF 320] (1910.120 (q)(6)(ii)) (First Responder-Operations & Technical Operations)*	TBD (Chapter 9)	Pre-assign & annual	Selected Ferry Division employees	32	32	TV/VCR, Outdoor training facilities, equipment	CIN
Spill Response (1910.120 (q)(7) [TRAINERS]*	TBD (Chapter 8)	Pre-assign & annual	Any DOT employee selected to provide the Spill response Awareness &/or Operations level training	11	3 (inc. competency exam)	VCR/TV, Outdoor training facilities, equipment, manual, overhead, booklets	CIN
Hazardous Waste Management Training for Small Quantity Generators-[SAF 315](49CFR282)*	TBD	Pre-assign & annual	Equipment, traffic services, road oil, landscape, divisional, ferry, bridge	8	4	classroom, TV/VCR, Outdoor training facilities, equipment	TP(DEHNR)

SAFETY POLICY & PROCEDURE

APPENDIX A: NCDOT's Safety and Health Training Matrix (Continued) 10

Course Name and Number w/ Standard	SPP	Frequency	Examples of Job Class	Initial Length (Hrs)	Renew Length (Hrs)	Minimum Resources for Training	Training Method
Back Belt Training	1910.001	Pre-assignment to manual lifting operations & upon request for others.	Maintenance; maintenance; equipment; construction; general services	2	1 (exam) & in techniques	Training material; backbelt; TWOCR	IN
Fleet Safety (Instructor)[SAF #111]	TBD (Chapter 8)	Annually	Designated employees who will provide Fleet Safety training; S.O.	32	32	Two Lead Instructors; classrooms; Overhead transparency projector; TV & Video Player, writing utensils, paper, Outdoor Vehicle Driving range	IN
Fleet Safety Course [SAF #110]	TBD (Chapter 8)	Pre-employment/pre-assignment/BI-annually	All DOT Employees who operate fleet vehicles	16	8	Certified Fleet Safety Instructor and same as above	CIN
Vehicle Backing Safety [SAF 420]	TBD	Pre-assign, annual	All DOT Employees who operate fleet vehicles	4	4	Certified Fleet Safety Instructor, Overhead transparency projector; TV & Video Player, writing utensils, paper, Outdoor Vehicle Driving range, appropriate vehicles	CIN
Motor Vehicles, Excavating and Material Handling Equipment (1926.602)	TBD	Pre-assign, annual, post-incident	M/O, maintenance, construction, landscape	3	3	Regdels, VCR/TV, vehicle driving range	IN;JIT &TP
Motorist Assistance Patrol Safety Related Training	TBD (Chapter 6)	Pre-assignment	M/AP drivers	TBD		VCR/TV, PPE, M/AP Inck, passed the DOT Fleet safety course, driving course, Hazard Assessment & Hazard Communication (First Responder Awareness) trained	CIN
Roll-over Protective Structures for Tractors (Industrial) (1928.1091 & 1002)	TBD	pre-assign, periodic & post incident	M/O, Landscap e, construction, some house, equipment	1	n/a	Construction manual, VCR/TV Overhead	JIT

SAFETY POLICY & PROCEDURE

APPENDIX A: NCDOT's Safety and Health Training Matrix (Continued) 11

Course Name and Number w/ Standard	SPP	Frequency	Examples of Job Class	Initial Length (Hrs)	Renew Length (Hrs)	Minimum Resources for Training	Training Method
OSHA 200 Log	TBD (Chapter 1)	Pre-assignment	All employees involved with the recording & maintaining of the OSHA 200 Log	1.5	n/a	TV/VCR player, Recording Guide for Occupational Injuries & Illnesses	IN
Workers' Compensation Seminar for Supervisors(SAF #425)	TBD (Chapter 1)	Within 2 months of promotion & an annual refresher	All Supervisors & managers & any Clerical Support staff involved with the administration of the DOT W/C program	3.5	2	TV/VCR player; handouts; videos; overhead transparencies	IN
Supervisor Safety Responsibilities [SAF 010]	TBD (Chapter 6)	At initial promotion & an annual refresher	All supervisors & managers	4(inc. review)	2	Keller's official safety handbook, Accident Prevention Manual, NCC Supervisors, Safety Manual	IN
Beyond Compliance- For Upper Level & Mid Level Managers & First Tier Supervisors	N/A	Periodic	All supervisors & managers	4	n/a	Classroom, TV/VCR:TP-Henrich, Coleman & Associates	TP: First Time courses/TP only
Violence in the Workplace	TBD	Orientation & periodic	All DOT employees	4	2	Classroom, TV/VCR, overhead, handouts, pamphlets	IN
Keys: *OSHA mandated and non-mandated training	§ Although not listed, all courses require an indoor classroom, Workplace Safety Manual, writing board or flip chart, markers, and restroom facilities. Some courses also require an outdoor classroom.						
* All applicable references are not listed in this matrix. Consult the "References" section of the Lesson Plans for a more complete listing of the resources used for a particular course.							
- Codes for the method of training are: IN = internal training by DOT employee/trainer; CIN = NCDOT Certified Trainer; CC= Community College; TP= Third Party; JI= Job Instructional Training							

APPENDIX B: Estimating Resources to Implement Safety Training

NCDOT managers can estimate total resources required for a particular safety requirement by evaluating the following mathematical expressions:

Equation (1) $R_T = E_A \times T_{TI} \times W_{EA}$

Where:

- R_T = Training resources required (\$)
- E_A = Number of affected employees
- T_{TI} = Initial length of training (hours)
- W_{EA} = Average hourly wage of the affected employees (\$/hour)

Equation (2) $R_I = (E_I \times T_I \times W_I) + P_C$

Where:

- R_I = Implementation resources (\$)
- E_I = Number of implementation employees
- T_I = Implementation time (hours)
- W_I = Average hourly wage of the implementation employees (\$/hour)
- P_C = Cost of Physical Resources (\$)

Equation (3) $S_R = R_T + R_I$

Where:

- S_R = Total resources required for a safety requirement

Likewise, NCDOT managers can also calculate refresher training resources requirements from equation 1, except substitute the refresher length training for T_{TI} .

APPENDIX D: NCDOT Training Model

Safety training shall be provided to employees during orientation, before doing any new job task and when a new procedure, process, or equipment is implemented before problems or accidents occur. Safety training will cover both general safety and health rules and work procedures, will cover how to safely perform the job task, recognition of hazards, the proper use of appropriate PPE, and safe operating procedures for each task and piece of equipment used for that task.

Analysis

The first step in the training process is to determine whether a problem can be solved by training. The analysis phase is used to determine what corrections are needed and to identify the important elements of the tasks. Supervisors and managers/unit heads should constantly assess (analyze) job site conditions and note deficiencies that can be corrected through training. Some of the conditions that should prompt additional safety training include:

- High labor turnover
- Increased incidents, accidents, injuries or near misses
- Implementation of new processes, equipment or procedures
- A lack of training or improper training from a previous employer
- A lack of knowledge of a work process
- Unfamiliarity with equipment
- Incorrect execution of a task

The employees themselves can provide valuable information on the training they need. Employees can identify safety and health hazards regarding:

- Concerns about job tasks
- Near-miss incidents
- Risks they are taking
- Jobs that involve hazardous operations or substances

Analysis regarding a need for training should preclude the possibility that other actions (such as hazard abatement or the implementation of engineering controls) would enable employees to perform their jobs properly.

Design

During the design phase the course developer uses the information gathered during the analysis phase and applies that information towards:

- Identifying course objectives

APPENDIX D: NCDOT Training Model (Continued) 2

Design (continued)

- Testing methods (for measuring retention and skill levels)
- Sequencing and structuring of delivery

Course objectives define observable, measurable and attainable goals which can be demonstrated by the participant. Proper demonstration by the participant indicates that the learning material or process has been retained and that the employee is capable of applying what was taught to the job task.

For a course objective to be effective, it should precisely identify what the individuals will do to demonstrate what they have learned or that the course objective has been reached. They should also describe the important conditions under which the individual will demonstrate competence and define what constitutes acceptable performance.

Using specific, action-oriented language, the instructional objectives should describe the preferred practice or skill and its objective behavior. For example, rather than using the statement: “The employee will understand how to use a respirator” as an instructional objective, it would be better to say: “The employee will be able to describe how a respirator works and when it should be used.”

Objectives are most effective when worded in sufficient detail that other qualified persons can recognize when the desired behavior is exhibited. For this, it is necessary to identify what the employee is expected to do and in what ways, if any, the employee’s performance is deficient. This information can should be obtained during the analysis phase and should pinpoint what an employee needs to know in order to perform his/her job.

A variety of training presentation styles and methods can be used depending upon the course location, the prospective students, available resources, i.e. classrooms, and the particular course objectives. Some of the various presentation styles used include:

- Lecture
- Lecture/discussion
- Demonstration

Development

The development phase involves creating or procuring instructional material, learning activities, and the delivery system (i.e. rooms, tables, equipment required, etc.). Course content can be developed through lesson plans, including instructor and participant outlines. Content of the lesson plans can be determined by such means as:

APPENDIX D: NCDOT Training Model (Continued) 3

Development (continued)

- Using accident and injury records to identify the type of accidents and how they occurred and what instructional material and method can be used to prevent them from recurring.
- Requesting employees to provide, in writing and in their own words, descriptions of their jobs including the tasks performed and the tools, materials, and equipment used.
- Observing employees at the worksite as they perform tasks, asking about the work, and recording their answers.
- Examining similar training program courses offered by other companies in the same industry.

Factors used to determine the type of learning activity to be incorporated into the training include:

- Training resources available to the employer
- Group training program that uses an outside third party trainers
- Personally training the employees using internal trainers or one-to-one mentors

Other factors include the kind of skills or knowledge to be learned. Is the learning oriented toward physical skills (such as the use of special tools) or toward mental processes and attitudes? Such factors will influence the type of learning activity designed by employers. The training activity can be group-oriented (with lectures, role play, and demonstration) or designed for the individual (with self-paced instruction).

The determination of methods and materials for the learning activity can be as varied as imagination and available resources will allow. Charts, diagrams, manuals, slides, films, viewgraphs (overhead transparencies), videotapes, audiotapes, or blackboard and chalk, or any combination of these and other instructional aids may be used. Whatever the method of instruction, the learning activities should be developed in such a way that the employees can clearly demonstrate that they have acquired the desired skills or knowledge.

Implementation

The training should be presented so that its organization, meaning, and objectives are clear to the employees. To achieve this trainers should:

- Provide overviews of the material to be learned
- Relate, wherever possible, the new information or skills to the employees' goals, interests, or experiences

APPENDIX D: NCDOT Training Model (Continued) 4

Implementation (continued)

- Reinforce what the employees learned by summarizing the program's objectives and the key points of information covered

In order to be motivated to learn the course material, the employees must be convinced of its importance and relevance. Among the ways of developing motivation are:

- Explaining the goals and objectives of instruction
- Relating the training to the interests, skills, and experiences of the employees
- Outlining the main points to be presented during the training session(s)
- Pointing out the benefits of training

An effective training program allows employees to participate in the training process and to practice their skills or knowledge. This will help to ensure that they are learning the required knowledge or skills. Employees can become involved in the training process by participating in discussions, asking questions, contributing their knowledge and expertise, learning through hands-on experiences, and through role-playing exercises.

Training presentations can be given in a variety of methods depending upon the location of the training, the prospective students, available resources, i.e. classrooms and particular course objectives.

Evaluation

To ensure that the training program is accomplishing its goals, an evaluation of the training can be valuable. Training should have a method of measuring the effectiveness of the training. An evaluation of training can give employers the valuable information regarding the training provided to its employees.

A plan for evaluating the training session(s) should be developed when the course objectives and content are developed. It should not be delayed until the training can be completed. Evaluation will help determine the amount of learning achieved and whether an employee's job performance has improved. Among the methods used in training evaluation are:

- Student opinion - post training questionnaires or informal discussions with employees can help employers determine the relevance and appropriateness of the training program provided.
- Supervisor observations - supervisors are in good positions to observe, evaluate and analyze employees' performance both before and after the training and note improvements or changes.
- Workplace improvements - the ultimate success of a training program may be exhibited in changes throughout the workplace that result in increased productivity through safer operating habits, reduced injury or accident rates, and lowered lost workdays.

APPENDIX D: NCDOT Training Model (Continued) 5

Evaluation (continued)

If, after evaluation, it is clear that the training was unable to provide the employees with the level of knowledge and skill that was expected, then it may be necessary to revise the training program or to retrain those individuals who do not meet the necessary course objectives. Among the questions that could be asked employees and trainers are:

- Were parts of the content already known and, therefore, unnecessary?
- What material was confusing or distracting?
- Was anything missing from the program?
- What did the employees learn and what did they fail to learn?

It may be necessary to repeat steps in the training process; that is, to return to the first steps (analysis and design) and retrace the training process. As the program is evaluated, the following questions should be asked:

- If a job analysis was conducted, was it accurate?
- Was any critical feature of the job overlooked?
- Were the important gaps in knowledge and skill included?
- Was material already known by the employees intentionally omitted?
- Were the instructional objectives presented clearly and concretely?
- Did the objectives state the level of acceptable performance that was expected of employees?
- Did the learning activity simulate the actual job?
- Was the learning activity appropriate for the kinds of knowledge and skills required on the job?
- When the training was presented, was the organization of the material and its meaning made clear?
- Were the employees motivated to learn?
- Were the employees allowed to participate actively in the training process?
- Was the employer's evaluation of the program thorough?

A critical examination of the steps in the training process will help assist in determining whether any course revisions are necessary. Using these steps will assist in presenting the training in a clear manner.

Sanitation

SPP# 1910.141

Quick Reference

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1.0 Purpose

The purpose of this safety policy and procedure is to establish guidelines to ensure that a clean and sanitary work environment is provided to North Carolina Department of Transportation (NCDOT) employees.

2.0 Scope and Applicability

Sanitary and healthy workplace conditions promote a productive work environment and ensure that employees' health and welfare are well protected.

This safety policy and procedure includes provisions for training and discussion on the sanitation requirements for construction jobsites and facilities.

It also details the areas of responsibility for managers/unit heads, supervisors, employees, and Safety and Loss Control within NCDOT.

This safety policy and procedure applies to all NCDOT employees.

3.0 Reference

This safety policy and procedure is established in accordance with Occupational Safety and Health Standards for General Industry (29 CFR 1910.141) and Occupational Safety and Health Standards for Construction Industry (29 CFR 1926.51).

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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. Therefore, NCDOT construction jobsites and facilities will be kept clean, sanitary, and equipped for employee health. When sanitation hazards exist that cannot be eliminated, then engineering practices, administrative practices, safe work practices, Personal Protective Equipment (PPE), and proper training regarding Sanitation will be implemented. These measures will be implemented to minimize those hazards to ensure the safety of employees and the public.

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 on Sanitation. 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 Sanitation.

6.1 Definitions

Chemical Toilet

Portable toilet that uses chemical disinfection.

Lavatory

Basin or similar vessel used exclusively for washing of the hands, arms, face, and head.

Nonpotable Water

Water that is not approved for drinking.

Potable Water

Water approved for drinking by the State or local authority.

Toilet Fixture

Fixture maintained within a toilet room for the purpose of defecation or urination or both.

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Toxic Material

Material in concentration or amount which exceeds the applicable limit established by a standard.

Urinal

Toilet facility maintained within a toilet room for the sole purpose of urination.

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
- Construction Jobsite Sanitation Requirements
- Facility Sanitation Requirements

6.2.1 Training

NCDOT employees shall be instructed on the importance of sanitation in their workplaces. Good housekeeping and personal cleanliness in employee's job duties shall be emphasized to all employees. Additional specific job training will be conducted as conditions warrant. Employees shall be instructed upon initial employment or new job assignment.

6.2.2 Construction Jobsites Sanitation Requirements

Sanitation at construction jobsites must be properly managed and effectively integrated with the construction site activities. The components of a construction jobsite sanitation plan should include provisions for:

- Potable water
- Nonpotable water
- Toilets at construction sites
- Food handling
- Washing facilities
- Eating and drinking areas
- Vermin control
- Change rooms

Appendix A presents a construction jobsite sanitation plan and checklist per the above provisions.

SAFETY POLICY & PROCEDURE

6.2.3 Facility Sanitation Requirements

Sanitation at facilities must also be properly managed and effectively integrated with the facility's activities. The components of a facility's sanitation plan should include provisions for:

- Housekeeping
- Waste disposal
- Vermin control
- Toilet facilities
- Washing facilities
- Showers (as applicable)
- Change rooms (as applicable)
- Food and beverage consumption

NCDOT does not have clothes drying equipment at its facilities. Therefore, any cleaning of NCDOT supplied clothing is performed by contract.

Appendix B presents additional details for a facility's sanitation plan.

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 supplies and equipment to maintain a safe and healthy workplace. Managers/Unit Heads will obtain and coordinate the required training for employees.

Managers/Unit Heads will also ensure compliance with this safety policy and procedure through their auditing process.

Managers/Unit Heads will ensure that adequate supplies are available.

6.3.2 Supervisors

Supervisors will be responsible for communicating appropriate needs to managers/unit heads and/or supervisors.

Supervisors will audit for compliance with this safety policy and procedure during their Facility and Jobsite Audits.

Supervisors will ensure that assembly rooms, toilets, and office spaces are maintained in an orderly manner.

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6.3.3 Employees

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

Each employee is responsible for maintaining NCDOT facilities in an orderly manner. Receptacles shall be used and waste disposed of properly. Spills, mud, and asphalt on footwear shall be removed promptly to prevent stains. Employees shall adhere to correct housekeeping and personal cleanliness in the performance of their job duties.

6.3.4 Safety and Loss Control

Safety and Loss Control will provide prompt assistance to managers/unit heads, supervisors, or others as necessary on any matter concerning this safety policy and procedure. Safety and Loss Control will assist in developing or securing the required training. Safety and Loss Control will work with Purchasing and Central Equipment Unit to ensure that all newly purchased sanitation supplies and equipment comply with this safety policy and procedure and current safety regulations.

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

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APPENDIX A: Construction Jobsite Sanitation Plan and Checklist

Jobsite: _____ Location: _____ Date: _____
Name: _____ Job Title _____

Potable Water

An adequate supply of potable water shall be provided. Portable containers that are used to dispense drinking water shall be capable of being tightly closed, equipped with a tap, clearly marked and not used for any other purpose. The common drinking cup is prohibited. (Water shall not be dipped from containers.)

YES NO

- | | | |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | Do all the portable containers have tightly closed lids? If not, replace non-tightly closed containers. |
| <input type="checkbox"/> | <input type="checkbox"/> | Are all portable containers equipped with taps? If not, replace with tap equipped containers. |
| <input type="checkbox"/> | <input type="checkbox"/> | Are containers clearly marked? If not, mark containers. |
| <input type="checkbox"/> | <input type="checkbox"/> | Is there a sanitary dispenser for the single service cups? If not, obtain sanitary dispenser. |
| <input type="checkbox"/> | <input type="checkbox"/> | Is there a receptacle for the disposal of the used single service? If not, obtain receptacle. |

SAFETY POLICY & PROCEDURE

APPENDIX A: Construction Jobsite Sanitation Plan and Checklist (Continued) 2

Nonpotable Water

Nonpotable waters shall be identified by signs to indicate that the water is unsafe and is not to be used for drinking, washing, or cooking purposes. Nonpotable water trucks shall also be clearly marked and identified. Additionally, there shall be no cross-connection between systems furnishing potable and non-potable water.

YES **NO**

Are all non-potable containers and trucks clearly marked and identified? If not, mark containers and trucks.

Are back flow prevention devices installed to prevent back flow or back siphonage into a potable water system?

Toilets

YES **NO**

Does the construction crew have readily available access to nearby toilet facilities? If no, toilets shall be provided for employees per the following:

Number of Employees

20 or less

21 - 199

200 or more

Minimum Number of Toilet Facilities

1

1 toilet seat and 1 urinal per 40 workers

1 toilet seat and 1 urinal per 50 workers

YES **NO**

Is the project jobsite temporary? If yes, at least one toilet facility shall be made available.

Does the jobsite have access to a sanitary sewer? If no, then portable chemical toilets (e.g., "Porta Johns") shall be made available.

APPENDIX A: Construction Jobsite Sanitation Plan and Checklist (Continued) 3

Food Handling

YES **NO**

Are food handling service facilities onsite? If yes, ensure:

- All applicable laws, ordinances, and regulations of the local jurisdiction are met
- Food service facilities are operated with sound hygiene practices
- Dispensed food is wholesome, free from spoilage, and protected against contamination

Washing Facilities

YES **NO**

Are employees engaged in the application of paints, coatings, herbicides, insecticides, or in other operations where contaminants may be harmful? If yes, and employees are not a mobile construction crew with transportation readily available to nearby washing facilities, then the following requirements are applicable:

- Lavatories with:
 - Hot and cold running water
 - Hand soap or similar cleansing agents
 - Individual cloth or paper hand towels, air blowers, or clean section of continuous cloth toweling
- Showers (if provided) will:
 - Be provided for each 10 employees of each sex
 - Have body soap or similar cleansing agents
 - Have hot and cold water feeding a common discharge line
 - Have individual clean towels

Eating and Drinking Areas

Ensure employees are not allowed to consume food or beverages in the toilet facilities or in any area exposed to toxic materials.

SAFETY POLICY & PROCEDURE

APPENDIX A: Construction Jobsite Sanitation Plan and Checklist (Continued) 4

Vermin Control

Every enclosed workplace shall be constructed and maintained to prevent the entrance or harborage of rodents, insects, and other vermin.

Change Rooms

YES **NO**

Are employees required to wear protective clothing because of the possibility of contamination with toxic materials? If yes, change rooms shall:

- Be equipped with storage facilities for street clothes
- Be equipped with separate storage facilities for the protective clothing

APPENDIX B: Facility Sanitation Requirements

Housekeeping

- All places of employment are to be kept clean.
- Floors in work areas are to be maintained in a dry condition. Where wet processes are used, drainage shall be maintained and false floors, platforms, mats, or other dry standing places shall be provided, where practical, or appropriate waterproof footgear shall be provided.
- Every floor, working place and passageway shall be kept free from protruding nails, splinters, loose boards, and unnecessary holes and openings.

Waste Disposal

- Any waste receptacle used for decaying solid or liquid waste or refuse shall be so constructed that it does not leak and may be thoroughly cleaned and maintained in a sanitary condition. Such a receptacle shall be equipped with a solid tight-fitting cover, unless it can be maintained in a sanitary condition without a cover.
- All sweepings, solid or liquid wastes, refuse and garbage shall be removed in such a manner as to avoid creating a menace to health and as often as necessary or appropriate.

Vermin Control

- Every enclosed workplace shall be constructed, equipped, and maintained to prevent the entrance of and harboring of rodents, insects and other vermin.
- A continuing and effective extermination program shall be instituted where the presence of vermin are detected.

Water Supply

- Potable water shall be provided in all places of employment for drinking, washing of the person, cooking, washing of foods, washing of cooking or eating utensils, washing of food preparation or processing premises and personal service rooms.
- Portable drinking water dispensers shall be designed, constructed, and serviced so that they shall be capable of being closed and shall be equipped with a tap. Open containers for drinking water from which water must be dipped or poured are prohibited.
- A common drinking cup and other common utensils are prohibited.

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APPENDIX B: Facility Sanitation Requirements (Continued) 2

Toilet Facilities

- Toilet facilities, in toilet rooms separate for each sex, shall be provided per the following:

<u>Number of Employees</u>	<u>Minimum Number of Water Closets</u>
1 to 15	1
16 to 35	2
36 to 55	3
56 to 80	4
81 to 110	5
111 to 150	6
Over 150	1 additional fixture for each additional additional 40 employees

Where toilet facilities will not be used by women, urinals may be provided instead of water closets. However, the number of water closets in those cases shall not be reduced to less than two-thirds of the minimum specified.

- Where toilet rooms will be occupied by no more than one person at a time and can be locked from the inside and contain at least one water closet, then separate toilet rooms for each sex need not be provided.
- The sewage disposal method shall not endanger the health of employees.
- Each water closet shall occupy a separate compartment with a door and walls or partitions between fixtures sufficiently high to assure privacy.

Washing Facilities

- Lavatories are to be made available in all places of employment.
- Each lavatory shall be provided with hot and cold running water.
- Individual hand towels of cloth or paper, warm air blowers, or clean individual sections of continuous cloth toweling convenient to the lavatories shall be provided.

Showers

- Whenever showers are required, one shower shall be provided for each 10 employees of each sex.
- Body soap or other appropriate cleaning agents convenient to the shower shall be provided.
- Showers shall be provided with hot and cold running water feeding a common discharge line.
- Employees who use showers shall be provided with individual clean towels.

APPENDIX B: Facility Sanitation Requirements (Continued) 3

Change Rooms

Whenever employees are required by a particular OSHA standard or agency guideline to wear protective clothing because of the possibility of contamination with hazardous materials, change rooms equipped with storage facilities for street clothes and separate storage facilities for the protective clothing shall be provided.

Consumption of Food and Beverage on Premises

- No employee shall be allowed to consume food or beverage in a toilet room nor in any area exposed to toxic material or infectious agents.
- Disposal containers constructed of smooth, corrosive resistant, easily cleanable or disposable material shall be provided and used for the disposal of waste food.
 - Number, size and location of such receptacles shall encourage their use and not result in overfilling.
 - They shall be emptied not less frequently than once each working day, unless unused, and shall be maintained in a clean and sanitary condition.
 - They shall be provided with solid tight-fitting covers unless sanitary conditions can be maintained without use of a cover.
- No food or beverage shall be stored in toilet rooms or in areas exposed to a toxic material or infectious agents
- In all places of employment where all or part of the food service is provided, the food dispensed shall be wholesome, free from spoilage, and shall be processed, prepared, handled and stored in such a manner as to be protected from contamination.
 - All food service employees shall wear appropriate clean outer clothing such as caps, coats, aprons, etc., while on duty and shall observe proper personal hygiene. No employee shall use tobacco in any form while engaged in the preparation and handling of food.
 - The hands of all employees handling food, utensils or equipment shall be kept clean and shall be washed before beginning work and after each visit to the toilet.
 - No person who has a contagious or infectious disease shall be allowed to work in food service.
 - Persons handling money should always wash hands prior to handling food or should use disposable gloves.

Unsafe Conditions**SPP# 1910.002****Quick Reference**

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1.0 Purpose

The purpose of this safety policy and procedure is to establish the methods and accountability for the identification, avoidance, and elimination of unsafe and/or hazardous conditions in the workplace.

2.0 Scope and Applicability

This safety policy and procedure provides guidelines to assist all employees of the North Carolina Department of Transportation (NCDOT) to identify unsafe conditions which may exist in the workplace. This procedure also details the area of responsibility for managers/unit heads, supervisors, employees, and Safety and Loss Control within NCDOT.

This safety policy and procedure affects all NCDOT employees.

3.0 Reference

This safety policy and procedure is established in accordance with the Occupational Safety and Health Act of 1970.

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. Therefore, NCDOT employees will be trained to recognize unsafe conditions and hazards related to their job duties. When hazards exist that cannot be eliminated, then engineering practices, administrative practices, safe work practices, Personal Protective Equipment (PPE), and proper training regarding Unsafe Conditions will be implemented. These measures will be implemented to minimize those hazards to ensure the safety of employees and the public.

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5.0 General Responsibilities

It is the responsibility of each manager/unit head, supervisor, and employee to ensure implementation of NCDOT's policy on Unsafe Conditions. It is also the responsibility of each NCDOT employee to report immediately any unsafe act or condition to his or her supervisor and to make all efforts to avoid accidents and injuries. 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 Unsafe Conditions.

6.1 Training

It will be the responsibility of Safety and Loss Control to support development of safety training programs for all NCDOT activities. Furthermore, Safety and Loss Control will be responsible for performing safety audits, safety design, and technical compliance guidance.

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 required resources to eliminate unsafe conditions in their areas. Managers/Unit Heads will obtain and coordinate the required training for their employees.

Managers/Unit Heads will also ensure compliance through their auditing process.

6.3.2 Supervisors

Supervisors will not allow any employee who has not received the required training to perform any unsafe tasks or activities associated with his or her job.

Supervisors will be responsible for communicating appropriate needs to managers/unit heads and/or supervisors.

Supervisors will ensure that employees are provided with PPE as necessary for their job.

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6.3.3 Employees

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

6.3.4 Safety and Loss Control

Safety and Loss Control will provide prompt assistance to manager/unit heads, supervisors, or others as necessary on any matter concerning this safety policy and procedure. Safety and Loss Control will assist in developing or securing the required training. Safety and Loss Control will work with Purchasing and Central Equipment Unit to ensure that all newly purchased equipment complies with current safety regulations and this safety policy and procedure.

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

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION



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PREFACE
