

City of Lincoln



Safety Manual

August 2011

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## GENERAL RULES

### Section 1

#### 101 Application

- a) Employees will receive training in the use of the safety manual. Supervisors are responsible for arranging training on the details of this manual with new employees and periodically thereafter as needs require.
- b) If an employee is called upon to perform work that he/she considers hazardous and safety protection is questioned, the matter shall be brought to the attention of the supervisor before starting the work.
- c) These rules represent minimum requirements and are only intended to cover normal conditions. Employees shall use good judgment in dealing with conditions not covered in these rules. Additionally, employees shall follow all Divisional and/or City policies and procedures.
- d) Failure to report an accident or misrepresenting the facts shall be considered just cause for disciplinary action.

#### 102 Reporting Employee Injuries

- a) Injuries shall be reported to the supervisor as soon as practical.
- b) Use the *City of Lincoln Employee Injury or Illness Report* form and a *State First Report of Alleged Occupational Injury or Illness* form, for reporting all work related employee injuries or illnesses.
- c) Employees may utilize the City's designated care provider for work related injuries.
- d) For serious injuries, provide first aid and dial 911 for emergency medical assistance. Serious injuries shall be reported promptly to the Department Head and Risk Management.

#### 103 Reporting City Vehicle Accidents

- a) The driver shall report accurately and immediately every accident involving a vehicle in their possession according to City policy. *Vehicle Accident Report* forms are available through your supervisor. For serious accidents, the Department Head and Risk Management shall be notified.
- b) The driver shall not discuss the causes or results of an accident with other parties but shall secure all pertinent facts and information. Questions asked by proper authority shall be answered, but under no circumstances shall fault or negligence be admitted, or any statement signed, for anyone except proper representative of the City (i.e. Police or Risk Management).
- c) Should the other driver demand immediate action, referral shall be made to the employee's supervisor.
- d) The driver, when involved in an accident, shall stop and give name and address, and the city department's name and address. The driver shall also secure the drivers license number and insurance information from the other vehicle operator, along with the name and address of others involved in the accident and of any witnesses to the accident. The driver shall also note the position of vehicles after the collision, in reference to the edge of the road, sidewalk and center of the intersection.
- e) If any person is injured as the result of a vehicle accident, employees shall see that necessary emergency aid is provided.
- f) Police shall be called for every accident involving a City vehicle, regardless of accident location.

#### 104 Reporting Hazardous Conditions

- a) When a hazardous condition that may cause injury or property damage or interfere with services is observed, regardless of the department in which the condition exists, the employee shall report it promptly to a proper authority and when necessary guard the area.
- b) An employee who receives a report of any hazardous emergency condition shall obtain the name of the informant, the exact location, and the nature of the trouble. The employee shall immediately refer this information to the supervisor.

**105 Intoxicating Beverages and Drugs**

Being under the influence of or the use of intoxicating beverages or drugs on the job or during working hours is prohibited and shall be sufficient cause for disciplinary action. Any employee taking drugs prescribed by a physician or over-the-counter drugs that could impair assigned work shall report this fact to the supervisor.

**106 Planning Ahead**

- a) Before commencing any work, care shall be taken to establish a safe procedure. When more than one employee is engaged in the same job, all employees concerned shall understand the procedures to be followed. Under no circumstances shall safety be sacrificed for speed.
- b) Employees shall always try to place themselves in a safe and secure position.
- c) Employees shall not engage in practical jokes or horseplay.

## OFFICE SAFETY

### Section 2

#### 201 Lifting

- a) Lifting shall be done using proper lifting techniques.
  - (1) Feet shoulder width apart.
  - (2) Load close to your body.
  - (3) Bend the knees, not the back.
  - (4) Get a firm hand grip.
  - (5) Keep you chin tucked into the body.
  - (6) Tighten your stomach muscles when lifting.
  - (7) Lift with the legs, keeping the “S” curve of your spine in line.
  - (8) Move your feet rather than twisting your body or lunging.
- b) Large boxes or bundles of supplies shall be moved by a hand truck or unpacked and delivered in smaller parcels or moved with the assistance of several persons.
- c) Bulky objects shall not be carried in such a way as to obstruct the view ahead or interfere with the free use of handrails.

#### 202 Floors

- a) When floors are polished or waxed, care shall be taken to prevent the creation of slipping hazards.
- b) All liquid spills shall be cleaned immediately.
- c) A “Wet Floor” sign shall be posted in an area of wet floors.
- d) Loose objects, such as pencils or paper, shall not be left on stairs or floors.
- e) Floor mats shall be kept flat and exchanged if they become water soaked.

#### 203 Electrical

- a) Electrically-operated office machines shall be grounded or double insulated.
- b) Only fused power strips shall be utilized when equipment is not directly plugged into an electrical outlet.
- c) Electrically defective machines or machines with defective cords shall be tagged out of service and not used.
- d) Only qualified employees shall attempt to clean, oil, or adjust a machine that is running.
- e) Unsafe electrical cords, faulty electrical equipment, or any other hazardous condition shall be reported to the supervisor.

#### 204 General Office

- a) Use a ladder when climbing to a different height. Do not use boxes, chairs, or other make-shift supports in place of ladders.
- b) All ladders shall have a load limit plaque or label. Follow the load limits as labeled remembering to include the weight of the parcel being lifted.
- c) Doors shall be opened slowly to avoid striking someone on the other side.
- d) Running is prohibited.
- e) Hand rails shall be used on stairways.
- f) Desk drawers, files drawers, or drawer slides shall be closed when unattended.
- g) Only one drawer of a file cabinet shall be open at a time.
- h) Avoid heavily loading upper drawers to prevent tipping.
- i) Material shall be stored on shelves in a manner to prevent falling; heavy objects shall be placed on lower shelves.
- j) When sitting on a chair without a tilt mechanism, do not lean the chair back. Avoid sitting on the edge of a chair. Sit back into the chair using proper ergonomics.

- k) Solvents and other volatile or toxic substances shall be used only with adequate personal protection or in a well ventilated area. Refer to Section 507 *Hazardous Materials*.

**205 Sharps**

- a) Broken glass and other sharp objects shall be placed in a secondary container, such as a box, before placing into trash containers.

**206 Exits**

- a) Emergency exits and emergency equipment such as fire extinguishers and fire hose racks shall be kept clear of obstructions.

**207 Computer Terminals**

- a) Employees using computer terminals for extended periods of time shall use proper ergonomics as follows:
  - (1) Keep feet resting firmly on the floor.
  - (2) Sit in the chair properly if sitting.
  - (3) Position the monitor directly in front of the user with a distance from the eyes of 20" to 24".
  - (4) Hands on the keyboard should be slightly below the elbows.
  - (5) Arms should be next to the body and not extended forward.
  - (6) Wrist should be kept in a neutral position.
  - (7) Sitting exercises should be completed every 90 to 120 minutes as needed.
- b) Computer terminals and other office equipment shall be adjusted to the proper ergonomic sitting/users height.

## SHOP AND YARD SAFETY

### Section 3

#### 301 Non-Equipment Management Personnel Guidelines

- a) Unauthorized personnel shall refrain from being in shop areas. Areas shall be posted with appropriate signage.
- b) Employees passing through the shop areas should stay within clearly defined walkways.
- c) Walkways shall be kept clear of shop equipment and or other obstructions.
- d) Employees shall not idly congregate in a shop area so as to distract the mechanical staff or otherwise interfere with ongoing work.
- e) Equipment shall be moved to or from the shop area by authorized personnel only.

#### 302 Equipment Repair and Maintenance Personnel Guidelines

- a) Avoid direct skin contact with hot vehicle parts.
- b) Keep clear of moving fans and fan belts. Do not wear loose clothing.
- c) Do not smoke or produce a spark when working on or near batteries. Covering the battery is highly recommended. Eye, hand and face protection shall be worn when handling batteries.
- d) Be aware of the possibility of electrical shock from spark plugs, coil wires, etc.
- e) Employees working on a crawler shall not lay in an area where their legs will be exposed to vehicle or foot traffic.
- f) When working under a piece of equipment the key shall be removed from the transmission, the vehicle placed in neutral or park, with the wheels blocked. Eye protection is required where there is the possibility of debris falling into the mechanic's eyes.
- g) Air activated hoist shall be used in accordance with manufacturer's requirements for safe operation. Only trained personnel shall operate the equipment.
- h) No employee shall work under a piece of equipment supported by a jack only. Equipment shall be well supported with jack stands, blocks or other solid means.
- i) When test starting a piece of equipment, employees shall be certain the unit is in park or neutral, and the brake is set.
- j) Tools shall be kept free of excess grease and oil.
- k) The body should not be placed in a situation where an unexpected movement of a vehicle or slippage could cause bodily injury.
- l) Use proper cleaning solvents. Never use gasoline for cleaning purposes.
- m) Shop areas shall be equipped with appropriate eye wash facilities, fire extinguishers (see section 1202 *Fire Extinguishers* for proper classification) and a first aid kit along with appropriate signage.

#### 303 Sanitation

- a) Floors shall be kept free of litter, dirt and debris.
- b) Grease and oil spills shall be treated with an absorbent compound. Where applicable, a spill kit will be placed in the area.
- c) Employees shall be especially careful of footing on wet floors. Excessive water shall be removed to promote drying. Wet Floor signage shall be utilized when appropriate.
- d) Trash containers shall be emptied on a regular basis and maintained in a clean, orderly fashion.
- e) Work benches and tool storage areas shall be kept orderly and clean.
- f) Drain pans which contain potentially flammable material such as oil or grease shall not be left unattended for long periods of time. Storage of potentially flammable material shall be done in fire approved, closed-top container.

### 304 Storage

- a) Gasoline and other flammable materials shall be stored in proper fire safe containers and not be left open around the shop. Propane tanks shall be stored to the exterior of shop buildings in secured, approved, storage location.
- b) Hoses such as air, water, etc. shall be properly coiled and stored so as not to pose a hazard.
- c) Hazardous materials shall be stored in an approved, closed containers, properly labeled, and in appropriate locations per OSHA guidelines. See *City Hazard Communication Policy*.
- d) Approved fire containers with lids shall be used for the storage and disposal of greasy and/or oily rags.
- e) Equipment or tools stored in the shop areas, shall be located in an orderly manner and in such a way so as to pose the least amount of interruption to normal foot and vehicular traffic.
- f) Old batteries or other corrosive or acidic items shall be stored well away from normal foot traffic lanes and work areas. Such storage areas shall be clearly marked. See *City Hazard Communication Policy*.

### 305 Vehicle Traffic

- a) Observe posted speed limit signs. There is a maximum speed of 15 mph in the yard area and 5 mph in a shop area.
- b) Never assume that an open garage door you are entering is going to stay open. Slow down and sound the horn before passing through.
- c) When closing a garage door, look inside and outside to be certain that another vehicle is not about to pass through.
- d) Equipment shall be parked in an orderly fashion to expedite rapid exit in case of a fire or an emergency call.
- e) Keys shall be left in vehicles parked inside shop areas. Keys shall be removed and vehicles locked in vehicles parked outside a shop area.

### 306 Shop Safety Environment

- a) Shop areas shall be well lighted.
- b) Shop areas shall be well ventilated for proper vehicle exhaust.
- c) Employees shall be trained on the location of evacuation routes, fire exits, and fire doors.
- d) Employees shall be trained of the procedures of the fire alarm system if the building is so equipped.
- e) Employees shall be trained on the location and proper use of fire extinguishers.
- f) Gasoline or diesel fuel shall not be used as a cleaning agent.
- g) Shop maintenance repairs shall be made by qualified personnel.
- h) Floor grates shall be kept clean and in good repair, and kept flush with the floor.
- i) Floor drains shall be kept clear of obstructions, clean and operational.
- j) Keep flammable liquids away from heat, spark, or flame producing equipment.

### 307 Outside Storage

- a) Stockpiles shall be maintained in an orderly fashion.
- b) Stored item or material shall be stacked or stored in an orderly fashion.
- c) Items listed above shall be stored in a location so as to cause the least amount of disruption to normal traffic flow.
- d) Vehicles to be parked both temporarily and permanently shall be parked so as to allow access into and out of the building with the least amount of disruption.
- e) Employees' personal vehicles shall be parked in designated parking areas.
- f) Items that need to be secured, shall be stored in a secured location at all times.

### 308 Outside Yard Maintenance

- a) Driveways and sidewalks shall be kept free of excessive amounts of loose gravel, mud or debris.
- b) Driveways and sidewalks shall be maintained to minimize the build-up of ice and snow.
- c) Outside lights shall be maintained in good operating conditions.

- d) Line-of-site obstructions shall be minimized at traffic locations.

**309 Fork Trucks**

- a) Only qualified personnel shall use or operate a fork truck. Supervisors shall designate personnel who are to be trained. Qualified personnel shall be certified to operate a fork truck.
- b) When picking up a load, forks shall be set squarely and placed under the load as far as possible. Loads shall not be raised or lowered while traveling. Loaded or empty, forks shall be carried as low as possible, but high enough to clear uneven surfaces.
- c) Loads shall be securely fastened or safely positioned to prevent tipping or falling.
- d) Only attachments provided by, or approved by the manufacturer may be used; all attachments shall be properly secured.
- e) Operating a fork truck with a load that prevents the operator from seeing around the load is not permitted. The operator shall only operate a fork truck with clear vision in the direction of travel.
- f) The operator shall always face in the direction of travel.
- g) Sudden stops that might spill the load shall be avoided.
- h) On inclines, all types of loaded fork trucks shall be driven with the load on the upgrade side of the driver whether ascending or descending.
- i) Loads shall not be suspended or swung over other persons. No one shall be allowed to stand, walk, or work under elevated forks.
- j) No one shall be allowed to ride the truck, fork lift, or other equipment other than the operator, except when seats are provided for this purpose.
- k) For a additional information concerning power industrial trucks, refer to *OSHA Standard 29CFR 1910.178*.

## VEHICLE OPERATION

### Section 4

#### **401 General Rules (Also see Section 18 *Vehicle Operation II*)**

- a) Only specifically authorized employees who possess a valid license or permit for the equipment being used shall operate City-owned motor vehicles or personally owned vehicles on City business.
- b) Drivers shall know and obey all state and local motor vehicle laws applicable to the operation of their vehicle.
- c) The driver shall drive at safe speeds no greater than the permitted by law. Traffic, road and weather conditions shall be given consideration in determining the safe speed, within the legal limit, which the vehicle shall be operated.
- d) A driver shall not permit unauthorized persons to drive, operate, or ride in or on a City vehicle.
- e) Seat belts shall be used by all occupants.
- f) Employees shall not permit anyone to ride on the running boards, fenders, truck box or any part of the vehicle except on the seats; except as required by special, approved job activities.
- g) Employees shall not ride on the trailers, except as required for field work.
- h) Employees shall not jump on or off vehicles in motion.
- i) Keep floorboards free of debris.
- j) Red flags shall be displayed on the extreme ends of loads which project four feet or more behind any vehicle.
- k) Yellow flashing beacon lights/hazard lights shall be visible and used on vehicles as required.
- l) Windows shall be completely cleared of ice/snow before vehicle operations.

#### **402 Inspection of Equipment**

- a) The driver shall determine that brakes are in a safe operation condition before operating equipment. Report if brakes are not working properly, and they shall be corrected before vehicle is used.
- b) The driver shall inspect the windshield wipers frequently to see that they are in good operating condition, and that the windows and windshield give sufficient visibility for safe operation of the vehicle.
- c) The vehicle lights and reflectors shall be inspected by the employee; and if found defective, they shall be reported immediately.
- d) The driver shall visually inspect the condition of the tires. Report any suspected concerns. Visually check if the tires appear flat.
- e) The driver shall report any defects that may have developed during the day. Items that affect the safe operation of the vehicle shall be repaired prior to continued vehicle operation.
- f) The load shall not exceed the manufacturer's vehicle weight specifications, or weight restrictions imposed by law.
- g) For additional information concerning vehicle inspections, refer to OSHA standard 29 CFR 1926.601(14).

#### **403 Operation**

- a) The operator of a motor vehicle shall comply with all laws or ordinances pertaining to vehicle operation.
- b) The operator of a motor vehicle shall clearly signal any intentions of turning, passing, or stopping.
- c) Upon a signal from an emergency vehicle approaching the driver of a City vehicle shall yield the right-of-way.
- d) Drivers shall be prepared to stop and yield the right-of-way in instances when necessary to avoid an accident.
- e) The driver of a vehicle shall be courteous toward other operators and pedestrians. The vehicle shall be operated in a safe manner, and the driver shall yield the right-of-way to pedestrians and other vehicles.
- f) The driver shall maintain sufficient distance behind other vehicles to safely stop the vehicle.

- g) Drivers shall exercise added caution when driving through residential and school zones.
- h) When entering or leaving any building enclosure, alley or street where vision is obstructed, the driver shall come to a complete stop, the horn activated with two short taps, and shall proceed slowly with caution.
- i) Before a vehicle is driven under or adjacent to energized equipment, the clearance shall be checked in order to insure a safe distance will be maintained between the vehicle and energized equipment.
- j) Vehicles stopped or moving slow with roadways shall display an operation beacon(s) and warning arrow panel as required.

#### **404 Fueling of Equipment**

- a) Shut off the vehicle engine before beginning fueling operations.
- b) Discharge any static electricity before pumping fuel.
- c) Avoid spilling the fuel by remaining at the pump until the process is complete. Do not fill the tank completely full, as the fuel needs room to expand.
- d) If spillage should occur, cover the spill area utilizing the spill kit that is in the area. Report any spill to your supervisor.
- e) Use only approved dispensing and containment equipment (spill pads or spill tubes).
- f) No smoking or open flame shall be allowed within 100 feet of fueling areas or other areas where vapor could accumulate (i.e. pits, depressions, etc.).
- g) All fueling areas shall be supplied with ABC type dry chemical or type B fire extinguishers.
- h) Avoid the use of cell phones and two-way radios within 50 feet of fueling areas.

#### **405 Backing**

- a) Whenever possible, vehicles shall be positioned to avoid the necessity of backing later.
- b) Before entering a vehicle, walk around the vehicle to check for any objects or hazards that could cause problems when moving the vehicle.
- c) Another employee, if present, shall be stationed at the rear of the vehicle to assist the driver in backing the vehicle safely. Extreme caution shall be exercised when backing a vehicle, to avoid injury to persons and to prevent property damage. Hand signals may be used to assist the driver in backing the vehicle.
- d) When backing a vehicle, which has an obstructed view to the rear, take the following precautions:
  - (1) A reverse signal audible above surrounding noise level shall be used, or
  - (2) An observer shall signal that it is safe to back.
  - (3) Back slowly.
  - (4) Watch both sides, but do not depend entirely on mirrors.
  - (5) In any difficult backing situation, enlist the help of another person as a guide, when such help is available.
  - (6) Stop backing movement if guide is not in view of the driver.

#### **406 Parking**

- a) When vehicles must be parked on the roadway, they shall be parked on the right-hand side facing in the direction of traffic flow, whenever possible. Emergency flashers shall be initiated.
- b) When parking on a roadway, vehicles shall park off the traveled road surface, whenever possible. Emergency flashers shall be initiated.
- c) Trucks or trailers stopped on any public roadway shall be protected by warning devices, in accordance with state and local requirements.
- d) When it is necessary to park on an incline, the driver shall make sure the vehicle is left in a safe position. Emergency flashers shall be initiated.

#### **407 Stopping on Highway**

- a) Stopping on the highway shall be avoided.
- b) When it is absolutely necessary to stop on the highway, use extreme caution. Warning signals and lights shall be used.

- (1) Rotating beacon(s) shall be used, if the vehicle is so equipped.
- (2) Emergency flashers shall be used.
- (3) Flares, reflectors, or traffic cones shall be placed to give adequate advance warning.
- (4) If work is in progress, traffic control devices (Together with flagmen, where necessary) shall be used in accordance with the manual on uniform traffic control.
- (5) At a minimum, Class II retro-reflective safety vests shall be worn.

#### **408 Aerial Lifts**

##### **a) General**

- (1) Safety rules governing the use of rubber goods, personal protective equipment, and general safety practices shall also apply to work done from aerial baskets.
- (2) When boom must be maneuvered over a street or highway, necessary precautions shall be taken to avoid accidents with traffic and pedestrians.
- (3) Clearances: The aerial lift, together with the employee in the basket and all tools and equipment shall maintain proper clearances from unprotected energized conductors. When it is difficult for the operator to determine the distance between the equipment and the energized parts accurately, another person shall observe the clearance and give timely warnings when minimum clearance distance is approached.
- (4) When using pneumatic or hydraulic tools in a bucket, the operator shall be sure that hoses or lines do not become entangled in the operational controls.
- (5) Unless the vehicle is equipped with lower boom and pedestal insulation rated for the voltage being worked, aerial basket vehicles working adjacent to energized primary shall be properly grounded or barricaded and treated as energized.
- (6) For additional information concerning aerial lifts, refer to OSHA standard 29 CFR 1910.67 and 29 CFR 1910.269.

##### **b) Personnel**

- (1) Only authorized persons who are properly trained and qualified shall use or operate aerial lifts.
- (2) At a minimum, Class II retro-reflective safety vests shall be worn.
- (3) Employees shall not ride in the bucket while the truck is traveling ( Exceptions: Employees may ride in the basket for short moves at the work location if the basket is returned to the cradled position for each move and employees face the direction of travel.)
- (4) When employees are in the bucket of an aerial lift, the emergency brake of the vehicle shall be set. Wheel chocks shall be used to provide added protection. The truck should sit approximately level when viewed from the rear.
- (5) When working from an aerial lift, a harness shall be worn and a lanyard attached to the boom. Employees shall not attach fall arrest equipment to an adjacent pole or structure.
- (6) The operator shall always face in the direction in which the basket is moving and shall see that the path of the boom or basket is clear when it is being moved.
- (7) Employees shall not stand or sit on top or edge of the basket or on ladders placed in the basket. Employees' feet shall be on the floor of the basket the entire time they are in it.
- (8) When two employees are in the two-person basket or baskets, one of them shall be designated to operate the controls. One employee shall give all the signals, which shall be thoroughly understood by all persons concerned.
- (9) When two employees are working from the basket. Extreme care shall be taken to avoid one employee contacting poles, cross arms, or other grounded or live equipment while the second employee is working on equipment at a different period.

##### **c) Operations**

- (1) The operating and maintenance instruction manuals issued by the manufacturer shall be followed.
- (2) Load limits of the boom and basket shall not be exceeded. Shock loading (Sudden stops or starts) of the equipment shall be avoided.

- (3) Aerial lifts shall not be field modified unless such modifications are certified by the manufacturer. The insulated portion shall not be altered in any manner that might reduce its insulating value.
  - (4) Prior to use, the equipment shall be given a warm-up period. The hydraulic system and the lift controls shall be checked and tested daily before use to determine if such features are in safe working condition. Malfunctions or unsafe operational conditions shall be reported. Equipment that is not in proper operational condition shall not be used.
  - (5) Articulating boom and extensible boom platforms, primarily designed as personnel carriers shall have both platform (upper) and lower controls. Lower level controls shall not be operated unless permission has been obtained from the employee in the lift, except in case of emergency.
- d) Outriggers
- (1) The truck shall not be moved unless the boom is lowered, the basket cradled and secured, and the outriggers retracted.
  - (2) When the outriggers are used, they shall be set on pads or a solid surface. Outriggers shall not be extended or retracted outside of clear view of the operator unless all employees are outside the range of possible equipment motion.

## PERSONAL PROTECTION

### Section 5

#### 501 Equipment/Machine Guards

- a) No guard shall be removed from any machine or piece of equipment except to perform required maintenance.
- b) Guards removed to perform maintenance operations shall be replaced immediately, and the machine shall not be operated while the guards are removed (except for maintenance certification).
- c) For additional information concerning guarding requirements, refer to OSHA standards 29 CFR 1910.243 and 29 CFR 1910, Subpart O.

#### 502 Lockout-Tagout (Refer to City of Lincoln *Lockout/Tagout Safety Policy* for more information)

- a) Only authorized individuals shall lock out/tag out equipment.
- b) Before starting work on any circuit, machine, belting, shafting, or other apparatus that is out of service, authorized employees shall assure themselves that the apparatus is physically rendered inoperative and a standard hold card, tag, or lockout device is properly attached to the apparatus control.
- c) No switch, governor, valve, throttle or other device used to put a circuit or equipment into service shall be operated while a lockout or tagout device is attached to it.
- d) A lockout or tagout that has been placed for the protection of workers shall be removed only by authorization of the person in whose name it was placed and then only after the work has been completed and workers and tools are in the clear.
- e) Each employee in charge of work on any equipment shall have their lockout or tagout device secured to the apparatus control.
- f) For additional information concerning lockout/tagout requirements, refer to OSHA standard 29 CFR 1910.147.

#### 503 Confined Spaces (See City of Lincoln *Confined Space Entry Policy* for more information.)

- a) Only employees who have been properly trained on the hazards associated with confined space work shall be allowed to enter a confined space.
- b) If hot work is to be performed in a confined space, the City's written hot work permit system shall be followed.
- c) If permit only confined space, written permits shall be completed and maintained by each division in accordance with City policy.
- d) For additional information concerning confined-space requirements, refer to OSHA standard 29 CFR 1910.146.

#### 504 Warnings

- a) Warning signs shall be heeded. Persons seen in a dangerous situation shall be warned without being startled. Employees not required to be near potentially dangerous places shall keep away.
- b) For addition information concerning warning signs, refer to OSHA standard 29 CFR 1910.145.
- c) Fire extinguisher signs shall be posted.

#### 505 Labeling (Refer to City's *Hazard Communication Policy* for further information.)

- a) Chemicals shall be prominently and accurately labeled. Refer to Section 507 *Hazardous Materials* for more information.
- b) Containers containing dangerous chemicals shall be indicated with precautions such as *poison* or *flammable*.

### 506 Housekeeping

Work areas inside and outside of vehicles and buildings shall be kept clean and orderly at all times.

- a) Combustible materials, such as oil-soaked rags, waste, and shavings, shall be kept in fire approved metal containers with metal lids. Containers shall be emptied as soon as practicable.
- b) Soiled rags shall be kept in metal or metal-lined bins having metal covers.
- c) Flammable liquids shall be used only for their designed purposes and contained in the appropriate color-coded combustible container. Gasoline, benzene, naphtha, lacquer thinner, etc., shall not be used for cleaning purposes or for starting or kindling fires.
- d) Permanent floors and platforms shall be kept free of dangerous projections or obstructions and shall be maintained reasonably free from oil, grease, or water. Where the type of operation produces slippery conditions, mats, grates, cleats, or other methods shall be used to reduce the hazard from slipping.
- e) Stairways, aisles, permanent roadways, walkways and material storage areas in yards shall be kept reasonably clear and free from obstructions, depressions and debris.
- f) Materials and supplies shall be stored in an orderly manner to prevent their falling or spreading, also to eliminate tripping and stumbling hazards.
- g) No matches shall be left in clothes placed in lockers. Trash and unused clothing shall not be allowed to accumulate in lockers.
- h) Paper and other combustible materials shall not be allowed to accumulate, and weeds or other range vegetation shall not be permitted to grow uncontrolled, in or around storage yards, buildings, oil tanks or other structures.
- i) UL-approved, properly labeled red metal safety cans shall be used for the handling and use of flammable liquids such as gasoline, naphtha and lacquer thinner, and in quantities no greater than five gallons. For quantities of one gallon or less, only the original container or UL-approved, properly labeled metal safety can shall be used.
- j) Subsection (i) does not apply to kerosene and cleaning agents of the Stoddard solvent class; however, not more than one gallon of such liquids shall be kept in any open container. The container shall be provided with a proper cover and be kept securely covered except when in actual use.
- k) In any building, except one provided for their storage, no more than 25 gallons of flammable or combustible liquids shall be stored in a room outside of an approved flammable storage cabinet. No more than 60 gallons of flammable or 120 gallons of combustible liquids shall be stored in any one storage cabinet. Not more than three such cabinets may be located in a single storage area. Quantities in excess of this shall be stored in an inside storage room designed for storage of flammable and combustible liquids.
- l) When pouring or pumping gasoline or other flammable liquids from one container to another, metallic contact shall be maintained between the pouring and receiving containers. Transferring of flammable liquids from one container to another shall be accomplished only in properly ventilated spaces free from ignition sources.
- m) Flammable or combustible liquids shall not be stored in areas used for fire exits, stairways or areas normally used for the safe passage of people.
- n) Strict adherence shall be paid to no smoking and engine shutoff requirements at fuel dispensing locations.
- o) Eating areas shall be kept in a clean and sanitary condition.
- p) Restroom and washroom areas shall be kept in a sanitary state and shall be stocked with soap and hand towels or air dryers.
- q) For additional information concerning housekeeping requirements, refer to OSHA standards 29 CFR 1910.41 and 29 CFR 1910.106.

**507 Hazardous Materials (Refer to City's Hazard Communication Policy for further information.)**

- a) To reduce the risks of working with hazardous materials, manufacturers of hazardous materials are required to convey hazard information to the users of their products. This is accomplished through the use of Material Safety Data Sheets and container labeling.
- b) Employees shall know the location of the Material Safety Data Sheets for all hazardous materials known to be in their work areas. A list of hazardous materials may be obtained from their supervisor.
- c) Material Safety Data Sheets shall be made available to contractors working on City property.
- d) Employees shall not use materials they find in unlabeled containers. Employees shall report unlabeled containers and containers with damaged labels to their supervisor.
- e) Employees shall not transfer a hazardous substance from a labeled container to an unlabeled container, unless the unlabeled container shall be under the exclusive control of the employee and used during their current shift.
- f) Employees shall report all hazardous materials spills to their supervisor. However, unless they have been properly trained, and have the required personal protective equipment, employees shall not attempt to clean up spills.
- g) For additional information concerning the requirements for working with hazardous materials, refer to OSHA standards 29 CFR 1910, Subpart Z; and 29 CFR 1910.120.

**508 Noise**

- a) Hearing protection shall be worn when there is a possibility of high noise levels which could exceed allowable limits. When exposed to noise of 90 db (decibels) for more than eight hours, 95 db for more than four hours, 100 db for more than two hours, or 105 db for more than one hour or loud impact noise, proper ear protection shall be worn. (If normal conversation can be understood about two feet away, the noise level is probably less than 90 db.) Protection shall be worn when exposed to impact noise more than 140 db, e.g., noise similar to a rifle or shotgun discharge.

**Permissible Noise Exposure**

Duration per day, hours	Sound Level, db
8	90
6	92
4	95
3	97
2	100
1-1/2	102
1	105
1/2	110
1/4 or less	115

- b) Specific areas where the noise level is greater than 90 db shall be identified, and time limits stated. Employees shall wear proper protective devices when exposed beyond permissible limits.
- c) Proper ear protection may consist of any of the following: ear muffs, ear plugs, molded ear protectors, or wax-type ear plugs. Plain cotton is not acceptable. Ear protective devices shall be worn properly to provide the required protection and kept clean to reduce the possibility of ear infection.
- d) For additional information concerning noise, refer to OSHA standard 29 CFR 1910.95.

### **509 Lighting**

Where natural illumination is not sufficient, artificial lighting shall be used. Temporary lighting (excepting battery powered) shall be protected with approved guards. In areas where flammable or combustible vapors, liquids, gases, dust, or fibers may be present, only explosion proof equipment approved for the hazardous location shall be used.

### **510 No Smoking**

Smoking is prohibited from all City buildings and vehicles.

### **511 Clothing**

- a) Employees shall wear clothing and shoes that are suitable for the particular type of work which they are doing.
- b) Each employee shall wear protective gloves suitable for the work.
- c) Finger rings or unnecessary jewelry shall not be worn while climbing on or off structures or vehicles, or while performing any task where the ring might be caught under or snagged by a projecting item.
- d) Shorts must be approved by the supervisor before wearing.
- e) Required protective equipment shall be worn by employees.
- f) Employees shall refer to Division policies for additional clothing requirements.

### **512 Hand and Foot Protection (Refer to City's *Personal Protective Equipment Policy*)**

Each employee shall wear gloves suitable for the work performed. When safety footwear is required, it shall meet the requirements of OSHA standard 29 CFR 1910.136.

### **513 Eye and Face Protection (Refer to City's *Personal Protective Equipment Policy*)**

Appropriate and approved eye and face protection shall be worn when an employee is engaged in the following work activities:

- a) Drilling or chipping stone, brick, concrete, paint, pipe coatings, or metal.
- b) Power grinding, buffing, or wire brushing.
- c) Oxy-acetylene welding, heating, or cutting. (Use approved eye protection with lens shade 4, 5 or 6).
- d) Electric arc welding. (Use approved welding shield with lens shade 10, 11 or 12).
- e) Hand drilling or sawing of overhead objects.
- f) Use of powered tools such as drills, saws, or sanders.
- g) Dust or flying particles
- h) Gunniting, pouring hot lead or hot compounds, or using other hot or injurious substances.
- i) Handling acids, caustics, chlorines, ammonia, or other similar liquids or gases, except when approved complete head coverings are worn. (Chemical goggles are necessary.)
- j) Brush chippers.
- k) Flying particles caused by other workers, if employee is within the range of such particles. (A suitable screen around the work may be used instead.)
- l) Any other danger of injury to the eyes, or as directed by supervisor, or City policy.
- m) Any time there is a possibility of electrical flash, FR safety glasses shall be worn.
- n) For additional information concerning eye and face protection requirements, refer to OSHA standard 29 CFR 1910.133.

### **514 Head Protection (Refer to City's *Personal Protective Equipment Policy*)**

- a) Approved hard hats shall be worn by all employees when in areas where falling objects, electrical contact, or other hazards may cause head injury.
- b) Safety head gear and/or head band assembly shall not be defaced or altered in any manner.
- c) Hats and suspensions shall be thoroughly cleaned before being reissued.

- d) If length or style of hair, beard or mustache may result in injury or an accident, it is the employee's responsibility to provide themselves with means by which the hair may be contained to prevent injury.

### **515 Fall Protection**

- a) When an employee is exposed to a fall potential in excess of six feet and protective measures such as catch platforms, guardrails, and safety nets are not practical, the employee shall be protected by the use of fall-arrest equipment or positioning devices such as body harnesses, lanyards, lifelines, and rope grabs. When choosing fall-arrest equipment or positioning devices, consideration shall be given to type of work to be performed and limiting the shock load on the body of the wearer in the event of a free fall.
- b) Employees shall not use fall-arrest equipment or positioning devices until they have been properly trained in their use.
- c) Employees shall rig fall-arrest equipment so that they cannot free fall more than six feet or contact any lower object. When positioning devices are used, they shall be rigged to limit free fall to two feet. Anchorage points for fall-arrest equipment and positioning devices shall be capable of supporting a shock load and located above the employee's harness attachment point.
- d) Employees shall avoid the following lanyard snap-hook connections to help eliminate the possibility of accidental disengagement (roll-out):
  - (1) Single-locking snap-hooks.
  - (2) Two (or more) snap-hooks connected to one D-ring.
  - (3) Two snap-hooks connected to each other.
  - (4) A snap-hook connected back on its integral lanyard.
  - (5) Improper dimensions of the D-ring, rebar, or other connection to the snap-hook dimension.
- e) When vertical lifelines are used, each employee shall be protected by a separate lifeline. The lifeline shall be properly weighted at the bottom and terminated to preclude a device such as a rope grab from falling off the line.
- f) Horizontal lifelines shall be limited to two persons at one time between supports.
- g) Prior to each use, the employee shall visually inspect all fall-arrest equipment and positioning devices for defects. Equipment showing any defect shall be withdrawn from service.
- h) All fall-arrest equipment and positioning devices subjected to impacts caused by a free fall or by testing shall be removed from service. They may only be subjected to fall shock loads once.
- i) Employees shall store all fall-arrest equipment and positioning devices in a cool dry place, which is not subjected to direct sunlight when not in service.
- j) For additional information on fall-arrest equipment and positioning device requirements, refer to OSHA standards 29 CFR 1926.104 and 29 CFR 1926.501.

### **516 Lifting and Carrying**

- a) Employees shall lift heavy objects in the following manner:
  - i) keep feet parted, one alongside, one behind the object.
  - ii) keep the back straight, nearly vertical
  - iii) tuck your chin in
  - iv) keep body weight directly over the feet.
  - v) lift with the knees
  - vi) plan the lift and transport path.
- b) An employee shall obtain assistance, or use power equipment, in lifting heavy objects.
- c) When two or more persons carry a heavy object that is to be lowered or dropped, there shall be a prearranged signal for releasing the load.
- d) When two or more persons are carrying an object, each employee, if possible, should face the direction in which the object is being carried. Employees shall not attempt to lift beyond their capacity. Caution shall be taken when lifting or pulling in an awkward position.

- e) Employees shall avoid twisting or excessive bending when lifting or setting down loads.
- f) When moving a load horizontally, employees shall push the load rather than pull it.
- g) When performing a task that requires repetitive lifting, the load shall be positioned to limit bending and twisting. The use of lift tables, pallets, and mechanical devices should be considered.

**517 Hand Safety**

- a) When using such tools as screw drivers and wrenches, employees shall avoid using their wrists in a bent (flexed), extended, or twisted position for long periods of time. Employees shall maintain their wrists in a neutral (straight) position.
- b) When gripping, grasping, or lifting an object such as a pipe or board, the whole hand and all the fingers shall be used. Gripping and lifting with just the thumb and index finger shall be avoided.

**518 Exhaust Ventilation**

- a) Exhaust systems, when provided at the work location, shall be used as required.
- b) When an exhaust system does not provide adequate protection, other protective means, such as an approved respirator, shall be used in addition to the exhaust system.
- c) For additional information concerning ventilation requirements, refer to OSHA standard 29 CFR 1910.94.

**519 Supplemental Breathing Equipment (Refer to City *Personal Protective Equipment Policy*)**

- a) Employees shall not use respiratory protection equipment until they have been fit tested, and trained in the use and limitations of the equipment.
- b) Approved breathing apparatus shall be used for the following:
  - (1) Entering or working in any confined space or in any environment where an adequate supply of fresh air cannot be assured.
  - (2) Sandblasting.
  - (3) Spray painting in an enclosed space.
  - (4) Exposure to any environmental condition that would be unhealthy.
- c) Respiratory protection equipment shall be cleaned and disinfected by the user before it is stored and put away or issued to another employee.
- d) For additional information concerning supplemental breathing equipment refer to the City's respiratory protection program and OSHA standards 29 CFR 1910.94 and 29 CFR 1910.134.

## TOOL USE

### Section 6

#### 601 General Rules

- a) All tools, regardless of ownership, shall be of an approved type and maintained in good condition. (Tools are subject to inspection at all times. A supervisor has the authority and responsibility to take out-of-service unsatisfactory tools, regardless of ownership.)
- b) Defective tools shall be tagged to prevent their use, and shall be removed from the jobsites for repair or disposal.
- c) Employees shall always use the proper tool for the job performed. Makeshift and substitute tools shall only be used with proper authorization and under proper supervision.
- d) Hammers with metal handles, screwdrivers or knives with metal continuing through the handle and metallic measuring tapes shall not be used on or near energized electrical circuits or equipment.
- e) Tools shall not be thrown from place to place or from person to person; tools that shall be raised or lowered from one elevation to another shall be placed in tool buckets or firmly attached to hand lines.
- f) Tools shall never be placed unsecured on elevated places.
- g) As impact tools such as chisels, punches, etc. become mushroomed or cracked, they shall be dressed, repaired, or replaced before further use.
- h) Chisels, drills, punches, ground rods, and pipes shall be held with suitable holders or tongs (not with the hands) while being struck by another employee.
- i) Shims shall not be used to make a wrench fit.
- j) Wrenches with sprung or damaged jaws shall not be used.
- k) Pipes shall not be used to extend a wrench handle for added leverage unless the wrench was designed for such use.
- l) Tools shall be used only for the purposes for which they have been approved.
- m) Tools with sharp edges or pints shall be stored and handled so that they will not cause injury or damage. They shall not be carried in pockets.
- n) Wooden handles that are loose, cracked, or splintered shall be replaced. Than handle shall not be taped or lashed with wire.
- o) All cutting tools such as saws, wood chisels, drawknives, or axes shall be kept in suitable guards or in special compartments.
- p) Tools shall not be left where they may cause a person to trip or stumble.
- q) When working on or above open grating, a canvas or other suitable covering shall be used to cover the grating to prevent tools or parts from dropping to a lower level where others are present or the danger area shall be barricaded or guarded.
- r) The insulation on hand tools shall not be depended upon to protect users from electric shock.
- s) Edged tools shall be kept sharp in order to cut cleanly or minimum effort.
- t) Never attempt to strike an object when it is at or above shoulder height, if possible. Use a ladder, scaffolding or platform, if necessary.
- u) Jacks shall be kept in good operating condition, and be the correct size for the job at hand. Jacks shall be placed on firm level footing.
- v) For additional information concerning hand tools, refer to OSHA standard 29 CFR 1910.242.

#### 602 Portable Electric Tools

- a) The noncurrent carrying metal parts of portable electric tools such as drills, saws, and grinders shall be effectively grounded with connected to a power source unless:
  - (1) The tool is an approved double-insulated type; or
  - (2) The tool is connected to the power supply by means of an isolating transformer or other insulated power supply, such as a 24-V DC system.

- b) Powered tools shall be examined before use to ensure general serviceability and the presence of all applicable safety devices. The electric cord and electronic components shall be given an especially thorough examination.
- c) Power tools shall be used only within their capacity and shall be operated in accordance with the instructions of the manufacturer.
- d) Tools shall be kept in good repair and shall be disconnected from the power source while repairs are being made.
- e) Electrical tools shall not be used where there is a hazard of flammable vapors, gases, or dusts.
- f) Tools connected to a central power supply, including portable and vehicle-mounted generators (not isolated and not double-insulated) shall be protected by a ground fault interrupter (GFI) or by an assured grounding system.

### **603 Portable Electric Generators**

- a) Generators shall be secured while in use.
- b) Be careful not to run electric extension cords through water puddles.
- c) Nearby employees shall stand clear when starting.
- d) Generators shall be effectively grounded while in use.

### **604 Electric Saws**

- a) Keep track of the electric power cord so as to not cut through it.
- b) Guards provided with electric tools shall be kept on the tool and not wedged out of use.
- c) Saw operators shall use eye protection.
- d) Use pusher sticks when cutting short stock.
- e) Never leave a saw running when the job is complete or if the saw is left unattended.
- f) Radial saws shall be fitted so that the blade cannot be pulled out beyond the edge of the cutting table and the blade unit shall automatically return.
- g) Do not wear loose clothing or gloves when sawing.
- h) Cutting tables shall be of adequate size to handle the material being cut.
- i) Use the proper blade for the job.
- j) For additional information concerning portable electric tools, refer to OSHA standard 29 CFT 1910, Subpart P.

### **605 Pneumatic Tools**

- a) Compressed air and compressed-air tools shall be used only by trained, authorized employees.
- b) Pneumatic tools shall never be pointed at another person.
- c) Pneumatic power tools shall be secured to the hose or whip by some positive means to prevent the tool from becoming accidentally disconnected.
- d) Safety clips or retainers shall be securely installed and maintained on pneumatic impact (percussion) tools to prevent attachments from being accidentally expelled.
- e) Compressed air shall not be used for cleaning purposes except when reduced to less than 30 psi and then only with effective chip guarding and personal protective equipment.
- f) Compressed air shall not be used to blow dust or dirt from clothing.
- g) The manufacturer's safe operating pressure for hoses, pipes, valves, filters, and other fittings shall not be exceeded.
- h) The use of hoses for hoisting or lowering tools shall not be permitted.
- i) All hoses exceeding ½ inch inside diameter shall have a safety device at the source of supply or branch line to reduce pressure in case of hose failure or disengagement of a connection.
- j) Before making adjustments or changing air tools (unless equipped with quick-change connectors), the air shall be shut off at the air supply valve ahead of the hose. The hose shall be bled at the tool before breaking the connection.
- k) Eye protection, foot protection, and other protective devices shall be worn when their use could reduce the possibility of injury.

- l) A pneumatic tool used where it may contact exposed live electrical parts shall have a nonconductive hose and an accumulator to collect moisture.
- m) Employees shall not use any part of their body to locate or attempt to stop an air leak.
- n) Compressed air use for cleaning purposes shall be less than 30 psi.
- o) For additional information concerning pneumatic tools, refer to OSHA standards 29 CFR 1910, Subpart P.

#### **606 Hydraulic Tools**

- a) Hydraulic tools shall only be operated by trained, authorized employees.
- b) Manufacturers' safe operating pressures for hydraulic tools, hoses, valve, pipes, filters, and fittings shall not be exceeded.
- c) Pressure shall be release before connections are broken unless quick-acting, self-closing connectors are used.
- d) Employees shall not use any part of their body to locate or attempt to stop a hydraulic leak.

#### **607 Bench Grinders and Portable Grinders**

- a) Grinding wheels shall be securely attached and in good condition.
- b) The use of cracked or chipped grinding wheels are prohibited.
- c) Use the proper grinding wheel for the job.
- d) The use of properly adjusted machine guards and eye protection is required.
- e) Work shall be done in such a way that prevents the finger from being brought into contact with the wheel. Keep both hands on the object being ground.
- f) A maximum of 1/8" gap shall be maintained between the grinding wheel and work rest.
- g) For additional information concerning abrasive tool requirements, refer to OSHA standard 29 CFR 1926.303.

#### **608 Ladders - General**

- a) Wooden ladders shall not be painted so as to obscure a defect in the wood.
- b) All ladders shall be inspected by the user before each use. Ladders with weakened, broken, or missing steps, broken side rails, or other defects shall be tagged, removed from service and destroyed.
- c) Ladders and scaffolds shall be sufficiently strong for their intended use.
- d) Portable metal ladders shall not be used in the vicinity of energized electrical circuits.
- e) Ladders shall not be placed in front of doors opening toward the ladder unless the door is open, locked, or guarded.
- f) When ascending or descending ladders, employees shall have both hands free and face the ladder.
- g) The top of a regular ladder shall never be used as a step.
- h) Only one employee shall work from a ladder at a time. If two employees are required, a second ladder shall be used.
- i) Ladders shall not be used as scaffold platforms. Only City-owned ladders shall be used by employees.
- j) Boxes, chairs, etc., shall not be used as ladders.
- k) For additional information concerning ladder requirements, refer to OSHA standards 29 CFR 1910.25, 29 CFR 1910.26, and 29 CFR 1910.27.

## COMPRESSED GASES AND WELDING

### Section 7

#### 701 Compressed Gases

- a) Care shall be exercised in handling all compressed-gas cylinders. They shall not be dropped, jarred, or exposed to temperature extremes.
- b) Cylinders shall have the valve cap or valve protection device in place at all times, except when in actual use or connected to a welding set.
- c) Cylinders shall not be laid horizontal and rolled.
- d) Cylinders shall have their contents properly identified.
- e) Cylinders not having fixed hand wheels shall have keys, handles, or nonadjustable wrenches on the valve stems while the cylinders are in service.
- f) Compressed-gas cylinders, whether full or empty, shall be stored in an upright position, and chained or otherwise secured so they cannot fall or be upset.
- g) When cylinders are transported by powered vehicles, they shall be secured in a vertical upright position with the valve cap or valve protection device in place.
- h) Oxygen cylinders in storage shall be separated from fuel-gas cylinders or combustible materials (especially oil or grease) by a minimum distance of 20 feet or by a five-foot-high noncombustible barrier.
- i) Cylinders shall not be placed where they might become part of an electric circuit.
- j) Employees shall never force connections that do not fit nor shall they tamper with the safety relief devices of cylinder valves.
- k) Before the regulator is removed from a cylinder, the valve shall be closed and all pressure released from the regulator.
- l) A leaking cylinder shall not be used. Such cylinders shall be taken outdoors away from sources of ignition. The supervisor shall be notified.
- m) A flame shall never be used to detect gas leaks.
- n) The recessed top of cylinders shall not be used as a place for tools.
- o) No attempt shall be made to mix gases in a cylinder or to transfer gas from one cylinder to another.
- p) A sign *Danger--No Smoking* or signs with equivalent wording shall be conspicuously posted in rooms or at entrances to areas where fuel gas is used or stored.
- q) Hydrogen: Special precautions shall be taken when using hydrogen to avoid the possibility of fire and explosion. *Danger--No Smoking* signs shall be posted where hydrogen is used or stored.
- r) Oxygen: Oil, grease, or similar materials shall not be allowed to come in contact with any valve, fitting, regulator, or gauge of oxygen cylinders.
  - (1) Oxygen shall never be used as a substitute for compressed air.
  - (2) When an oxygen cylinder is in use, the valve should be opened fully to prevent leakage around the valve stem.
  - (3) Do **NOT** stand in front of the valve when opening.
- s) Acetylene:
  - (1) An acetylene cylinder valve shall not be opened more than one and one-half turns of the spindle and preferably no more than three-fourths of a turn.
  - (2) Employees shall only use acetylene in a free state at pressures lower than 15 psi.
- t) Chlorine
  - (1) Chlorine containers shall be stored and secured in a cool place protected from moisture.
  - (2) Every precaution shall be taken to prevent accidental discharge of hazardous gases, and protective equipment shall be readily available for use in an emergency.

- (3) Only employees who have been properly trained and provided with the necessary protective equipment shall attempt to stop cylinder leaks.
- (4) Should a chlorine gas leak develop, the cylinder shall be placed so that only gas (vapor) escapes. (An ammonia swab may be used to detect leaks). Water shall not be sprayed or poured on chlorine leaks.
- (5) Chlorine cylinders shall never be used or stored near flammable materials.
- (6) Dry chlorine shall be stored in an isolated area as mixing it with anything but water could cause a fire or explosion.
- u) See Section 507 *Hazardous Materials*, for additional information concerning hazardous compressed gases.
- v) For additional information concerning compressed-gas requirements, refer to OSHA standard 29 CFR 1910.252.

## 702 Welding and Cutting

- a) Welding and cutting shall be performed **ONLY** by experienced and properly trained employees. Before welding or cutting is started, the area shall be inspected for potential fire hazards.
- b) When welding or cutting in elevated positions, precautions shall be taken to prevent sparks or hot metal from falling onto people or flammable material below.
- c) Suitable fire extinguishing equipment shall be immediately available at all locations where welding and cutting equipment is used.
- d) Matches and compressed gas lighters shall not be carried by welders or their helpers when engaged in welding or cutting operations.
- e) A fire watch, with extinguishers ready, shall be maintained wherever welding or cutting is performed and for 30 minutes after completion of welding, for locations where combustible materials present a fire hazard.
- f) Where combustible materials, such as paper clippings or wood shavings, are present, the floor shall be swept clean for a radius of 35 feet before welding. Combustible floors shall be kept wet or protected by fire-resistant shields. Where floors have been wetted down, personnel operating arc-welding or cutting equipment shall be protected from possible shock.
- g) To protect eyes, face, and body during welding and cutting, the operator shall wear an approved helmet, face shield or goggles, proper protective gloves and protective clothing. Do not wear cuffs or collars which tend to catch sparks and hot slag. Helpers or attendants shall also wear proper eye protection. The proper lens shade for electric arc welding is usually 10, 11 or 12. The proper lens shade for oxyacetylene is usually 5, 6 or 7.
- h) Proper eye protection shall be worn to guard against flying particles when the helmet or goggles are raised and while chipping slag.
- i) Machinery, tanks, equipment, shafts or pipes that could contain explosive or highly flammable materials shall be thoroughly cleaned and decontaminated prior to the application of heat.
- j) In dusty or gaseous spaces where there is a possibility of explosion, welding or cutting equipment shall not be used until the space is adequately ventilated.
- k) Welders shall place welding cable, hoses and other equipment so that they are clear of passageways, ladders and stairways.
- l) Where the work permits, the welder should be enclosed in an individual booth or shall be enclosed with noncombustible screens. Workers or other persons adjacent to the welding areas shall be protected from rays by shields or shall be required to wear appropriate eye and face protection.
- m) After welding or cutting operations are completed, the welder shall mark the hot metal or provide other means of warning other workers of the potential danger.
- n) Use tongs or vice grips when handling hot material.
- o) Potentially hazardous materials in fluxes, coatings, covering, and filler metals are released to the atmosphere during welding or cutting operations. While welding or cutting, adequate ventilation or approved respiratory protection equipment shall be used. Special precautions shall be taken when

- using materials that contain cadmium, fluorides, mercury, chlorinated hydrocarbons, stainless steel, zinc, galvanized materials, beryllium and lead. Employees shall refer to the City of Lincoln *Hazard Communication Policy* for specific requirements pertaining to the above listed hazardous materials.
- p) Employees welding or cutting in confined spaces shall conform to the requirements of the City's *Confined Space Policy*.
  - q) The use of welding or cutting torches shall be avoided during the last half hour of the shift if possible, to reduce the after hours fire risk.
  - r) Gas welding and cutting: Only approved gas welding and cutting equipment shall be used.
    - (1) Approved back flow check valves shall be used on gas welding rigs in both gas and oxygen lines.
    - (2) Welding hoses shall not be repaired with tape. Do not use if gauges are broken or defective.
    - (3) Matches shall not be used to light a torch; a torch shall not be lighted on hot work. A friction lighter or other approved device shall be used.
    - (4) Shut off all supply valves when not in use.
    - (5) Oxygen or fuel gas cylinders shall not be taken into confined spaces.
    - (6) Refer to Section 701 *Compressed Gases* for additional requirements concerning specific gases, compressed gas cylinder use, care and storage requirements.
  - s) Electric welding: Only approved electric welding equipment shall be used.
    - (1) The electric welding machine shall be properly grounded before use.
    - (2) Rules and instructions supplied by the manufacturer or affixed to the machine shall be followed.
    - (3) Welders shall not strike an arc with an electrode, whenever persons are nearby who might be affected by the arc.
    - (4) When electrode holders are to be left unattended, the electrodes shall be removed and the holders shall be so placed or protected that they cannot make electrical contacts with employees or conducting objects.
    - (5) When the welder shall leave the work or stop work for any appreciable length of time, or when the welding machine is to be moved, the power supply switch to the equipment shall be opened (off).
  - t) For additional information concerning the requirements for welding and cutting, refer to OSHA standard 29 CFR 1910.252 and 29 CFR 1910.253.

## WORK AREA PROTECTION

### Section 8

#### 801 General Rules

- a) Work area protection is the adequate safeguarding or protecting of pedestrians, motorists, City employees and equipment by the use of appropriate barriers, warning signs, lights, flags, traffic cones, high-level standards, barricade rope, flagmen, etc., on approaches to work areas, excavations, open manholes, parked equipment, etc.
- b) Work area protection is accomplished by the use of signs and barricades. It is of the utmost importance that the work area be properly identified and that warning devices clearly convey the message to the traveling public well in advance of arrival at the work area in accordance with the latest edition of the “Traffic Control Guidelines for Street Construction, Maintenance & Utility Operation” published by Public Works & Utilities Engineering Division.
- c) The public shall be warned in advance, then regulated and guided safely through or around the work area. Proper work area protection shall be planned to ensure safety of the public, the worker, and the equipment.
- d) When working in and around traffic, all employees shall wear High Visibility Class II Safety Vests.
- e) For additional information concerning work area protection, refer to OSHA standard 29 CFR 1910.269 and the City of Lincoln *Traffic Control Manual*.

#### 802 Working In or Near Traffic

- a) High Visibility Class II Safety Vests shall be worn by all employees who are required to work in or adjacent to lanes carrying traffic.
- b) Remain constantly alert and stay as far from the traffic lanes as possible.
- c) While working, face the direction of oncoming traffic as much as possible. When on sharp curves, work on the side that gives oncoming drivers the best and longest opportunity to see you.
- d) Always walk on the left side, facing traffic when it is necessary to walk on a roadway any appreciable distance.
- e) Watch both your work and approaching vehicles. Get well clear when it is necessary.
- f) If equipment is set up in traffic, there shall be traffic control measures present. See the City of Lincoln *Traffic Control Manual* for the proper measures to be used.
- g) Only direct a vehicle to go around you if you are positive it is safe or clear for vehicle to pass.
- h) When working in a valley, place warning signs on each peak of the road to warn oncoming traffic of your presence.

#### 803 Working In Railroad Right-of-Ways

- a) Always contact Railroad to schedule work in railroad right-of-way.
- b) Always be alert for oncoming trains, especially if there is other noise in the area.
- c) Never cross between stopped railroad cars.
- d) Avoid any use of the color red, which signals to the train operator *immediate danger* or *stop*. Employees shall not wear red clothing or vests around tracks, and red markers, flagging and lights shall not be used.
- e) Steel tapes shall be elevated above the rails at all times. Steel tape spanning both rails may activate railroad signals.
- f) Employees must have certified training through railroad authority prior to working in railroad right-of-way.

**804 Working Near Overhead Lines**

- a) Assume all overhead lines are dangerous, including all downed lines.
- b) Use clean, dry wooden or other non-conductive rods when surveying beneath overhead lines. Even wooden rods can be dangerous, particularly when wet.
- c) Employees shall not use any tools or equipment that would at anytime come within **TEN FEET** of overhead lines.
- d) Never attempt to measure directly the height of overhead lines with a rod.
- e) Do not handle tapes in such a way as to come in contact with overhead lines.

**805 Working Near Construction**

- a) Remain constantly alert regarding activities around you.
- b) Always keep yourself and equipment away from any contractor's immediate operations. Do not assume that equipment operators see you.
- c) Stay off of any contractor's equipment.
- d) Be alert for traffic through the work area, whether it is contractor's equipment or vehicles on a public road.
- e) Shoring is required in any trough 5 feet deep or greater. Safe access and egress is required in any trench 4 feet or deeper.
- f) Before entering trenches, excavations or under bluffs, make sure that the soil is properly sloped or shored (See Section 9 *Trenching and Backfilling* for requirements). Do not enter unsafe areas, and report them to your supervisor.
- g) Use of hardhats while working in trenches and excavations is required when working in trenches 5 feet deep or greater or when overhead hazards exist.

**806 Work Area Protection Equipment**

- a) Only those signs, standards, barricades, flags, vests, and cones that conform to state or local codes shall be used.
- b) All state and local traffic codes shall be followed when providing work area protection.
- c) During night operations or in periods of reduced visibility, special precautions shall be taken. Adequate warning equipment, which may include flashing lights, flares, or area illumination, shall be used.
- d) Warning devices and equipment shall be removed as soon as the hazard is eliminated.
- e) Warning devices and equipment not in use shall be stored in a proper manner or shall be removed from the work area.

## TRENCHING AND BACKFILLING

### Section 9

**CALL: *DIGGER'S HOTLINE* 48 HOURS BEFORE DIGGING!!**

#### **901 Trench & Utility Cut Safety**

- a) Follow City of Lincoln Excavation Safety Policy.

#### **902 Job Site Safety**

- a) Material removed should be placed between oncoming traffic and the excavation, but not so close to the edge of the trench so as to promote cave-in or removed material falling back into the excavation.
- b) Care shall be taken when operating equipment near an excavation. The vibration and weight of the machinery could cause a cave-in if the machinery is too close to the trench edge.
- c) Machinery shall not be operated overhead of employees in the excavation.
- d) Excavations shall not be left exposed to foot or vehicle traffic, while work is in progress or at any other time. See the City of Lincoln *Traffic Control Manual* for proper barricading procedures.
- e) Backfill materials shall not be pushed or dumped into an excavation while an employee is in the excavation.
- f) At the completion of a backfill operation, excess fill and other debris should be completely cleaned up, especially on paved roadways.
- g) Wear approved hard hats when working in or around trenches.
- h) Before digging around any buried utilities, call Digger's Hotline. If there is a live or pressurized line and you are digging within eighteen inches of that line, ask the utility to expose and protect the line.
- i) Wear, at a minimum, High Visibility Class II Safety Vest, in or around trenching operations.

## UNDERGROUND OPERATIONS

### Section 10

Refer to the City of Lincoln *Confined Space Entry Policy* and Section 503 for further regulations.

#### 1001 General Rules

- a) Only qualified, authorized trained employees shall be allowed to enter underground spaces.
- b) Monitoring air quality is required. Before each day's use, testing as determined by the manufacturer shall be performed on the gas detector. Refer to your unit's calibration procedure for instructions.
- c) When removing lids, especially heavy manhole lids, be certain that the pulling device is firmly hooked.
- d) Two employees, minimum, are required for pulling heavy inlet grates.
- e) Never enter a grate box until that grate has been secured to where there is no possibility that it can fall and cause injury.
- f) Keep fingers and toes clear of retaining rings when inlet, manhole covers, and grates are being replaced.
- g) Steps in manholes and deep inlets shall be checked for signs of deterioration before climbing on them.
- h) Safety eyewear shall be used whenever workers are chipping concrete buildup from inlets.
- i) High Visibility Vests shall be worn.

#### 1002 Removing Manhole or Vault Covers

- a) Always use the proper tool and lifting procedure designed for cover removal.
- b) Ideally the shank of the tool should be just long enough to permit the user to insert the hook in a hole in the manhole cover, grasp the handle with both hands and, with a straight back, lift the cover by simply straightening the legs which have been slightly bent at the knees. Caution is required to prevent the cover from being dropped on the toes.
- c) Never use a blow torch or other open flame to melt ice around a manhole or vault cover. When a sticking cover is encountered, a long pry bar or a rubber mallet or a non-sparking sledge hammer may be used to loosen it.
- d) When removed, the cover shall be dragged to a position where it will not create a hazard to the public or employees. It shall not be left partially covering the manhole opening.
- e) Barriers shall be erected around the opening once the cover is removed.
- f) After work is completed, the cover shall be put back in place to prevent injury.

#### 1003 Entering and Leaving Manholes and Vaults

- a) Fall protection is required when entering any manhole greater than six foot deep. Refer to Section 515 *Fall Protection* for further information.
- b) Employees shall not be permitted to hold objects in their hands as they enter manholes, as their hands should be free for holding on to or catching something that would prevent a fall if they should slip.
- c) Leaving a manhole presents many of the same problems that are present when entering, and the same precautions shall be taken. Rubberized protective equipment shall be rinsed off, if possible, and the outer garment removed if another manhole is not to be entered soon. The hands shall be washed with soap and hot water. If hot water is not available, waterless hand cleaner can be used as a temporary measure until the hands can be properly cleaned.

**1004 Job Site Protection**

- a) For openings or obstructions on streets, sidewalks, walkways or private property being worked on or left unattended during the day, danger signals, such as warning signs and flags, shall be effectively displayed. Under these same conditions at night, warning lights shall be prominently displayed and excavations shall be enclosed with suitable barricades.
- b) See the City of Lincoln *Traffic Control Manual* for proper barricading and traffic control procedures on and off public traffic areas.
- c) If possible, trucks or equipment shall be placed between the work area and oncoming traffic. Use warning lights. Employees shall wear, at a minimum, High Visability Class II Safety Vests when working in traffic areas.

# SNOW REMOVAL

## Section 11

### 1101 General Safety Guidelines

- a) Personnel
  - (1) Take enough clothing along to stay warm should a piece of equipment fail. Wear warm head and hand protection.
  - (2) If fatigued to the point where it is impossible to work safely, contact a supervisor and seek replacement.
  - (3) Stay alert and get fresh air periodically.
  - (4) Keep a window open in the unit being operated for a little fresh air.
  - (5) When walking on slick surfaces or climbing on any piece of equipment, be sure of your footing and use hand grips when entering or exiting equipment.
- b) Equipment Operation Safety Guidelines
  - (1) Adjust your driving to road and sight conditions.
  - (2) Keep glass and mirrors clear.
  - (3) Use flashers and beacon lights as required.
  - (4) When maneuvering around parked vehicles, check to be sure someone is not trying to pass your vehicle. Be aware of mail boxes that are near the curb.

### 1102 Miscellaneous Snow Removal

- a) Handwork
  - (1) Know the symptoms and causes of frostbite and hypothermia. If symptoms appear, get to a warm place (See Section 1404 *Working in Cold Weather*).
  - (2) When doing heavy physical work Do not overexert. Stop and catch your breath periodically.
  - (3) Dress in layers so that clothing can be removed. Do not overheat. Perspiration causes a loss of body heat. Wear warm head and hand protection.
  - (4) Keep hydrated.
- b) Snow Blowers (sidewalk size)
  - (1) Use proper lifting techniques when loading and unloading equipment (See Section 516 *Lifting and Carrying*).
  - (2) Keep hands and feet clear of the intake augers.
  - (3) Never direct blown snow at people or into the street.
  - (4) Be alert for foreign objects in the snow which may be propelled by the auger.
- c) Snow Fence Installation
  - (1) Wear gloves when handling snow fence.
  - (2) Defective posts shall not be used.
  - (3) Snow fence rolls shall be secured when in transit.
  - (4) When driving posts, use manual or powered post drivers - not sledgehammers.
  - (5) Snow fence and posts shall be stored in an orderly fashion when not in use.

## FIRE PROTECTION

### Section 12

#### 1201 Fire Protection and Emergency Plans

- a) Employees shall become familiar with City emergency procedures and plans (See Section 1303 *Fire*)
- b) Employees shall familiarize themselves with the emergency exits, alarm signals, and escape procedures when working in a building or structure.
- c) Fire exits and escape routes shall be visibly marked and shall be kept free of obstructions. Fire exits doors shall not be locked, chained, or barricaded at any time.
- d) Employees shall be familiar with both the location and the operation of fire protection equipment in the vicinity of their work area.
- e) Fire protection equipment shall be properly located at all times. Except for actual use, employees shall not move or remove such equipment without proper authority.
- f) Only trained employees shall attempt to extinguish or contain a fire.
- g) For additional information covering fire protection and emergency plans, refer to OSHA standards 29 CFR 1910.38 and 29 CFR 1910.156.
- h) Follow the RACE acronym for fire safety: Remove everyone one danger, Alert others, Confine the fire, and Exit or extinguish the fire.

#### 1202 Fire Extinguishers

- a) Employees shall understand the classes of fire, their burning characteristics and the proper extinguishing agent to be used. See *Fire Extinguisher Classifications and Characteristics*.

**Fire Extinguisher Classifications and Characteristics**

CLASS	BURNING CHARACTERISTIC	EXTINGUISHING AGENT
A	Ordinary Combustibles; i.e. wood, paper, some plastics, textiles	Water, Multipurpose Dry Chemicals, High-Expansion Foams
B	Flammable Liquid and Gas; i.e. oil, gasoline, paint, grease	Carbon Dioxide, Dry Chemical, Low-Expansion Foam, Halon
C	Energized Electrical Equipment	Carbon Dioxide, Dry Chemical, Halon
D	Combustible Metals; i.e. zinc, magnesium, potassium, titanium	Dry Powder, Special Extinguishing Agents (approved by recognized testing laboratories)

- b) Halon is a gaseous extinguishing agent suitable for combating both Class B and Class C fires, especially at indoor locations. Agent is slightly toxic in low concentration (below 15%). When the extinguishing agent is released, precautionary measures similar to those for toxic confined spaces shall be used. Refer to City's *Confined Space Policy* for information.
- c) Employees shall not enter confined spaces after using carbon dioxide extinguishers until the area has been thoroughly ventilated and checked with an air monitoring meter.
- d) Fire extinguishers shall not be blocked or hidden behind material or machines.
- e) All fire extinguishers shall be conspicuously marked and shall be located close to the fire hazard but not so close that they could be damaged or cut off by the fire.
- f) Employees shall be trained on the operation of the fire extinguishers in their work area. The following general guidelines shall be considered when using a portable fire extinguisher:
  - (1) Look to see what is burning and be sure to use the correct extinguisher.

- (2) Approach the fire from upwind if possible. Try to get within 6-8 feet of the fire (depending on the size and type of the fire).
  - (3) Hold the extinguisher upright and aim it at the base of the fire.
  - (4) Be efficient. Most fire extinguishers are emptied in a few seconds.
  - (5) Use the acronym P.A.S.S., Pull the pin, Aim at the base of the fire, Squeeze the handle, Sweep across the fire..
- i) Fire extinguishers shall be inspected visually at least once a month by staff with the monthly inspection documented on the back of the extinguisher tag. Annual inspection/maintenance shall be performed by a qualified inspector.
  - j) For additional information concerning the requirements for fire extinguishers, refer to OSHA standard 29 CFR 1910.157.

### **1203 Hydrants and Standpipes**

- a) Hydrants, hydrant houses, and standpipes shall be kept clear of obstacles.
- b) Standpipe valves and caps shall be inspected weekly. Caps shall remain chained to the pipe and tightened. Valves shall remain in the open position with tamper proof controls if exposed to the public.
- c) For additional information concerning hydrants and standpipes refer to OSHA standard 29 CFR 1910.158.

### **1204 Sprinkler Systems**

- a) Sprinkler system valve stations shall be kept free of obstructions.
- b) Valves for sprinkler systems shall be inspected weekly, documented, and locked in the open position.
- c) A Post Indicator Valve (PIV) shall be exercised monthly, documented and kept locked in the open position.
- c) A minimum clearance of 18 inches shall be maintained between the top of material storage and a sprinkler head deflector.
- d) For additional information concerning sprinkler systems, refer to OSHA standard 29 CFR 1910.159.

## ELECTRICAL SAFETY

### Section 13

#### 1301 General Safety

- a) Do not ground yourself in water or on pipes or drains.
- b) Only trained employees shall work on electrical equipment.
- c) Keep all electrical controls accessible and well marked.
- d) Maintain 3 feet in front of electrical panels unobstructed.
- e) Keep wires from becoming a tripping hazard.
- f) Place a *lockout and/or tagout* on the switches when working on electrical equipment which another person can turn on. Refer to City's *Lockout-Tagout Policy* for further information.
- g) Never use metal ladders around electrical equipment.
- h) When there is a question about an electrical hazard, follow directions and minimize your exposure by using personal protective equipment.
- i) Use electrical meters to test circuits.
- j) Provide lock-out stop-button stations at all motors which are not within sight of the starter-circuit breaker, or which are farther than 50 feet from the starter. ?
- k) Electrical equipment and lines shall be considered as energized until they are proven to be de-energized and properly grounded.
- l) Employees shall report immediately to their supervisor any defective line, apparatus, tool, or other condition which in their judgement may be dangerous either to persons or property

#### 1302 Employee Safety - Overhead Lines (Refer to Section 804 *Working Near Overhead Lines.*)

- a) Avoid contact with overhead lines
  - (1) Do not come within **10 FEET** of overhead lines with any tool.
  - (2) Supervisors and employees are responsible for each others safety in this regard.
  - (3) Operators shall be certain that adequate clearance exists before raising a dump body, loader bucket or other machine extremity in an area where overhead lines are present
  - (4) Report any lines which may be hanging below normal height.
    - (i) remain in the vehicle until qualified personnel determine that a safe exit is possible.
    - (ii) all line damage, obvious or suspected, shall be reported at once.
    - (iii) all downed lines shall be treated as dangerous. Avoid contact of any kind and warn any bystanders to stay clear.
- b) Emergency First Aid (Refer to Section 14 *First Aid*)
  - (1) Treat injured parties only if they can be treated safely. In a situation where a live power line is lying on or near a victim, the risk of electrocution is equal for the rescuer.
  - (2) A long, dry non-conductive object such as a wood pole can be used to separate the victim from the electrical contact.
  - (3) Use the quickest means of communication available to gain access to the 911 system.
  - (4) As soon as safely possible, treat the victim for cardiac and respiratory arrest, burns and shock.

## SPECIAL SITUATIONS

### Section 14

#### 1401 Emergency Notification on the City Band Radio

- a) Emergency Radio Procedures
  - (1) Remain calm and communicate only essential information. For Rescue or Law Enforcement follow these guidelines:
    - (a) Every City radio has a channel called “911” almost always reached by moving the channel knob fully counterclockwise (CCW).
    - (b) On 911, say your agency and name, i.e. “*Public Works Jones to Lincoln 911*” or you can use your call number if you wish.
    - (c) Be patient, a Dispatcher will hear you. It might take 20 seconds or so before they can respond. Almost always they will respond to you saying “*Unit calling on 911?*” which is your cue to let them know:
      - (i) Your location-be very specific i.e. north-bound outside lane 27<sup>th</sup> and Fair.
      - (ii) Reason you called: Person trapped in red Honda; fuel leaking
      - (iii) If medical is not needed let the dispatcher know.
    - (d) If at all possible remain on 911 after clearing in case the dispatcher has addition questions.
  - (2) Follow your department’s procedures for notification within your chain of command after first notifying 911. Let everyone know that 911 has been called to prevent multiple calls for the same incident.
- b) Large-scale disasters and the “BAD DAY” talkgroups
  - (1) Large-scale emergencies such as acts of terrorism or natural disasters like tornados or ice storms may require all City agencies to aid in response to them. During such events your chain of command might assign you to this effort by serving on teams you usually do not work with. For instance a labor crew may have to assist rescuers in clearing streets.
  - (2) Every City radio has 16 common channels known as “BAD DAY” channels. Either an UP arrow on a portable or a switch with a dot on the mobile will make the top line of your radio say “BAD DAY” and the lower line will say “BAD nn” depending on which channel you are on.
    - (a) There are no predetermined assignments on these channels allowing managers to plan them as needed. You will be told which channel to use based on your assignment. For instance a team focusing on the Haymarket during a railway emergency may be assigned BAD 7. Or perhaps all heavy equipment assets will be assigned BAD 10 for storm cleanup—this just depends on how the incident is managed.
    - (b) Failing any understanding of the incident plan, identify yourself on BAD 1 and somebody will give you instructions. NEVER under any circumstances ask if you can help out (self dispatch) during an emergency. It is absolutely imperative that you are requested by your chain of command to respond to the incident.

#### 1402 Tornado

- a) Tornado watches and warnings are issued by the National Weather Service when the probability exists that a significant threat could develop.
- b) In the event of a tornado watch or a severe weather warning, employees should think about their activities for the day and plan according. Employees should keep an eye on the weather and be prepared to go to an area of safety in the event of a tornado warning.
- c) In the event of a tornado warning, Lancaster County Emergency Management will issue a warning and activate the community warning system. when a tornado has actually been sighted, or when radar or civil defense official spotters indicate the tornado is approaching the community.
- d) Upon hearing the emergency, warning systems, except during regularly scheduled tests, do the following:

- (a) immediately move to an interior area of the building on the lowest level possible or a basement area, closing and securing doors behind you. The severe weather shelter area for your building shall be posted in your office area. Be familiar with its location.
- (b) move quickly to shelter areas, and stay away from windows and overhead skylights.
- (c) if time permits, take a cushioning object to protect yourself from potential flying debris and a battery-operated radio or portable communications radio for weather information. Close all window covering.
- (d) when in the shelter, stay near the floor and cover your upper body and head with clothing.
- (e) stay in the shelter until the all clear is given.
- (2) If you are outdoors:
  - (a) seek indoor shelter if possible.
  - (b) do not stay in a motor vehicle. Seek sturdy shelter.
  - (c) if no shelter is near, lie flat in a ditch or low spot.
  - (d) if caught in the path of a tornado on flat ground, attempt to move at right angles to its path.
- e) If a tornado does hit, use telephones for emergency purposes only. Implement your Disaster Response Plan.

### 1403 Fire

- a) If a fire occurs in your building, follow the RACE fire response protocol:
  - (1) R - Remove everyone from danger.
  - (2) A - Alert others by pull the nearest fire alarm to evacuate the building. Call 911 and tell the operator the exact location of the fire. Be sure to give the operator the information needed. Do not hang up until the operator releases you, unless in immediate danger.
  - (3) C - Confine the fire. Close doors to all areas to slow the spread of the fire.
  - (4) E - Exit or evacuate the building by the nearest safe exit. Do not use elevators. Aid the handicapped, and guide members of the public out of the building.
  - (5) Or E - Extinguish the fire if fire extinguishers are available, the fire is small enough to fight with an extinguisher, and you feel confident in your abilities to use a fire extinguisher.
  - (6) If time allows, turn off machines, lock up money and any other important papers. Remove Material Safety Data Sheets to turn over to the Fire Department if applicable.
  - (7) Assemble at a pre-arranged location, away from the building. Do not block areas used by fire personnel or equipment.
  - (8) Do not re-enter the building until the Fire Department has declared the building safe.
- b) If a fire occurs in a piece of equipment:
  - (1) Shut down the engine or appropriate power source. Set park brake of vehicles on fire.
  - (2) Clear all personnel and others away from the endangered area.
  - (3) Call 911 from a communications source away from the burning unit.
  - (4) Move all nearby equipment away from the burning unit if possible.
  - (5) Never endanger your life in case of equipment fire.
- c) See Section 12 *Fire Prevention* for additional information.

### 1404 Lightning

- a) If lightning threatens while you are inside:
  - (1) stay inside, away from open doors or windows, radiators, and metal pipes.
- b) If you are outside:
  - (1) seek shelter in a building, but avoid small sheds or shelters in exposed locations.
  - (2) if no buildings are available, seek shelter in a ditch or ravine. Avoid being the highest object in the area. If only isolated trees are nearby, the best protection is to crouch or lie in the open, keeping at least as far away from trees as they are high.
  - (3) stay away from metal equipment, fences, tractors, pipes, and bicycles.
  - (4) if you feel an electrical charge (hair standing on end, skin tingles), lightning may be about to strike you. Drop to a crouched position on the balls of your feet, putting your hands over your ears and tuck your head between your knees.

- c) If someone is struck by lightning, begin first aid immediately. The victim does not retain any electrical charge. See Section 15 *First Aid* for further information.

#### **1405 Chemical Spill**

- a) If a chemical spill occurs in the building:
  - (1) contain the spill if possible. Close the doors to room/area containing the spill, and stay clear of the immediate area.
  - (2) consult the Material Safety Data Sheet (MSDS) of the chemical for clean-up procedures.
  - (3) if it is a hazardous chemical that you cannot clean-up, call 911 and tell the operator what type of chemical, the amount and the exact location of the spill. Be sure to give the operator all of the needed information. Do not hang up until the operator releases you. Wait a safe distance from the spill until help arrives.
  - (4) if a chemical has come in contact with skin or eyes, follow directions from the MSDS of the chemical.
  - (5) if an injury occurs, complete an injury report form.
- b) If a fire starts as a result of the chemical spill:
  - (1) close the doors to room containing the spill and fire.
  - (2) pull the nearest fire alarm and evacuate the building.
  - (3) follow steps 2-5 of part (a).
- c) If a chemical spill occurs outside:
  - (1) contain the spill if possible. Stay clear of the immediate area.. Protect citizens from the spill area while avoiding contact with the chemical.
  - (2) consult the Material Safety Data Sheet (MSDS) of the chemical for clean-up procedures.
  - (3) if it is a hazardous chemical that you cannot clean-up, call 911 and tell the operator what type of chemical, the amount and the exact location of the spill. Be sure to give the operator all of the needed information. Do not hang up until the operator releases you. Wait a safe distance from the spill until help arrives.
  - (4) if a chemical has come in contact with skin or eyes, follow directions from the MSDS of the chemical. Provide first aid treatment to anyone affected if it can be done without danger.
  - (5) if an injury occurs, complete an injury report form.
  - (6) work with the emergency responders if help is requested. This may be in terms of loaned equipment or manually helping with the cleanup or operating equipment.

#### **1406 Bomb Threat**

- a) If you receive a bomb threat over the telephone:
  - (1) listen carefully to the details of the threat. Inform the caller that the area is occupied and detonation may cause injury or death to innocent people. Keep the caller talking, if you can, until you are able to answer the following questions:
    - (a) when is the bomb going to explode?
    - (b) where is the bomb right now?
    - (c) what does the bomb look like?
    - (d) what kind of bomb is it?
    - (e) what will cause the bomb to explode?
    - (f) who placed the bomb?
    - (g) why?
    - (h) what is the caller's name? address?
    - (i) where is caller phoning from?
  - (2) note whether the caller is male or female, any distinguishing voice characteristics (accent, words used, etc.), and any background noise you may hear.
  - (3) after the caller has hung up, using the same telephone and line, obtain a dial tone and immediately dial \*57, inform them of your emergency, and follow their instructions.
  - (4) after completing the \*57 call, dial 911 and relay all of the information obtained. Do not hang up until you are released by the operator.

- (5) notify your emergency/floor captain of the emergency.
- (6) the emergency/floor captain should inform staff to stop what they are doing ,to stop the use of cell phones and two-way radios, to check their areas for anything that looks suspicious, out-of-place, or that doesn't belong there, and report their findings to the emergency/floor captain. **DO NOT TOUCH anything that you suspect.**
- (7) remain calm and shelter-in-place until you are directed to evacuate by emergency response personnel or there is eminent danger.
- (8) the emergency/floor captain shall inform emergency responders with updates/information concerning the bomb threat.

#### **1407 Explosion**

- a) If an explosion occurs in your building:
  - (1) immediately assess the building for structural failure, natural gas leaks, live electrical hazards, etc. Evacuate the building if you can safely, otherwise, shelter-in-place until emergency responders arrive.
  - (2) offer first aid to any injured parties that you can safely.
  - (3) contact 911 and tell the operator the location of the explosion and, if known, its seriousness and any possible injuries to personnel. Be sure to give all of the information requested. Do not hang up until released by the 911 operator.
  - (4) wait a safe distance outside, away from the building until emergency responders arrive.
  - (5) direct emergency responders to the explosion area and to any personnel who are injured.

#### **1408 Holdup and Robbery**

- a) Do not resist.
- b) Do as you are told, while collecting a description of the suspect(s) for identification.
- c) Activate a panic button if available. Call out for help if you feel it is safe to do so. Do not put anyone in danger.
- d) Contact 911 as soon as possible.
- e) Do not touch or disturb anything as it is a crime scene. Wait for law enforcement to arrive.
- f) Secure the area where the crime occurred, if possible.
  - (1) Lock the door to prevent people from walking through the area or place chairs or other furniture around the perimeter of where the robbery occurred in order to prevent contamination of the crime scene.
- g) Write down, step by step, what happened as soon as possible while the facts are still fresh in you mind. Obtain the names of witnesses present and have them write down what happened as well without discussing it with one another.
- h) Contact your supervisor to report the event.

#### **1409 Escalated Behavior**

- a) Escalated behavior is when a person (customer/co-worker) is angry, verbally abusive, and/or physically acting out.
- b) Employees should be trained in verbal de-escalation techniques in an effort to calm the situation.
  - (1) Talk to the escalated person in a soft, slow, tone of voice. This will have a way of slowing down the escalated person's speech and softening the tone of their voice.
  - (2) Inform the escalated person that you would like to help them and that the only way you can do that is to understand what the problem is.
  - (3) Inform them that if they would talk to you in a calm manner that you would be glad to help them.
  - (4) Just in case the verbal techniques don't work, place yourself in a non-aggressive, defensive stance:
    - a. Stand a least a "leg lengths" distance from the escalated person.(So you cannot be kicked.)
    - b. Stand at a slight angle to the escalated person. If they do throw a punch or a kick it would strike you on your side rather the front of your torso.

- c. Stand with your feet at least a shoulder width apart. You have better balance and not as easy to knock over.
  - e. Place you hands in front of you or at your side. You are better able to deflect a blow or a kick if your hands are available.
- (5) Place your self in a position that allows an exit at your back to get away if necessary.
- c) Activate a panic button, if available, contact 911, or notify someone else to call for help if you are unable to do so.
  - d) Try to keep yourself out of potentially harmful situations. Do not provoke or taunt the person.

## FIRST AID Section 15

### 1501 General

- a) Blood-borne pathogens cause diseases such as Hepatitis B and AIDS. When administering any type of first aid, limit or eliminate contact with blood and body fluids. Use gloves, eye protection and for administering CPR, a shield with a one way valve.
- b) Immediately wash hands and all other possibly contaminated body parts. Remove contaminated clothing after administering first aid. Report all exposure to blood and body fluids to your supervisor.
- c) Employees shall be familiar with basic first aid so they may provide emergency treatment to fellow employees and the public. Employees shall be knowledgeable of the treatment of traumatic shock, artificial respiration and control of bleeding. Also, employees shall know which medical services are available and how to obtain them.
- d) Employees shall be familiar with the location of first aid kits, contents and instructions given with the kit. The contents of the kits should be inspected periodically and expended items replaced.

### 1502 Working in Hot Weather

- a) The following precautions shall be observed in hot weather:
  - (1) to avoid sunburn, wear a shirt and long pants. Light colored clothing is preferred.
  - (2) wear a hat when working in the sun. Avoid overexertion
  - (3) drink plenty of water, but avoid excessive quantities of ice water.
  - (4) avoid caffeinated beverages.
  - (5) avoid heavy meals, eat lighter meals/snacks.
  - (6) take more frequent, short breaks.
- b) Sunstroke or heatstroke is an extreme medical emergency and medical aid shall be obtained as soon as possible. A delay of one or two hours may mean the difference between life and death.

Symptoms of Heatstroke	Treatment
Hot, dry skin and high temperature Face red and flushed Dizziness, intense headache, hard breathing Possible convulsions and unconsciousness	Call for emergency help Move to a cool, shady spot Lay on back, head and shoulders raised Cool body with water or wet clothes Cool drink, not ice cold Do not give stimulants.

- c) Heat exhaustion or heat prostration is not as serious as sunstroke, but shall be treated promptly.

Symptoms of Heat Exhaustion	Treatment
Skin cold and clammy Face pale Possible chills, cramps or dizziness May vomit Weak, rapid pulse	Move to fresh, moving air Keep lying down with legs up Loosen clothing Rub arms and legs gently towards heart Get to a doctor ASAP in severe cases

**1503 Food Poisoning**

- a) To avoid food poisoning as the result of contaminated lunches, do not use mayonnaise, eggs, milk, or fish in lunches, unless they can be kept refrigerated prior to eating.
- b) Practice good hygiene before eating to reduce chance of poisoning. Don't eat in work equipment areas or on soiled shop tables used in the workplace. Eat in clean areas.

**1504 Working in Cold Weather**

- a) Sufficient clothing shall be worn to protect against the cold. Tight clothing which restricts the circulatory system shall be avoided. Frostbite on the nose, cheeks, ears, fingers, or toes is the most likely danger in cold weather. Frostbite develops most frequently when a high wind is blowing.

Symptoms of Frostbite	Treatment
Pain felt early, but subsides later Skin becomes grayish white Affected part feels intensely cold and numb Blisters may appear later	Do not rub the affected part with snow or the hands. Rewarm frozen part using moist rags or towels dipped in water at 90° - 100° F.

**1505 Thin Ice**

- a) Avoid walking on ice-covered streams, ponds, or lakes unless the ice has been determined to be at least three inches thick. If you fall through, put your arms in front of you on solid ice, kick to keep your body level, crawl forward on your stomach until your hips reach the ice. Keep rolling until safe. If the ice is too thin to support you, break a way to shore with one hand and support yourself with the other.

**1506 Electrocutation**

- a) Do not rush in and become a casualty yourself. If possible, de-energize or insulate the power source. Remove the victim from the electric source with a dry, nonconductive material. When safe to do so, begin rescue procedures. (See *Emergency First Aid Procedures*)
- b) If the victim has been struck by lightning, immediately begin to administer first aid as the charge is no longer present.
- c) Call 911.

**1507 Animal Bite**

- a) If bite reddens or breaks the skin, notify the owner and animal control about the bite.
- b) Notify your supervisor about the bite and proceed to get immediate treatment by a healthcare provider. The healthcare provider will report the bite to Animal Control of the Health Department. Animal Control will keep in close contact with the authorities watching the confined animal until the animal's condition is determined and confirmed by a veterinarian. Notification of treatment for rabies will be recommended and scheduled by the Health Department.

**1508 Useful Rules for All Emergencies**

- a) Remain calm and evaluate the situation.
- b) Do not move a victim unless absolutely necessary.
- c) Solve the important problems first; i.e. stop bleeding, restore breathing, remove toxic gases.
- d) Perform first aid treatment.
- e) Make sure hands, instruments, bandages, and the general area around the wound are clean.

**Emergency First Aid Procedures**

<p>CPR/AED and Artificial Respiration</p>	<p><b>Call for medical assistance immediately (911)</b> Perform CPR only if properly trained and qualified ● If victim is not breathing: 1. open airway by tipping head, clear mouth of visible obstructions, support neck 2. restore breathing by artificial respiration (use CPR shield over mouth) - put on back - pinch victim's nose shut - take a deep breath, make airtight contact with victim's mouth - breathe into victim with 2 long breaths, watch for chest to rise - check for pulse. If there, continue rescue breathing ● If no pulse: 3.-Locate nearest AED unit. Hook up and follow AED prompts. 4-Restore circulation using chest compression techniques 5-Decide on treatment for other injuries</p>
<p>Heart Attack (victim conscious)</p>	<p><b>Call for medical assistance immediately (911)</b> Treat for shock (see below) Keep person quiet Administer oxygen, if available</p>
<p>Choking (not able to cough)</p>	<p>Use Heimlich maneuver: Stand behind victim, hold your arms around victim's waist over navel, hold your own fist firmly and thrust hard in upward direction. If victim is collapsed, strike sharply over the spine between the shoulder blades with the heel of your hand, roll onto back and administer abdominal thrusts. If breathing stops, go to CPR/AED treatment above.</p>
<p>Confined Space Rescue</p>	<p><b>Contact 911 for immediate help.</b> <b>If not trained in Confined Space Rescue, DO NOT ENTER SPACE BEFORE HELP ARRIVES.</b> Use proper protective equipment.</p>
<p>Severe Injuries: Hemorrhage Electrical shock Chemical burns Eye injuries Fracture</p>	<p>Contact 911 for medical assistance immediately Stop bleeding by using direct pressure Treat for shock if necessary Keep patient lying down and calm Clean and dress wounds if possible Flush chemical away from eye or skin with flushing solution (check MSDS sheet)</p>
<p>Treatment for Shock</p>	<p>Contact 911 for medical assistance immediately Give artificial respiration, if necessary Keep victim lying down, head level with body and turned Elevate feet, if not painful for victim Elevate head and chest if there is difficulty in breathing Keep victim warm Give sips of water, only if conscious and there is no abdominal pain</p>
<p>Minor Injuries: Cuts, scratches Minor burns Head injuries Chest injuries Sprains Fainting</p>	<p>Wash and rinse wounds Apply antiseptic and dressing Cover puncture wounds containing foreign material, <b>DO NOT</b> remove material Refer to physician if puncture wound is deep or injury seems complicated Treat for shock, if necessary Apply cold compress for nosebleeds, sprains and mild injuries Hold burn under clean running water</p>