

CN U.S. REGION

L.I.F.E.

**Safety Rules and
Recommended Practices for
ENGINEERING Employees**

Second Edition

Effective Date: March 2005

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SECTION I: INTRODUCTION

Safety Vision

Safety is a core value of CN U.S. Region. It is the responsibility of every member of the CN family. In an ever-expanding partnership between management and labor, our goal is to be the safest railroad in North America.

In our vision, every one of us looks out for the health and safety of our co-workers on the job—even extending to our families at home. We are committed to compliance with regulations and to continuous learning about safety.

Because rules alone cannot prevent incidents and injuries, each of us is empowered to make decisions and to take the necessary steps to achieve our goal. We must rely on sound, professional judgment when no specific rule or procedure applies. This includes seeking out a co-worker, supervisor, or other resource for guidance and support. By working together, we will create the safest possible environment for all.

No job is so important, no service so urgent that we cannot take the time to perform all work safely.

Welcome!

Welcome to the Second Edition of the CN U.S. Region safety rule book, *Live Injury-Free Everyday (L.I.F.E.)*. Following on the successes of the 2002 *L.I.F.E.* book and in order to ensure the currency, accuracy, and applicability of the document over the course of time, we have reviewed the First Edition closely and now offer this update. As with the First Edition, this book has been developed from the knowledge and contributions of many members of the CN family—labor and management alike. The information in this book is an essential part of your work day, helping you to make safe decisions on the job and with your family at home.

Revising the Rule Book

During this revision cycle, we retested rules and recommended practices from the First Edition together with original close examination of all text in the safety rule books from the former Bessemer and Lake Erie; Duluth, Missabe & Iron Range; and Wisconsin Central railway systems. We took our first step into the development of a CN U.S. Region Docks *L.I.F.E.* book to address the needs of our colleagues working alongside Midwestern waterways. System-wide teams representing each craft at CN—and including properties new to our family—drove the work. The core team included the same cross-section of professionals as last time, including transportation, clerical, and docks officials and union representatives; engineering and mechanical foremen; divisional support personnel; and representatives from Risk Management (Corporate and Divisional), the Law Department, and Human Resources.

The team reviewed all existing rules and recommended practices with the goal of updating, correcting, eliminating, and/or adding text that accurately reflects the safest way to accomplish a task at CN.

Following is a list of employees who invested their time and energy into the *L.I.F.E.*, Second Edition. Their skill and

commitment have made this book possible. If we have missed anyone who helped in the project, we apologize for the error. Thanks again to everyone for this outstanding work!

Team Leaders

Bob Keane
Ron Ester
Dave Hall

Writers and Facilitators
from Hile Group

Julie Hile
Christina Schulz

Core Team Members

Kent Anderson
Larry Anderson
Joe Bisenius
Tom Brewer
Carol Brinkman
Jack Carlton
Cathy Cortez
Doyle Cowles
David A. Detwiler
Gary W. Devall
George Downs
Winky Freeman
John Geary
David Greeley
David Hansen

Dave Lustig
Caroline “Missy” Moss
Lou Nardi
Craig C. Peachy
Larry Pears
Darrell Pfeffer
John Raiha
Art Rapp
Joe Rubino
Gordy Sharp
Kathy Skarman
Kristina Thompsen
Terry Tindol
Jeff Weliky
Mike Wells

This team wants to acknowledge once again the work of the team from First Edition. That group laid an essential foundation which is still very much present in Second Edition.

Organizing the Information

This rule book is organized into four main sections described below.

Section I: Introduction

This section contains the Safety Vision for the book that was authored collaboratively by members of the teams. The Welcome! statement is designed to teach readers how to use this revised rule book.

Section II: Core Safety Rules

Section III: Rules, Recommended Practices, and PPE

As the heart of *L.I.F.E.*, Sections II and III establish rules for craft-specific work activities and also provide recommended practices—craft-specific practices that professional railroaders have found to be safe and efficient for years. The following descriptions outline further the information this section contains:

Core Safety Rules: Rules that are common to all crafts and must be complied with at all times. The Core Safety Rules are organized into Rights and Responsibilities; Substance Abuse; Clothing and PPE; Materials; Vehicles, Equipment, and Tools; Work Environment; and Working On or About Tracks.

Craft-Specific Rules: Rules that must be complied with at all times. Craft-specific rules are written to address the work of individual crafts and to set the same standard across multiple crafts when appropriate. Topics are numbered and organized in alphabetical order and include standards about the wearing and use of *Personal Protective Equipment (PPE)* and Clothing.

Recommended Practices: Practices that must be followed unless you are employing a different approach you know to be as safe or safer. These practices offer us an important element of freedom to decide the safest way for us to work in particular situations.

Section IV: Resources

This section provides descriptions of CN Standards and Programs, some of which are mandatory for the safe performance of job tasks. Also featured in this section are government regulations and operating rules, a glossary of terms used in the rule book, recognition of First Edition contributors, and a suggestion form designed to encourage feedback from all readers.

Additional Features and Value-Adds*"See Also" References and Icons*

In Section III, various topics have “see also” references to extra sources of information. Some topics also include icons that represent a special connection to the following safety issues:



Safety at Home: This icon reminds you that the rules and recommended practices can be applied at home.



PPE: The PPE icon guides you to the *Personal Protective Equipment (PPE)* and Clothing section and PPE charts for specific information regarding PPE requirements.



Sprains, Strains, Exertion, and Fatigue: Topics with this icon may have a higher potential for risk of sprains, strains, discomfort, fatigue, or exertion injuries.

The references and icons are designed to help you find additional information or to note relevance to specific issues. However, they are not meant to cover exhaustively all information or references related to a particular topic. Additional Company and regulatory requirements may be applicable.

Glossary Terms

The glossary in Section IV provides a listing of safety and operational terms for which you may need further clarification. Glossary terms are noted throughout the text by use of *italics type*.

Feedback on L.I.F.E.

A suggestion form has been included at the end of Section IV to make it easy for anyone to offer feedback and suggestions on the book. Simply fill out the form and return it to the AVP Safety and Regulatory (U.S.).

SECTION II: CORE SAFETY RULES

Rights and Responsibilities

1. We have the right and the responsibility to make decisions based on experience, personal judgment, and training. We must make certain that:
 - a. Job tasks are performed only by individuals who are *authorized* and *trained* to perform them.
 - b. Job safety briefings are conducted prior to work and when activity and/or conditions change.
 - c. Co-workers are informed of *unsafe conditions*.
 - d. Unsafe or suspicious conditions are reported immediately to a *supervisor* or appropriate person.
 - e. Accidents, incidents, on-duty injuries, and related information are reported to a *supervisor* as soon as possible; written reports are completed as required.
 - f. Practical jokes, horseplay, or physical altercations are prohibited on Company property.
 - g. Firearms or any weapons are prohibited on Company property unless *authorized* by the Company.
 - h. We comply with all CN rules and policies that relate to our job task(s).
 - i. We comply with all local, state, and federal laws and regulations that relate to our job task(s).

Substance Abuse

2. The use of intoxicants or narcotics by employees subject to duty or in their possession while on duty is prohibited. Comply with all standards outlined in the Substance and Alcohol Free Environment (S.A.F.E.) Policy as presented in this rule book under “Section IV: Resources–Standards.”

Clothing and Personal Protective Equipment (PPE)

3. Know, wear, and maintain approved *personal protective equipment (PPE)* and clothing as required by job task and/or *work environment*, including off-site industries as required.

Materials

4. Use approved, properly marked containers when storing or transporting flammable liquids or materials.

Vehicles, Equipment, and Tools

5. Use approved tools, equipment, and materials for the purpose(s) intended. Unauthorized modifications, overrides to *safety devices*, and removal of safety guards are prohibited.
6. Follow instructions and safety information in operator's manual when performing emergency procedures on *motor vehicles*.
7. Inspect all tools, equipment, and related *safety devices* for *unsafe conditions* before use. Remove from service if defective.
8. Do not walk, work, or place any body parts under suspended load.
9. Use *three-point contact* when getting on or off equipment, machinery, or vehicles.
10. Maintain *three-point contact* when ascending or descending steps and ladders.
11. Always use handles provided when opening and closing doors.
12. Shut down motorized equipment when inside buildings not equipped to ventilate exhaust fumes.

Work Environment

13. Protect against *unsafe conditions* in *work area* before and during job activity.
14. Keep *work area and environment* clean, orderly, and free from clutter and debris.
15. Do not litter.
16. Keep emergency exits, fire extinguishers, circuit breaker or fuse panels, and emergency equipment unblocked and readily accessible.

Working On or About Tracks

17. Look for moving equipment when approaching, crossing, or fouling tracks.
18. Expect and keep clear of the movement of trains, engines, cars, or other equipment at any time, on any track, in any direction.
19. Do not step or stand on rail.
20. Do not cross within 25 feet of standing equipment unless you or a member of your crew is in control of the standing equipment.

SECTION III: ENGINEERING RULES, RECOMMENDED PRACTICES, AND PPE

E-1 Banding



See also E-22 Personal Protective Equipment (PPE) and Clothing
and E-23 Personal Protective Equipment (PPE) Chats

1. Wear gloves to protect hands from sharp corners of cut banding during banding operation.

Recommended Practices

Guard against flying banding when cutting banding away from packaged materials.

E-2 Batteries



See also E-22 Personal Protective Equipment (PPE) and Clothing and E-23 Personal Protective Equipment (PPE) Charts

See also E-13 Lifting and Straddling

1. Jump or charge batteries only if *trained* to do so.
2. Confirm that booster cables are properly connected and that batteries are of the same voltage before charging batteries.
3. Work on, charge, and store batteries only in ventilated areas.
4. Protect battery charging/storage areas from *ignition sources*.
5. Do not make contact with metal across terminals or lead.
6. Remove any leads from terminal posts when transferring or shipping batteries.
7. When lifting battery, use lifting equipment designed for that purpose.

Recommended Practices

Know location of emergency eyewash and shower stations.

Use insulated tools to work on or lift batteries.

When storing or transporting batteries, limit to one tier.

E-3 Confined Space

See also "Confined Space" in Section IV: Resources, Standards and Glossary

1. Only *trained* and *qualified* individuals may enter a *confined space* or participate in a *confined space* entry task.
2. Consider all *confined spaces* hazardous. Possess a permit before entering a permit-required *confined space*.

E-4 Cranes, Derricks, and Hoists

1. Operate cranes, derricks, and hoists only if *qualified* and *authorized*.
2. Inspect chains, cables, slings, and hooks before each use.
3. Occupy crane only if:
 - You are operating, training, or performing maintenance.
 - Crane is equipped with extra non-operator seat(s).
4. Do not ride on hook or load of crane, derrick, hoist, or hoisting equipment.
5. Ride on idler cars only after operator is informed.
6. *Designated person* and operator must:
 - Use chains, slings, and hardware that are *certified* and tagged.
 - Confirm employees are clear of equipment, including load, before beginning operation.
7. The operator must:
 - Inspect and test components and controls prior to start of every shift and as required during the shift.
 - Refer to load chart under all conditions before making any lift. Do not exceed rated *capacity* for lift devices.
 - Move crane only after sounding warning.
 - Never move any load until receiving proper signal from one *designated person*. EXCEPTION: Obey the emergency stop signal given by any employee.
 - Stop all movement if visual contact is lost with person giving signals.
 - Maintain distance from power lines as defined in Company requirements.

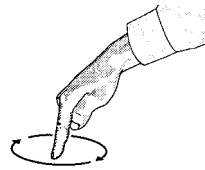
8. Never fasten sling or hoist chains with a bolt.
9. Confirm the load is resting securely before removing the sling or lifting mechanism.
10. Apply brake and secure hook, cable, and boom before leaving equipment unattended.
11. Stay at controls when load is suspended.
12. Place block or hook directly over load to ensure a vertical lift.
13. Spool cable smoothly on the drum when loads are handled.
14. Never grasp sheave, chain, or cable while hoisting equipment is being operated.
15. When crane is stopped to clear trains, operator must confirm that swing parts are locked and load is lowered to ground.

International Crane/Derrick Hand Signals

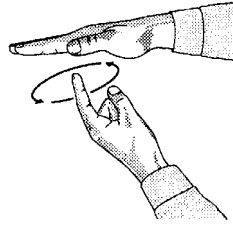
16. Use international hand signals as follows:



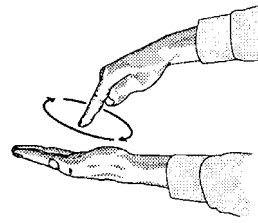
Load Up. With the forearm vertical, forefinger pointing up, move finger in small horizontal circles.



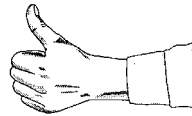
Load Down. With the arm extended downward, forefinger pointing down, move finger in small horizontal circles.



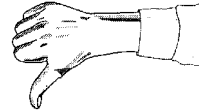
Load Up Slowly. Extend one arm out horizontally with palm down, and with other hand, point forefinger up and in towards palm while moving finger in small horizontal circles.



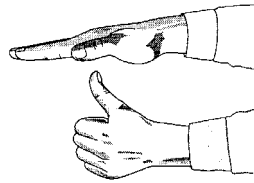
Load Down Slowly. Extend one arm out horizontally with palm up, and with other hand, point forefinger down and in towards palm while moving finger in small horizontal circles.



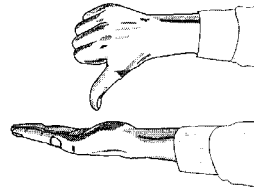
Boom Up. Arm extended horizontally, fingers closed, thumb pointing upward.



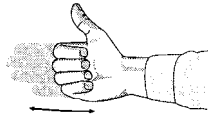
Boom Down. Arm extended horizontally, fingers closed, thumb pointing downward.



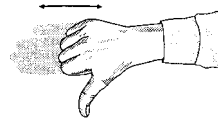
Boom Up Slowly. Extend one arm out horizontally with palm down, and with other hand, close fingers with thumb pointing up into palm.



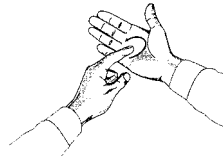
Boom Down Slowly. Extend one arm out horizontally with palm up, and with other hand, close fingers with thumb pointing down into palm.



Boom Up Load Down.
With arm extended horizontally, thumb pointing up, flex fingers in and out.



Boom Down Load Up.
With arm extended horizontally, thumb pointing down, flex fingers in and out.



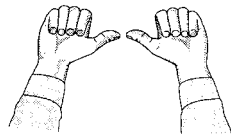
Everything Slowly. With one hand open and palm facing toward operator, make small horizontal circles with forefinger of other hand in the center of the open palm.



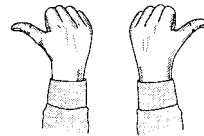
Use Whip Line. With one arm extended horizontally, bend the forearm to point upward and close fist. With other hand, use an open palm to tap elbow of raised arm.



Use Main Line.
Tap fist on head.



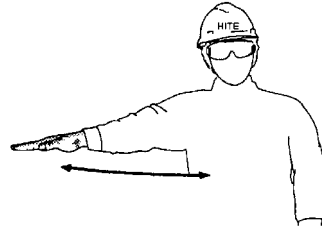
Retract Hydraulic Boom. Place both fists in front of body with thumbs pointing toward each other.



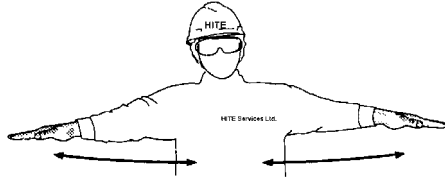
Extend Hydraulic Boom. Place both fists in front of body with thumbs pointing outward.



Swing Load. Extend arm horizontally and point forefinger in the direction required.



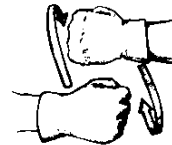
Stop. With one arm extended with palm down, move forearm back and forth horizontally. NOTE: When giving the STOP signal, exaggerate the arm motion so that it is not confused with the SWING signal.



Emergency Stop. Both arms are extended at shoulder height with palms down. Arms are swung violently from side to side in a chopping motion crisscrossing in front of you.



Dog Everything. Clasp hands in front of body.



Travel Forward. With both fists in front of body, rotate fists around each other in circular motion.



Turn Right. Extend left arm horizontally and bend arm at elbow with closed fist pointing upward. Place right arm close to stomach with a closed fist. Rotate right forearm and closed fist in circular motions.



Turn Left. Extend right arm horizontally and bend arm at elbow with closed fist pointing upward. Place left arm close to stomach with a closed fist. Rotate left forearm and closed fist in circular motions.



Open Clam (or Grapple).
With one arm extended to the side and palm facing down, spread finger tips and thumb in an open fashion pointing down.



Closed Clam (or Grapple).
With one arm extended to the side and palm facing down, position finger tips with thumb to form an eye.

Recommended Practices

When determining load weight, consider the following:

- Weight of the load.
- Weight of bucket, blocks, and rigging.
- Position of the crane.
- Condition of the track or ground where crane is to be set.
- Wind and changing weather conditions.

Turn off power before leaving equipment unattended.

Do not lift any higher than necessary to clear obstacle in path when swinging a load.

Maintain steady movement at all times when operating a crane.

Keep crane cab locked when left unattended.

Use wedges over trucks and under frame of locomotive cranes except when moving in train. Use wedges on other types of cranes when equipped.

Before hoisting a heavy load after the crane has been idle for a long time, hoist the load block to the boom point several times with the brake applied.

When moving pile drivers, cranes, or derricks on their own wheels or on cars in a train, inspect equipment and secure boom and, when possible, ensure that boom is trailing.

Disconnect travel gears underneath and secure locomotive crane before moving it in train.

E-5 Electrical Facilities and Equipment



1. Perform only electrical work for which you are *qualified* and *authorized*.
2. Lock out and/or tag out electrical equipment before making adjustments or repairs. Assume all wires, conductors, and other electrical equipment are energized.
3. Do not remove warning tags from switches and re-energized circuits. Do not remove warning or operating tag unless you applied it.
4. Do not wear watches, finger rings, or other metal jewelry while working on electrical equipment, apparatuses, or circuits.
5. Do not touch wire or any other object hanging from or in contact with an electrical distribution system. Get someone to guard area if possible, and report hazard to immediate *supervisor* at once.
6. Use a hand line to raise or lower electric-powered tools.
7. Allow no conductive material to come in contact with live power.
8. Do not remove or replace fuses on energized circuit of 400 volts or more without use of rubber gloves, insulated tongs, or other approved device.
9. Remove the primary fuses before working on transformers.
10. Do not open secondary circuits of energized current transformers.
11. Keep all electrical cabinet doors closed.

Recommended Practices

Use standard grounding devices on lines and apparatuses as follows:

- Attach ground wire to ground connection before placing the other end in contact with the conductor upon which work is to be done.
- When removing the ground wire, disconnect it from the circuit before removing it from the ground connection.
- Keep as far as possible from the circuit. Keep upwind and stay clear of the path of the potential arc.

When necessary to work on a circuit supplying electrical energy to a crane, elevator, shop tool, or other device, the worker must:

- a. Notify equipment operator that circuit is to be de-energized.
- b. De-energize the circuit and securely attach completed standard warning tag to each switch as it is opened.

When a fuse has been blown or circuit breaker tripped, determine and correct the source of disturbance before replacing fuse or resetting breaker.

On every fuse panel or switch, stencil or legibly identify the *capacity*, voltage carried, and what it controls unless located and arranged so that the purpose is evident.

When unplugging electrical cords:

- Grasp the plug and use a steady pull to disconnect an electrical outlet.
- Never jerk plug to disengage from an outlet.
- Do not pull plug by use of cord.

E-6 Elevated and Climbing Equipment



See also Fall Protection in Section IV: Resource Standards

1. Comply with all Company requirements for fall protection.
2. Use only ladders, scaffolds, and suspended platforms that conform to Company standards.
3. Use non-conducting ladders and scaffolds near communication, signal, and electrical wires.
4. Use only ladders, steps, and platforms that have non-slip surfaces. Use only ladders that have flattened rungs and non-slip insulated bases.
5. Face equipment when descending or ascending steps and ladders.
6. Do not separate sections of extension ladders or use them individually.
7. Climb no higher than the third rung from the top of a straight ladder or the second step of a step ladder.
8. No more than one person may climb or work off ladder.
9. Tie off or hold all ladders greater than 6 feet tall when in use. Use ground person to hold ladders in place while being tied off.
10. Fully open and lock stepladders when in use.
11. When using non-powered mobile scaffolding:
 - Do not move without help.
 - Do not ride on rolling scaffolds.
 - Apply brakes at all times when scaffold is stationary.

12. Use only elevated platforms or scissor lifts equipped with a guardrail and toe board.
13. Do not work on poles without prescribed fall protection.
14. Wear a fall arrest system with an approved lanyard at all times. Attach the harness to the securing ring on the boom for aerial baskets/scissor lifts and to the bucket if in a boom-mounted bucket.
15. Protect wires hanging low over any tracks, street, or thoroughfare until wires can be raised to proper clearance.
16. Do not attach a hand line to the body harness when working on a pole. Fasten the hand line to a cross arm or to the pole.

Recommended Practices

Set ladder on a stable surface and at a safe angle of one foot away from wall for every 4 feet of ladder height.

Extend ladder at least 3 feet beyond top plane or *work area*.

Use hand line or lifting device when moving tools or materials to different level. Use caution not to overextend your reach.

Position tools or materials on a scaffold or platform where they will not fall or be knocked off.

When using non-powered mobile scaffolding, watch for overhead obstructions and floors with holes.

Ensure that poles are securely guyed or braced when dismantling or removing wires and cables from poles.

When replacing a pole, lash the new pole to the old as soon as it is in the hole and properly tamped in.

E-7 Emergencies and Derailments

1. Do not approach a derailment or an emergency site until it has been determined that it is safe to do so.
2. When arriving at emergency site, contact the on-site Person-In-Charge or Incident Commander for a job briefing.
3. Follow all notification procedures as outlined in location-specific emergency response plans.
4. When hazardous materials are present, follow all procedures outlined in the EMERGENCY RESPONSE GUIDEBOOK.

Recommended Practices

Use extreme caution when walking near or around damaged equipment, structures, rerailing equipment, track, or walkways and avoid debris and other material that could cause tripping or slipping.

Look for and avoid downed power lines.

Keep clear of all wreckage-clearing equipment, chains, cable-hooking devices, and swing loads.

Look for and avoid suspended material or equipment, leaning equipment, equipment that is capable of rolling, and rail or other track structures under strain.

Do not climb on or be about equipment that has derailed except in the *performance of duties* as instructed by a *supervisor*.

Do not move an injured person unless he or she is in danger of being further injured in the current location.

E-8 Fire Safety



See also Emergency Response Plan-Location Specific Preparations (from local risk management/federal mandate)

1. Do not smoke or use open flame/other *ignition sources* while handling or using flammable materials or while near flammable material/battery storage areas.
2. Do not use flammable liquids or accelerants to start or intensify a fire or for cleaning hands, clothing, tools, or equipment.
3. Confirm that fire exits, extinguishers, and other emergency equipment are not blocked, locked, or otherwise rendered inaccessible.
4. Know evacuation procedures, location of fire extinguishers, alarms, emergency exits, and methods for contacting the local fire authority.

Recommended Practices

Have knowledge of the use of fire extinguishers, fire-extinguishing devices, alarm boxes, exits, and evacuation areas in the *work environment*.

Fight a fire only if equipped and if your personal judgment dictates you can do so safely.

E-9 Freight Handling Equipment (Powered)

1. Operate powered freight handling equipment only if *trained* and *qualified*.
2. When operating forklift:
 - Face the direction of movement with loads. Back loaded forklift down ramps/inclines or if view is obstructed.
 - Keep body inside moving vehicle.
 - Do not transport passengers.
 - Use approved basket and chain the basket to mast guard when using forklift to lift personnel. Stand only on floor of basket.
 - Space forks so that load is fully supported and so that the forks are fully under the load.
 - Move forklift only after personnel and equipment are in the clear. Sound horn or alarm when approaching blind corners, doorways, and congested areas or when backing up.
 - Watch for overhead and side obstructions/clearance and high voltage wires on or near the right-of-way. Remove or drive around hose lines, electrical cables, or other obstacles.
 - Bring forklift to a complete stop before changing direction.
 - Confirm load is balanced and stable before lifting.
 - Travel at a safe speed, maintain three-second distance between vehicles, and be prepared to stop short of objects/people.

3. For *unattended forklift*:
 - Lower forks to ground level.
 - Set parking brake.
 - Shut off engine.
 - Do not foul track or block roadway, aisle, or building exit/entrance.
 - Turn off fuel supply if operated using propane or other compressed gas.
4. *Designated person* and operator must confirm employees are clear of equipment, including load, before beginning operation.

Recommended Practices

Know the *work area* before operating equipment.

If working on the ground, be alert to shifting loads, falling objects, and projecting equipment.

Warn others when working near stacking operations.

Cross tracks diagonally.

Keep load at a minimum height when traveling to avoid tipping.

Regulate height of forks to account for ground conditions when traveling.

Use extreme care when working forklift on elevated dock or runway.

Do not park on slope.

E-10 Fusees

1. Store fusees in:
 - Approved metal containers in *motor vehicles* and other designated equipment or designated racks on locomotives.
 - Areas clear from exposure to high temperatures, open flames, and combustibles.
 - Locations where they will remain dry.

Recommended Practices

Avoid inhaling smoke from burning fusees.

Use care to prevent molten slag from dropping on any body part.

To extinguish a fusee, tap it gently on the top of rail or similar object until the burning portion has fallen off. Do not submerge fusees in water.

When lighting a fusee, activate striker cap away from body.

E-11 Hand Brake Operation



1. Take appropriate position for the type of hand brake to be operated. Keep all body parts clear of moving components.
2. Do not apply or release hand brake while standing on the ground except for side-mounted hand brakes. Do not use feet to operate hand brake.
3. Do not stand on couplers, coupler housing, or uncoupling lever when applying or releasing hand brakes.
4. Confirm hand brake is fully applied or released.
5. Do not step directly from side ladder to brake platform on cars equipped with end and side ladders. Move from side ladder to end ladder, then to brake platform, and vice versa.

Recommended Practices

Maintain *three-point contact* with secure footing and firm handhold.

Do not brace any part of body against another car while operating brake.

Do not overexert when applying or releasing hand brake. Obtain assistance.

E-12 Hand Tools



1. Use spike mauls only for the purpose of driving spikes.
2. When using spike mauls, designate one person only to strike a spike.
3. Allow clearance for hands when using wrenches, bars, or other hand tools. When pushing or pulling these tools, keep weight evenly distributed and feet in a stable position.
4. Do not sit on, straddle, or stand on any hand tool that is being used. EXCEPTION: Straddle adz whenever operating.
5. Do not stand in front of or within swing of sledges, hammers, hatchets, adzes, axes, bars, or other tools or implements.
6. Confirm all *struck tools* have head protection to help prevent flying chips.
7. Before driving spike, set it into tie straight and solid to prevent spike from flying when struck with spike maul.
8. Use sledge hammer to strike rail anchors or chisels, pins, punches and when installing spring clips and anchors.
9. When using knives as tools, use only knives with fixed or locking blades.
10. Set aside and store shovels, forks, rakes, and other similar tools with points and edges positioned down.
11. Do not overload the *capacity* of a wrench by using a pipe extension on the handle or strike the handle of a wrench with a hammer.

12. Do not use fingers to determine if bolt holes are properly aligned.
13. Do not turn rail using a bolt hole.
14. Do not strike a file or use without handle.
15. Do not use rail bender without safety cable.

Recommended Practices

Take care to ensure that eyes, face, and body are not lashed when cutting, banding, or wiring under tension and tension is released.

When using tools requiring swinging motion, allow sufficient space to prevent striking a person or object.

Use rail fork to turn rail.

Ensure points of tongs or hooks are sharp when handling ties or timber with tongs or hooks. When making pull, stand braced with feet in position to prevent falling should tongs or hooks slip.

Use drift pin remover to extract pin when possible.

Take the following precautions, when possible, when cutting or trimming trees:

- Use suitable, properly applied wedges and, if necessary, rope or other suitable means to ensure that the tree being cut falls in proper direction.
- Cut bark and a sufficient thickness of wood on the opposite side of tree or underside of limb from which it is to be cut through to prevent its splitting or falling in an undesired location.
- Use ladder or other approved equipment to get into and out of tree.

- Use suitable handline for transporting tools for employees working in tree.
- Use saw or trimmer while in tree. Do not use axe or hatchet while in tree.
- Use rope to lower large or heavy limb.
- Keep all personnel clear from the direction that the tree will fall and from under tree being trimmed.

Jacks

16. Confirm that jack is of proper *capacity* for the lift planned; check with *supervisor* if in doubt. Heavy lifts require the use of footings of sufficient area to safely distribute the load.
17. Confirm that the jack is properly placed and level.
18. Use cushioning material between the jack and equipment to prevent slipping. Do not allow metal-to-metal contact. EXCEPTION: This does not include track jack being used to jack up track.
19. Use proper jack handle with manual jacks. Remove the handle when not jacking. Lower handles on electric/air jacks when in use.
20. Do not go under jacked equipment until safety jack stands, center sill stand, or blocking between truck side and car body is in place or truck is underneath jacked car with safety stands in place.
21. Constantly observe all the jacks while lifting or lowering a locomotive, car, or other equipment to guard against tilting.
22. Use no more than two men for raising a track jack.
23. Warn fellow employees and confirm all tools are clear before tripping a track jack.

Recommended Practices

Avoid pinch points when using jack.

Keep head and body clear of jack handle.

E-13 Lifting and Stretching



Recommended Practices

When lifting:

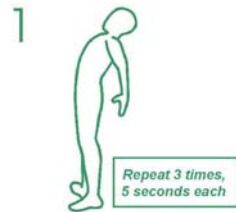
- Bend knees.
- Lift with legs.
- Maintain natural curvature of back.

Avoid twisting while lifting.

Avoid over-stretching, over-reaching, or over-exerting.

Obtain assistance from co-worker(s) or use other equipment when moderate effort alone will not accomplish a task.

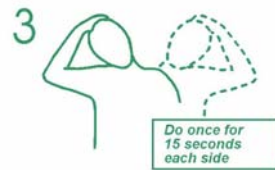
Stretch back for five minutes every day by lying on stomach and propping chin in hands.



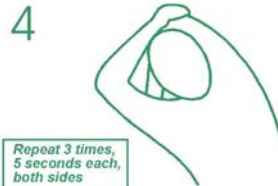
BACK EXTENSION



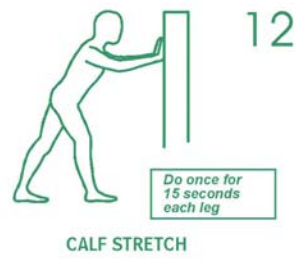
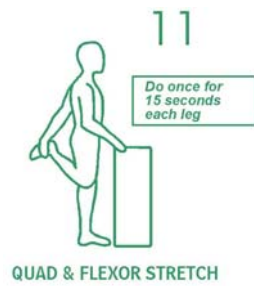
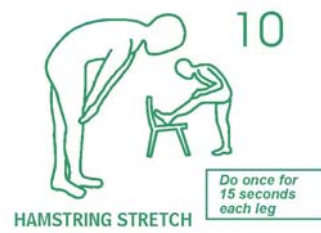
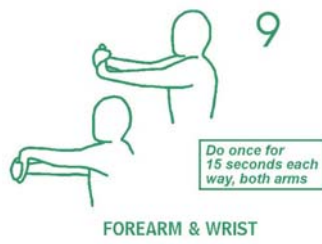
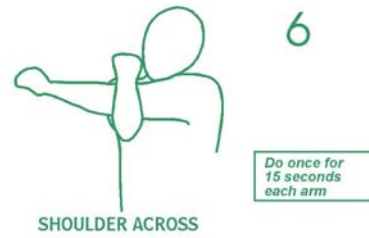
NECK FORWARD



NECK LEFT & RIGHT



ELBOW PULLOVER



E-14 Loading/Unloading Cars, Trucks, and Trailers

See also information related to HAZMAT Training

1. Protect rail car according to On Track Safety Rules.
2. Securely chock wheels of cars, trucks, and trailers spotted at doors and platforms to prevent movement before loading or unloading.
3. Use truck jacks in addition to chocking at the front of trailers where trailers are not attached to tractors.
4. Confirm all transfer equipment is properly secured before using it.
5. Do not place transfer equipment in doorways of cars coupled to a locomotive unless there is protection against movement.
6. Do not load or unload trailer truck while tractor is being coupled or uncoupled.
7. Before opening or closing, inspect freight car door for defects or missing parts.
8. Do not place hands or fingers in jamb or on frame of drop-bottom or hopper car door or use hands to swing or close hopper door.

Recommended Practices

When closing hopper doors:

- a. Confirm that persons on other side of car are clear of door when doors operate in pairs.
- b. Grasp flange or angle on side of car to keep from losing balance.

- c. Place foot on push or locking casting of door where it is corrugated. Position other foot to avoid slipping.
- d. Push or swing door with foot until door is engaged in first notch of lock.
- e. Use bar to engage door in second notch or closed position. Place bar carefully and brace body to avoid fall if bar slips.

E-15 Lockout/Tagout

1. Administer *lockout/tagout* procedures only if you are *trained* and are the equipment operator, mechanic, or other *authorized* personnel.
2. Do not remove a lock and/or tag unless:
 - You are the one who applied it.
 - or
 - You are *authorized* to do so by your *supervisor*.
3. Follow location- or equipment-specific *lockout/tagout* procedures.

E-16 Machinery and Power Tools



1. Operate powder-actuated tools only if *authorized* and *trained* to do so. Do not leave powder-actuated tools unattended.
2. Properly tag and report defective equipment to the person in charge so that repairs can be made.
3. Confirm other workers are clear of machine or power tool before starting.
4. Do not start or operate machines with safety guards removed. EXCEPTION: When necessary for testing.
5. Before proceeding with any maintenance or repair, follow *lockout/tagout* procedures.
6. Store and transport grinding and abrasive wheels in a dry area that protects them from damage.
7. Know and comply with the RPM rating of tools.
8. Before drilling, properly secure material by means of vise clamp or chuck to prevent movement. Never use tongs, pliers, or wrenches to hold material in place. Do not clamp material while machine is in operation.
9. To start free running engine not equipped with starter:
 - a. Do not wind starter rope around hand.
 - b. Confirm clutch is disengaged.
 - c. Turn ignition off, operate choke, and spin engine several times.
 - d. Retard spark fully and turn on ignition.

- e. Properly engage crank to shaft. Start cranking by lifting on crank, keeping fingers and thumb on same side of handles and keeping body away.
 - f. Spin engine with upward motion of crank.
10. Use only brush or other approved device to remove chips, cuttings, or scale from area around moving machine.
 11. Use a push stick when feeding wood through power rip saw blades.
 12. Never use compressed air to discharge the contents of steel barrels.
 13. Confirm tools have stopped rotating before setting them down.
 14. Shut off power before changing tools on pedal-controlled machines.

Recommended Practices

Hold electric- or air-driven tools firmly when in use and guard against jamming or breaking of reamer, drill, or tap.

Compressed Air

15. Do not use compressed air to remove dirt and/or dust from clothing and body.
16. Regulate air pressure not to exceed the p.s.i. rating of tools and equipment being used.

E-17 Manholes, Pits, and Excavations

1. Keep covers for pits, manholes, and other openings in place when not in use. Warn passersby when a manhole pit or other excavation must be opened. Have someone stand guard or put up a suitable barrier with lights, if required.
2. Walk around shop pits, trenches, and ditches. Do not attempt to step or jump across.
3. Use properly braced shoring to shore sides of an excavation deeper than 4 feet.
4. Shore sides of an excavation that is near tracks.
5. Vacate trenches, excavations, or holes when trains are passing.
6. Do not use torch to thaw frozen manhole covers.

E-18 Material Handling and Storage



See also E-22 Personal Protective Equipment (PPE) and Clothing and E-23 Personal Protective Equipment (PPE) Charts

See also information related to HAZMAT Training

1. Keep sparks, flames, and other *ignition sources* away from where gas cylinders or chemicals are handled or stored.

Recommended Practices

Store or load material neatly, interlocking material to prevent shifting or falling.

Use only sound pallets.

Use elevator to move materials or objects whenever possible.

Remove materials with nails or protruding objects from *work area*.

Know the location of *Material Safety Data Sheets (MSDS)*.

Have spill containment material in storage area.

Push a hand truck, rather than pull it, when possible. Steadily pull hand truck to get over an obstruction.

When unloading piling, poles, pipe, lumber, or similar materials, unload top of load before cutting middle- or lower-side stakes or banding.

Chemicals and Materials

2. Store or dispose of flammable materials or chemicals in closed containers designed for that purpose.

3. Identify and label all chemical containers.
4. Carry flammable liquids or chemicals only in approved containers.
5. When handling creosote material:
 - Wear gloves.
 - Do not expose skin or eyes to gloves/materials soiled with creosote.
 - Discard gloves saturated with creosote.

Recommended Practices

Handle materials in well-ventilated areas.

Maintain metal contact between containers while transferring flammable liquids.

Gas Cylinders

6. Chain or secure cylinders in a vertical position when being transported or stored.
7. Never drop cylinders or allow them to strike each other violently.
8. Keep valve protection caps in place when not in use.
9. Store compressed gas cylinders in accordance with OSHA regulations.
10. Separate empty cylinders from full ones.
11. Use cradle, platform, or other suitable support when hoisting cylinders. Never lift them by slings, by the caps, or by electric magnet.
12. Tag leaking tanks and move to open-air area.

13. Close valve on LPG tank on powered equipment when not in use.
14. Park units powered by LPG away from sources of heat or ignition.

Recommended Practices

Notify the *supervisor* if a tank leaks. Stay upwind of the leak.

Test for leaks with approved leak solution when handling LPG.

Change portable tanks outdoors where possible.

E-19 Motor Vehicle Operation



1. Turn off engine and do not smoke when fueling.
2. Before operating a *motor vehicle*, confirm the vehicle is safe to operate.
3. Transport tools, materials, and equipment so they are protected from sudden stops and shifting loads.
4. Obey posted speed limits at all times on Company property.

Recommended Practices

Turn off *communication devices* when fueling.

Pull over and park before using cell phone or other electronic device when operating a *motor vehicle*.

If necessary to use a cell phone while driving, use only a hands-free model.

E-20 Office Safety



1. Confirm that telephone or electrical cords and cables are secured to avoid tripping hazards.
2. Keep desk, file, and cabinet drawers and locker doors closed except when in immediate use.
3. When sitting in a chair, keep all chair legs on the floor.

Recommended Practices

Secure raised windows, open trap doors, and lids to prevent their falling.

To avoid slipping, walk carefully on wet or freshly waxed floors.

Protect wet floors by placing signs where visible. Do not remove this protection until condition is corrected.

In hallways and around corners, keep to the right to avoid persons coming from the opposite direction.

Stand or walk clear of doorways to avoid collisions with others.

When entering or leaving an elevator, always face the door and watch the position of the elevator in relation to the floor to avoid tripping.

Do not use aerosol cleaners on computer terminal monitors.

Do not store materials on tops of cabinets, files, or lockers.

Use ladder or forklift to store material over shoulder height.

Keep fingers away from cutting edge or pinch-points when operating paper cutters, shredders, power punches, and power staplers.

E-21 On-Track Work Equipment (Hi-Rail) and Rail Cars

1. Do not get on or off moving equipment.
2. Before getting on or off equipment:
 - Confirm that the area is clear of obstructions and debris and equipment has no visible defect.
 - Face equipment.
3. When descending or ascending steps and ladders, face equipment.
4. Do not step or stand on rail.
5. All occupants of on-track work equipment/*hi-rail* must:
 - Remain seated while equipment/*hi-rail* is in motion.
 - Keep legs inside equipment.
6. Confirm that *push cars* have standard couplers when they are attached to track machine. Do not use track bolts or spikes.
7. For *push cars*, do not leave one end of a coupler coupled when opposite end is uncoupled and unattended.
8. When necessary to be under any part of roadway maintenance equipment, confirm that the machine is securely braked, with wheels or treads blocked and dozer blade, shovel, dragline bucket, or similar devices lowered to the ground or securely blocked. Confirm the engine is stopped with key or start switch is tagged and locked out, and ensure cab is vacant.
9. Confirm that any machine raised by jacking devices is securely blocked before performing any work on or under it.

10. When fueling roadway maintenance equipment:
 - Stop engines.
 - Do not smoke or use open flame.
11. Use international hand signals when assisting machine operators.
12. Do not ride on crossover or brake platform except to operate a hand brake.
13. Maintain firm hold and stance when riding rail cars. Use only steps, ladders, and handholds available for that purpose.
14. When necessary to cross between standing cars that are coupled together:
 - Confirm that cars will not be moved.
 - Cross car with end sill platform and keep feet clear of coupler.

Recommended Practices

Keep a constant lookout when you are an occupant of on-track work equipment/*hi-rail*.

E-22 Personal Protective Equipment (PPE) and Clothing



Clothing, Jewelry, and Hair

1. When outside office areas:
 - Wear waist-length shirt with bicep-length sleeves, at a minimum.
 - Wear ankle-length pants.
 - Remove all loose and dangling jewelry.
 - Tie or wrap up long hair and tuck it away in a garment or secure to top of head with headgear.

Recommended Practices

Remove all jewelry when working outside office areas.

Eye Protection

2. Wear eye protection while on CN property or while in service to CN. Exceptions to this requirement are as follows:
 - When working inside designated offices/buildings.
 - When inside enclosed, off-track vehicle (car, truck, van, etc.).

Gloves

3. Wear gloves as required in the craft-specific Personal Protective Equipment (PPE) Chart.

Head Protection

4. Wear hard hats where required. Wear hard hats during rerailing and cleanup operations and work train operations when outside of locomotive cab. Exceptions to this requirement are as follows:
 - When working inside designated offices/buildings.
 - When inside enclosed *motor vehicles* and enclosed on-track equipment.

Hearing Protection

5. Wear hearing protection where posted or within 100 feet of operating machinery. EXCEPTION: Wear hearing protection when within 500 feet of a snow jet.

Reflectorized Vest

6. Wear a reflectorized vest:
 - In the *performance of duties* outdoors.
 - When inside shops in designated areas.
 - At derailment sites.
 - As required in the craft-specific Personal Protective Equipment (PPE) Chart.

Exception to this requirement is as follows: Reflectorized vest is not required when wearing fall protection.

Respirators

7. Use respirators only if *qualified* and *trained*.
8. Use only respirators approved and provided by the Company.

Safety Shoes

9. Wear lace-up safety-toed shoes that cover and support the ankle while in the *performance of duties*. Exceptions to this requirement are as follows:
 - When working inside designated offices/buildings.
 - When inside enclosed, off-track vehicle (car, truck, van, etc.).
10. Safety-toed shoes must be of sturdy construction with a hard sole and a defined heel with height of ½-inch minimum and 1-inch maximum.

E-23 Personal Protective Equipment (PPE) Charts



The following pages contain two craft-specific PPE charts for Engineering that outline requirements for protective equipment. The PPE charts are designed to work in conjunction with the rules and recommended practices under E-22 Personal Protective Equipment (PPE) and Clothing.

Engineering General PPE Requirements: Requirements for hearing protection, protective handwear, eye and face protection, shin guards, respiratory protection, reflectorized vest, disposable overalls, rubberized aprons, and welding apparel (refer to Welding Shade Chart).

Welding Shade Chart: Outlines welding shade requirements for specific welding operations.

NOTES: Faceshields are more restrictive than goggles and can be substituted for goggles. Basic requirement always includes safety glass with sideshields unless goggles are worn. Shin guards are more restrictive than leggings and can be substituted for leggings.

Engineering General PPE Requirements	Hearing Protection	Gloves	Rubber Gloves	Goggles	Faceshield	Shin Guards	Respiratory Protection Contact Safety Department
R = Required equipment X = May be required based on task and materials ✓ = Recommended additional equipment							
Abrasive grinding (frog grinding portable)	R	R			R	R	X
Abrasive grinding or cutting (stationary: bench grinder, chop saw, etc.)	R	X			R		X
Adzing machine	R	R			R	R	X
Banding materials		R			✓		
Batteries: handling or servicing		R	X	R			
Blowing/cleaning with compressed air, steam, or water	R	R	X	R	X		X
Boring, reaming, or drilling	R	X			X		
Boutet or thermite welding	R	R			R	R	X
Breaking frozen material (ice, ground, gravel, cinders, ballast, etc.) with hand tools		R			R		
Breaking or cutting concrete, stone, or asphalt	R	R			R		X
Buffing/polishing with wire wheel	R	X			R		
Cadwell bonding	R	R			R		
Carbon-arc cutting and gouging	R	R					
Chain saw	R	R			R		
Chemicals, refrigerants, or fuels: handling		R	X				X
Chipping or cutting	R	R		R			

NOTES: Faceshields are more restrictive than goggles and can be substituted for goggles. Basic requirement always includes safety glass with sideshields unless goggles are worn. Shin guards are more restrictive than leggings and can be substituted for leggings.

		Welding Protective Equipment See <i>Welding Shade Chart</i>						Remarks/Special Requirements
Reflectorized Vest	Disposable Overalls	Rubberized Apron	Welder's Jacket or Sleeves	Welder's Leathers	Spats/Leggings	Welding Glasses	Welding Helmet	
								Steel instep protection.
		X						Remove watch if not covered by gloves.
		X						
						6-8		
					R			
							R	
								Chain saw leggings/chaps.
	X	X						

NOTES: Faceshields are more restrictive than goggles and can be substituted for goggles. Basic requirement always includes safety glass with sideshields unless goggles are worn. Shin guards are more restrictive than leggings and can be substituted for leggings.

Engineering General PPE Requirements R = Required equipment X = May be required based on task and materials ✓ = Recommended additional equipment	Hearing Protection	Gloves	Rubber Gloves	Goggles	Faceshield	Shin Guards	Respiratory Protection <i>Contact Safety Department</i>
Chop saw	R	R			R		
Cleaning agents: spraying/general use		X	X	X	X		X
Climbing equipment		R					
Climbing poles and rail/work equipment		R					
Cut-off disks, saws, or other tools with carbide bits	R	R			R		
Cutting rivets, bolts, or cotter keys; splitting nuts; etc. (mechanically)	R	R			R		
Cutting rivets, bolts, or cotter keys; splitting nuts; etc. (mechanically with torch)	R	R		R			
Dusty conditions							X
Electrical hazard		X					
Electrical welding	R	R					X
Gas welding, cutting, or heating	X	R					X
Hammer-punch	R	R					
Hand tools	X	X					
Intermodal facility: outside of offices	R	X					
Lifting and carrying		X					
Machining steel, iron, or other metals	R	X			X		
MIG/TIG welding	R	R					X

NOTES: Faceshields are more restrictive than goggles and can be substituted for goggles. Basic requirement always includes safety glass with sideshields unless goggles are worn. Shin guards are more restrictive than leggings and can be substituted for leggings.

		Welding Protective Equipment See <i>Welding Shade Chart</i>						Remarks/Special Requirements
ReflectORIZED Vest	Disposable Overalls	Rubberized Apron	Welder's Jacket or Sleeves	Welder's Leathers	Spats/Leggings	Welding Glasses	Welding Helmet	
		X						
					X			
						6-8		
	X							
			✓	✓			R	
			✓	✓		6-8		
			✓	✓			R	

NOTES: Faceshields are more restrictive than goggles and can be substituted for goggles. Basic requirement always includes safety glass with sideshields unless goggles are worn. Shin guards are more restrictive than leggings and can be substituted for leggings.

Engineering General PPE Requirements R = Required equipment X = May be required based on task and materials ✓ = Recommended additional equipment	Hearing Protection	Gloves	Rubber Gloves	Goggles	Faceshield	Shin Guards	Respiratory Protection <i>Contact Safety Department</i>
Mule: operation of car mover	R	R					
Painting/spray painting	X	X					X
Outdoor activities							
Pneumatic tools	R	R					
Powder-actuated tools	R	R		R			
Rail drill	R	R					
Rail grinder	R	R			R	R	
Rail saw	R	R			R		
Sand blasting (abrasive blasting)	R	R					R
Scaling, scraping, or removing welding flux	X	R			X		X
Steam cleaning	R	R	R		R		X
Striking or striking with hardened tools/fastenings	X	R					
Washing locomotives	R	R	X				
Woodworking machines	R	R			X		

NOTES: Faceshields are more restrictive than goggles and can be substituted for goggles. Basic requirement always includes safety glass with sideshields unless goggles are worn. Shin guards are more restrictive than leggings and can be substituted for leggings.

		Welding Protective Equipment See <i>Welding Shade Chart</i>						Remarks/Special Requirements
Reflectorized Vest	Disposable Overalls	Rubberized Apron	Welder's Jacket or Sleeves	Welder's Leathers	Spats/Leggings	Welding Glasses	Welding Helmet	
	X							
X								
					R			
	X							Sand blast hood.
		X						
		X						

Welding Shade Chart	Lens selection guide for filter shades that must be used when welding and cutting								
	Shade Number								
	2	3 or 4	4 or 5	5 or 6	6 or 8	10	11	12	14
R = Required equipment									
Carbon-arc cutting & gouging						R	R	R	R
Carbon-arc welding									R
Gas shielded-arc welding (ferrous): 1/16", 3/32", 1/8", 5/32" electrodes								R	
Gas shielded-arc welding (non-ferrous): 1/16", 3/32", 1/8", 5/32" electrodes							R		
Gas welding: up to 1/8"			R						
Gas welding: 1/8" to 1/2"				R					
Gas welding: 1/2" and over					R				
MIG welding							R	R	R
Oxygen heating and cutting: up to 1"		R							
Oxygen heating and cutting: 1" to 6"			R						
Oxygen heating and cutting: 6" and over				R					
Plasma-arc cutting: less than 300 amps						R			
Plasma-arc cutting: 300-400 amps								R	

Welding Shade Chart	Lens selection guide for filter shades that must be used when welding and cutting								
	Shade Number								
R = Required equipment	2	3 or 4	4 or 5	5 or 6	6 or 8	10	11	12	14
Plasma-arc cutting: greater than 400 amps									R
Shielded metal-arc welding: 1/16", 3/32", 1/8", 5/32" electrodes						R			
Shielded metal-arc welding: 3/16", 7/32", 1/4" electrodes								R	
Shielded metal-arc welding: 5/16", 3/8" electrodes									R
Soldering	R								
TIG welding: less than 50 amps						R			
TIG welding 50-150 amps								R	
Torch brazing		R							

E-24 Switches and Derails



1. To operate a hand throw switch:
 - a. Check for obstructions and confirm the switch is not spiked, tagged, or locked.
 - b. Remove obstructions, locks, keepers, or latches.
 - c. Take appropriate position for the type of switch or derail.
 - d. Keep body clear of moving parts.
 - e. Replace locks, keepers, and latches.
2. Do not jump on switch lever for the purpose of operating the switch or derail.
3. Before clearing obstruction from a dual-control switch, place switch in “HAND” position.
4. When operating high-stand switches, pull handle through its line of travel.

Recommended Practices

Be alert for switches under tension.

Face switch squarely. Take firm stance and be alert for conditions that may cause loss of footing.

Confirm other employees are clear from moving parts before attempting to operate switch.

Use leg muscles, not back muscles, to lift lever on ground throw switches or derails.

On ground throw switches and derails, a foot may be used to complete the last 6 inches of handle's travel except when handle is wet, icy, greasy, or otherwise slippery.

E-25 Visitors

1. *Visitors* must:
 - Wear *personal protective equipment (PPE)* according to location-specific requirements. NOTE: *Visitors* must wear safety shoes when performing a job function that requires them.
 - Check in or sign in upon arrival at Company property.
 - Receive site-specific safety briefing.

E-26 Welding and Cutting



1. Use welding/cutting equipment only if *qualified* and *trained*.
2. Follow manufacturer's instructions for safe use of welding/cutting equipment and materials.
3. Before welding/cutting on or about rail cars, identify and safeguard contents.
4. Do not weld, cut, or perform work involving *ignition sources* on containers that may contain flammable or poisonous solids, liquids, or vapors.
5. Confirm that venting is sufficient before welding or cutting.
6. Do not dump the hot slag pan on wet soil, in water, or on snow.

Fire Protection

7. Have a fire extinguisher or fire-extinguishing device readily available when welding or when using torch.
8. Inspect welding/cutting equipment and materials before use. Stop use immediately if equipment does not function properly.
9. Use only approved flint strikers to light welding torch.
10. Do not carry butane lighter or matches while welding or cutting.
11. Direct flame or sparks away from people, equipment, and any flammable material.

Recommended Practices

Inspect *work area* prior to welding/cutting.

Electric Welding

12. Never electric weld in standing water.
13. Wear dry gloves when electric welding.
14. Turn off electric welder and remove welding rod when not in use.
15. Store electrode holder and cables in their proper place.

Recommended Practices

Protect yourself and others from all hazards associated with electric welding. Use suitable screens around welding areas when possible.

Oxygen/Acetylene Welding

16. Do not use oxygen for ventilation or as a substitute for "compressed air."
17. Transport and use compressed gas and oxygen cylinders in a secure, vertical position. Do not transport cylinders with regulators attached unless safely shielded.
18. Stand to the side of the regulators when opening discharge valves of compressed gas cylinders.
19. Do not use oxygen or acetylene from cylinders without suitable pressure-reducing regulator attached to cylinder valve. Always blow out cylinder valves before attaching regulator to cylinders.
20. Keep acetylene cylinder key readily available while cylinder is in use.

21. Open acetylene cylinder valve only to $\frac{3}{4}$ turn.
22. For oxygen and non-acetylene gases, open cylinder valve slowly until regulator is seated. Open cylinder valve completely.
23. When leaving equipment unattended:
 - Close cylinder valves.
 - Purge hoses.
 - Back off handles on regulators.
24. Move leaking gas cylinder immediately to open-air area.
25. Confirm that oxygen and fuel equipment have reverse flow check valves and flash arrestors.
26. Do not use oil or grease on fittings of torch, gauges, or other equipment.
27. Do not use acetylene in excess of 15 p.s.i.
28. Bleed pressure off before disconnecting or connecting air couplings unless the air line is equipped with a quick disconnect.

SECTION IV: RESOURCES

Standards

Access to CN Workplace

This standard applies to non-CN employees occupying CN yards, shops, railway equipment, and all other Company locations, such as locomotives and vehicles.

While on CN premises, non-CN employees must receive adequate instruction in and comply with CN rules, policies, standards, and procedures. The related information can be communicated in a job briefing when arriving on Company property or prior to commencing work. Check with a *supervisor* if you are unsure how to proceed.

Contractors and non-CN employees on CN property must be given the Contractors Safety Information Package and must see the Contractors Safety video, “Consider Yourself One of Us.”

Regulatory Inspectors/Investigators/Officers in the line of duty must present inspector/investigator ID card and regulatory ID card. *Visitors* must be given a *visitor* badge/ID card (or sign in with a senior officer if at site without proper identification, such as derailment sites).

Confined Space

Employees shall not enter a *confined space* until the space has been evaluated by the Person-In-Charge entering the space to determine the hazards involved and the appropriate measures to ensure safe work. *Supervisors* must ensure that *confined space* entry procedures are followed and that the employee entering the *confined space* understands and complies with all safety requirements. *Confined space* entry permits must be developed and stored in accordance with U.S. regulations.

Environment Policy

Introduction

The Company strives to contribute to the protection of the environment by integrating environmental and economic priorities into each business unit and by continuously improving environmental performance.

The Company is committed to the concept of sustainable development and recognizes that its responsibilities in the field of environmental management are a high corporate priority in view of its widespread and diversified activities.

Policy

1. To meet or exceed applicable environmental requirements; to measure environmental performance; to conduct regular environmental audits and assessments of compliance with Company requirements and this Policy; and to timely provide appropriate information to the Board of Directors, employees, the authorities, and other stakeholders.
2. To develop, design, and operate facilities and conduct activities taking into consideration the efficient use of energy and materials, the sustainable use of renewable resources, the minimization of waste generation and the adverse environmental impact, and the safe and responsible disposal of residual wastes.
3. To assess environmental impacts before starting a new activity or project and before decommissioning a facility.
4. To develop and maintain emergency preparedness plans in conjunction with the emergency services, relevant authorities, and the local community.
5. To educate, train, and motivate employees to conduct their activities in an environmentally responsible manner.
6. To promote the adoption of the principles of this Policy by contractors and suppliers.

7. To conduct or support research on the environmental impacts of its operations and on the means of minimizing such adverse impacts and to contribute to the transfer of environmentally sound technology throughout the industrial and public sector.
8. To foster openness and dialogue with employees and other stakeholders with respect to their concerns about potential hazards and impacts of the Company's operations.
9. To contribute, along with public and private bodies and organizations, to the development of policies and programs that will enhance environmental awareness and protection based on sound scientific principles and procedures.

Responsibility and Authority

The President and Chief Executive Officer has the responsibility and authority to implement this Policy, including the development and approval of Company policies, procedures and guidelines.

All managers and *supervisors* must demonstrate commitment to this Policy at all times and are responsible within their respective jurisdictions for taking those actions they deem necessary to ensure compliance with Company policies, procedures, and guidelines.

All employees of the Company must also demonstrate commitment to this Policy at all times and are responsible for performing their duties in a manner consistent with Company policies, procedures, and guidelines.

Fall Protection

Whenever working at a predetermined height established by regulations where CN job tasks are to be accomplished, employees must wear the prescribed fall protection equipment and must be properly *trained* in its use. For more information, see your *supervisor* or reference the FALL PROTECTION MANUAL.

Seat Belts

Seat belts and/or body retention harnesses must be used at all times while occupying Company vehicles on Company property, on public as well as private roadways, and in yards and terminals in accordance with state and federal regulations. This includes during occupation of taxis, vans, and buses equipped with seat belts, as well as all equipment, locomotives, and track units equipped with seat belts or body retention harnesses. This standard is applicable while you are on duty and while being transported for Company business.

The use of seat belts is OPTIONAL only during the operation of *hi-rail* equipment on track, during which time their use is recommended.

Smoking in the Workplace

Smoking is not permitted in any work space of the Company. "Work Space" means any indoor or other enclosed space in which employees perform the duties of their employment, and includes any adjacent corridor, lobby, stairwell, elevator, cafeteria, washroom or other common area frequented by such employees during the course of their employment.

- a. Smoking is also prohibited in shops, locomotive cabs, locker rooms, leased buildings, lounges, conference rooms under the control of the Company, or any other location designated as a Non-Smoking area, and in Company vehicles transporting employees.
- b. Smoking is also prohibited in any owned or leased motor vehicle, work equipment machine, crane cab or any other such vehicles utilized from time to time by the Company, unless only one person normally has access during a shift.
- c. Local management may designate, with prior consent of a vice-president, smoking rooms or designated areas in any living accommodation, owned or leased.

This policy should not be construed as allowing smoking in outside areas where smoking could constitute a hazard because of the presence of flammable or explosive substances.

Should there be any discrepancy between this policy and any applicable regulation dealing with smoking at a location where the Company has facilities, the more stringent applies. In locations where regulations impose fines for contraventions, employees will be individually responsible to pay these fines. In addition, the Company reserves the right to discipline those who do not comply with this policy.

Management must take all necessary steps to ensure full compliance with this policy and any applicable regulations in order to provide a smoke free environment to employees.

Substance and Alcohol Free Environment (S.A.F.E.) Policy and Guidelines

A. Preface

CN is committed to providing a safe and productive *work environment* for our employees. The Company has established programs to provide high standards of employee health and safety. It is also the Company's policy to maintain an alcohol and drug-free workplace. In accordance with this commitment, the Company adopts the following substance abuse policy and guidelines, and all employees must abide by the terms and conditions herein:

B. Policy

1. Employees subject to duty are prohibited from using intoxicants, narcotics, sedatives, stimulants, hallucinogens, or a derivative or combination of any of these, or any controlled substance or mood altering substance, or any illegal drug, or drug paraphernalia. In addition, it is prohibited for an employee to use or possess any of these while on duty, while on Company property, or while occupying facilities paid for or furnished by the Company.

The presence of any level of alcohol in the breath/blood (.02 or above) is a violation of this rule.

It is prohibited for an employee to possess, sell, or use any illegal drug or controlled substance while on or off duty. Employees must not report for duty under the influence of any medication, including those prescribed by a doctor, that adversely alters alertness, coordination, reaction, response, or safe performance of work. Further, employees shall not use such medication while on duty.

Employees who are assigned to work subject to the Hours of Service Act during a tour of duty—whether they have previously performed, are currently performing, or may be called to perform such service—and any employees who regularly perform such service must consent to breath, and urine testing and the release of information required in connection with such testing, under the circumstances specified in Federal Regulations (FRA Regulations 49 CFR, Part 219). Employee positions assigned to work mandated by the rules of the Federal Motor Carrier Safety Administration, must consent to breath and urine testing required under those rules (CFR 49 Part 382). When there is evidence of violation of these rules, the employee will be immediately removed from service.

2. The medical use of controlled substances prescribed by a physician or dentist is not prohibited under this policy; however, an employee must obtain from his/her physician or dentist information concerning possible side effects of any prescribed medication that might have an adverse effect on judgment, coordination, alertness, or which in any other way might adversely affect his/her ability to perform his/her responsibilities. If such possibility exists, the employee is to notify his/her immediate *supervisor* of such use and possible effect prior to being subject to duty.

The *supervisor* will consult with the Medical Department to determine if the employee can safely perform his/her duties.

3. Any employee who is charged with a violation of the law related to drugs or alcohol must report this information to his/her *supervisor* within five days after such charge. Conviction of any employee for the sale, dispensing or trafficking in illegal drugs will result in discipline up to and including dismissal.
4. Employees who are experiencing a substance (including alcohol) abuse disorder are encouraged to contact the Employee Assistance Program (EAP) for assessment and, if appropriate, referral for treatment. Voluntary contacts with the EAP in the absence of disciplinary action will be kept confidential. Employees referred to EAP because of job performance problems will be afforded the same services; however, the employee's *supervisor* will be advised by the EAP Counselor of the employee's participation, or lack thereof, in the program. All other information will be kept confidential in conformity with the EAP policy.

C. Drug and Alcohol

1. Applicants who are selected for prospective employment will be required to take a pre-employment drug-screen. Failure to provide a negative sample will result in immediate disapproval of the application. Additionally, during the employee's probationary period, the employee will be required to undergo drug and/or breath alcohol test(s) on an unannounced, unscheduled basis. Probationary period employees who produce a positive drug and/or alcohol test will be terminated from employment with the Company.
2. Employees who test positive for alcohol or controlled substances when undergoing testing for random, for cause, reasonable suspicion, post accident, return-to-duty, or follow-up testing (under EAP guidelines) will be subject to discipline up to and including dismissal.

3. Employees who test positive for alcohol and/or controlled substances when undergoing any Company required examination or test will be subject to discipline up to and including dismissal.
4. Employees who have any drug test result which is confirmed adulterated or substituted will be subject to discipline up to and including dismissal.
5. Employees who refuse to provide a sample for required alcohol or controlled substance testing will be subject to discipline up to and including dismissal.

D. Guidelines for Discipline of Substance Abuse Violators

The following criteria should be followed in the assessment of discipline when an employee has violated the Company's substance abuse policy.

1. Any employee who violates this policy will be subject to discipline. The discipline may be conditioned on the employee's full compliance with all instructions issued to him by any Company official, including, among others, the Senior Manager of Medical Services or Employee Assistance counselor. Any time an employee fails to comply with all instructions issued to the employee in connection with his/her violation, his/her discipline converts to dismissal.
2. Discipline under this provision shall be no less than 45 days from the date the employee is notified of the assessed discipline. Release to return to work by the Employee Assistance Counselor must be obtained but does not automatically end the discipline. Consideration of the events surrounding the incident and the employee's personal record will be considered in determining the actual length of the discipline up to and including dismissal.
3. Employees will be dismissed for any violation of this policy involving distribution or sale of a controlled substance.

4. Employees will be dismissed for any confirmed adulterated/substituted test.
5. Employees will be dismissed for refusal to undergo a required alcohol or drug test.
6. Employees will be dismissed for a repeated violation of this policy.
7. The application of this policy shall comport with any relevant labor agreement rules covering formal investigations or waiving thereof.

E. Compliance with Conditions of Return to Active Service

Employees who are reinstated to active service following a violation of this policy will be required, as a condition of reinstatement, to meet the following additional requirements. Failure or refusal to meet these conditions will result in dismissal:

1. Execute an agreement to submit to urinalysis and/or breath analyzer testing on an unannounced basis at least six (6) times during the first twelve (12) months following reinstatement for up to five (5) years. This agreement will be determined by the EAP counselor in the cases of a DOT violation and by the Senior Manager Medical Services in the case of a Company (Non-DOT) violation.
2. Remain substance-free for the remainder of his/her career. (This provision does not supersede a contractual agreement made through union negotiation).

F. Substance Abuse Disorders as a Health Problem

These guidelines recognize substance abuse as a major health problem that should be addressed by offers of assistance to the employee experiencing a substance abuse disorder. At the same time, the employee has an obligation to accept responsibility for his/her actions and for cooperating in a plan to address his/her substance abuse and continue in a program of recovery. Above all, the safety of railroad operations, or other

employees and the communities through which we operate must be paramount.

Programs

Crane Training

CN Crane Training teaches the safe operation of a variety of cranes. Course content includes basic operation/familiarity; understanding and reading load charts; rigging; daily inspection; and electrical safety. The classes are comprised of classroom and hands-on learning. See your local *supervisor* if you are interested in obtaining or renewing your crane operator's license.

Eye Protection

CN provides protective eyewear for all employees and subsidizes the purchase of prescription safety eyewear for employees who require it. See your Risk Manager or your Safety Bulletin Board for more information.

Foot Protection

CN subsidizes safety-toed footwear for employees who require it. See your Risk Manager or your Safety Bulletin Board for more information.

Forklift Training

CN provides all CN shop employees with Forklift Training. Course content includes basic operation/familiarity with the type of machinery to be operated; *capacity* of truck; gas vs. propane operation and inspection; and required maintenance. Held on-site at work facilities, the training is comprised of classroom and hands-on learning such as operation of the truck through an obstacle course. See your local *supervisor* if you are interested in obtaining or renewing your forklift operator's license.

Hazardous Materials Training

In accordance with OSHA and DOT regulations and with AAR recommendations, CN provides training related to HAZMAT in five major areas: Basic Hazardous Materials, “Key Trains/Key Routes,” Hazard Communications (“Employee Right To Know”), Hazardous Waste Operations, and Emergency Response. Contact your Risk Manager to learn more.

Lockout/Tagout Training

In accordance with OSHA, CN trains, authorizes, and documents the authorization of employees working with hazardous energy sources in the recognition of applicable sources, the type and magnitude of the energy available in the work place, and the methods and means necessary for the energy isolation and control. Contact your Risk Manager to learn more.

Performance Monitoring and Rules Compliance (PMRC)/Efficiency Testing

This federally mandated program is designed to support safe work through random testing of employees governed by hours of service in Operating Rules and Special Instructions. Tests are conducted during all shifts and in all conditions in the *work environment*. They can range from checking employees for proper *personal protective equipment (PPE)* and for complete, current operating manuals to listening for proper radio communications and to simulating conditions that require a protective action by the employee. Testing failures are corrected at the time of the test to ensure understanding and promote safety.

Resolution Process

An outgrowth of the FRA-mandated Safety and Compliance Program (SACP), CN's Resolution Process ensures that safety concerns are brought to closure in a timely manner. The Process outlines steps to be taken by Labor when addressing issues to Management and vice versa, with the understanding that every effort is to be made at the local level to resolve the concern before the Process is invoked.

The Process is initiated with a very specific, detailed email from the person issuing the concern to the appropriate Superintendent, Division Mechanical Officer, or Division Engineering Officer outlining the concern and the steps that have been taken toward resolution at the local level. Once this email is in the system, the Process provides opportunities for resolution at two levels before elevating the concern to the highest levels of the organization. If after six weeks, the concern remains standing and the complainant wishes to move forward, senior level officers address the concern by telephone, a physical meeting, or by placing the item on the next SACP Council meeting agenda.

To learn more about the CN Resolution Process, contact a member of your Safety Committee.

Responsible Care

CN is a partner in Responsible Care, a comprehensive management system endorsed by its customers from the chemical industry, as well as other transportation companies. Responsible Care offers guiding principles that recognize the importance of minimizing risk, meeting or exceeding regulations and standards, and communicating openly with employees and communities. Corporate and divisional teams comprised of representatives from safety, HAZMAT/dangerous goods, environment, and public affairs manage the implementation of the initiative. To learn more, send an email to ResponsibleCare@cn.ca.

Safety Committees

CN U.S. Region convenes a minimum of one Safety Committee for each operational “Zone.” Safety Committees are chaired by one or two management and/or labor employees elected by the committee. This labor/management partnership is also reflected in the committee membership. The committees work with the Safety Department to raise safety awareness with their co-workers in the field. Committee activities include developing and supporting safety-related initiatives, coaching, and seeking out ideas for the prevention of work-related incidents and injuries. Contact your Local risk manager if you would like to learn more about Safety Committee work.

S.O.F.A. Life Savers

1. Discuss safety at the beginning of a job and when work changes.
2. Communicate before action is taken.
3. Protect against moving equipment.
4. Secure equipment before action is taken.
5. Mentor less experienced employees to perform service safely.

Glossary

Authorized – Given the right to act.

Capacity – The allowable load limit for any lifting or storing device as determined by manufacturer, regulation, or both.

Certified – Has met the requirements of federal, state, or local laws, or of CN approved programs and has been granted a certificate.

Close Clearances – Space in which two or more objects, usually one stationary and one moving or both moving, pass within hazardous distance of each other with the potential of being struck.

Communication Device – Equipment used primarily for transmitting/receiving messages, such as radios and cellular phones.

Confined Space – An area that:

- Has an opening large enough and configured such that it will allow an employee to enter.
- Has limited or restricted means of access for entry and/or exit.
- Is not designed or intended for continuous human occupancy.

Designated Person – Member of work crew specifically assigned a task.

Empowerment – CN-wide philosophy that is the foundation for this rule book. Empowerment gives people rights and responsibilities for greater participation in reaching decisions that affect their safety on the job.

Ignition Sources – An item or material considered to be flammable or combustible including but not limited to open flames, smoking, and sparks.

Lockout/Tagout – OSHA requirement. Procedures that reduce the risk of unexpected start-up or movement and resulting injury by blocking or securing energy sources on equipment.

Material Safety Data Sheet (M.S.D.S.) – A document in which chemical companies inform their customers about chemical product hazards and in which companies inform workers about the hazards of chemical products they may encounter in the course of their employment.

Motor Vehicles – All rubber-tired equipment used on or off the rail; all privately-owned, company-owned, rented, leased, or hired automobiles, trucks, SUVs, buses, or vans used for company business.

Performance of Duties – Carrying out responsibilities and requirements related to Company business either on or off Company premises.

PPE Personal Protective Equipment – Any material or device worn to protect a person from exposure to or contact with any harmful substances or force.

Push Car – Non-motorized, on-track cars for handling materials and tools.

Qualified – A status attained by an employee who has:

- Successfully completed any required training.
- Demonstrated proficiency in the duties of a particular position or function and has been *authorized* by CN to perform those duties.

Restricted Area – A designated space (often marked with warning signs, posted instructions, or placards) requiring compliance with special safety requirements or briefings due to unique situations with potential hazard(s).

Safety Devices – Item/feature designed to protect employee from hazard. Safety devices can be freestanding or integrated into clothing, equipment (including PPE), machinery, or tools.

Safety Job Briefing – A communication tool used by professionals to ensure that everyone involved in a task knows what is to be done, how the task is to be accomplished, and how to mentally prepare to accomplish it. If an employee is to perform a task alone, a mental assessment must be conducted.

Struck Tool – A tool which is struck by another tool to perform its job, such as chisels and punches.

Supervisor – A person at a higher level in the chain of command.

Three-Point Contact – Contact consisting of two hands and one foot or two feet and one hand.

Trained – Participation in learning event(s) appropriate to the topic. Learning events include but are not limited to the following: one-on-one coaching on the job, job briefings, and formal programs.

Unattended Forklift – A forklift is considered to be unattended when it is 25 feet away from or out of view of the operator.

Unsafe Conditions – A situation identified to be a hazard to self and/or co-workers.

Visitor – Any person on CN property who is not a railroad employee on duty or an on-duty contractor working for CN.

Warning Devices – A sound or device that serves to warn of danger or difficulty.

Work Area and Environment – The physical location, equipment, materials processed or used, and the kinds of operations performed in the course of an individual's work whether on or off CN premises.

L.I.F.E., First Edition Contributors

Team Leaders

Bob Keane
Dave Hall

Core Team Members

Larry Anderson
Rik Anderson
Larry Bancroft
Carol Brinkman
Jack Carlton
Cathy Cortez
Doyle Cowles
Richard Dare
Frank Elkins, Jr.
Ron Ester
Winky Freeman
John Geary

Satellite Team Members

Paul J. Adams
Joe R. Baroni
William Chesteen
Steve Craig
Gary Devall
Johney Grayson, Jr.
Rob Hartman
David Hayslip
Scott Lipe
Ron Merrow
Kenny Monke

Writers and Facilitators from Hile Group

Julie Hile
Carol Hoeniges
Christina Schulz

Randy Harris
Barry Kracht
Dave Lustig
Terry Mason
Jim McMahon
Pat Post
Joe Rubino
Charlie Scholes
Dave Sprankle
Terry Tindol
Charlie Webster
Michael Wells

Mike Mowen
Brian Ott
Bennie Punchard
Art Rapp
Jeff Roberts
Brad Sanders
Gordy Sharp
Tarie Smith
Mike Strange
Ray Townley

L.I.F.E. Suggestion Form

Your name (please print): _____

Craft: _____ Years of service: _____

Phone number: _____

Submit form to: AVP Safety and Regulatory (U.S.)

Please consider my suggestion for modifying *Live Injury-Free Everyday (L.I.F.E)*. My suggestion is as follows (write on back if needed):

I am using the following version of *Live Injury-Free Everyday (L.I.F.E)*:

- Clerical/Non-Operating
- Mechanical
- Docks
- Transportation
- Engineering

My suggestion applies to the following section(s):

- Core Safety Rules
- Standards and Programs
- Rules and/or Recommended Practices
- Glossary
- PPE section and/or chart(s)
- Other _____

Exact location of change I'm suggesting (e.g., page number, topic, rule number/letter, etc.):

