Chainsaw Operations

(Safety Brief)

Current as of: 7/3/2026

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Chainsaw Operations (Safety Brief)

PACIF has developed Safety Briefs to help municipal highway supervisors maintain a high level of safety and hazard awareness among employees. We recommend using these short "tailgate trainings" on a regular basis – and **at least once a month**. If you need a particular safety topic, please contact us at losscontrol@vlct.org.

Information for Supervisors

Chainsaws are commonly used in roadway maintenance operations and during storm clean-up operations. These are potentially very hazardous tools, and require practice, training and the use of personal protective equipment. Consider that a chain at full throttle is traveling at over 50 mph!

Injuries can be catastrophic when the saw is in operation and lacerations are possible even when the chain is at rest. Additionally, trees and limbs pose serious injury risks and require awareness and proper planning to avoid injury. Lastly, don't forget that the Scholarship program can pay for the "Game of Logging" to give your crew high quality hands-on training

Talking Points for Training

Planning & Preparation:

1. The correct personal protective equipment must be used every time an employee operates a chainsaw. This includes: a hardhat; hearing protection; eye

protection; gloves; boots; and chaps. All equipment should be reasonably clean, inspected, and in serviceable condition. Chaps with nicks or cuts should be replaced.

2. Size up the tree or limb to be cut. Identify points under tension, potential fall direction and check for overhead hazards such as dead branches, limbs, leaners, etc. and address as appropriate.
3. Plan the cut, know the location of co-workers and communicate the drop plan. Consider the terrain and footing, and ensure the cutting area is clear from trip hazards. Plan an escape route and clear the path.
4. Before starting the saw, check the chain tension, condition of the teeth and rakers and apply the brake. Always start the saw on the ground, placing your foot in the trigger grip area. “Drop starting” the saw is a safety hazard and is not permitted.
5. Make sure fueling and bar oil fill-up is done when the saw is off. If it is hot from use, let it cool down prior to fueling. Smoking is prohibited!

Cutting

1. Keep both hands firmly on the saw at all times. Keep wedges handy and use as needed to guide the tree to the drop path.
2. When moving and cutting brush or limbing, ALWAYS engage the brake BEFORE taking a step. This should be a habit!
3. Beware of kickback potential. Do not cut with the tip of the bar. The saw reacts differently depending on forces pinching the bar and chain and where on the bar you are making the cut.
4. When doing tree removal or limbing in or near the roadway, make sure appropriate traffic controls are in place and that advance warning signage is used. For short term tasks, consider placing “advance warning” cones in locations with poor lines of site. This reduces liability risk to the municipality. Wear “high-vis” vests and make sure the vehicle’s amber strobes are on.

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01/26/2018

Eye Wash Stations – Maintenance, Care & Use (Safety Brief)

PACIF has developed Safety Briefs to help municipal highway supervisors maintain a high level of safety and hazard awareness among employees. We recommend using these short "tailgate trainings" on a regular basis – and **at least once a month**. If you need a particular safety topic, please contact us at losscontrol@vlct.org

Information for Supervisors

Most public works operations have products in use that are classified as irritants or corrosives. Degreasing chemicals can "defat" the skin and damage sensitive eye tissues. Many heavy duty cleaning products contain a high pH chemical such as lye which is corrosive and damaging to skin and clothing. There may also be exposure to battery acid in some operations. Some paints and coatings also contain chemicals that can damage the eye. Lastly dust or dirt in the eyes is not uncommon.

The best way to tell whether you need an eye wash is to review the **safety data sheet (SDS)**. Section 4 lists first aid measures. If there is mention of "flushing the eyes for 15 minutes", this is interpreted by VOSHA inspectors as requiring an eye wash.

Talking Points for Training

Make sure the eye wash can be easily accessed within 10 seconds from areas of chemical use. The travel path should be free from obstacles. To make sure the eye wash is always ready when needed, there are several rules of thumb that all employees should help monitor. Please remind your employees of the following:

- Every eye wash needs to be readily accessible. This means that items and equipment cannot be stored in front of it. Travel paths should also be maintained so that the unit can be accessed quickly and easily when needed.
- Remind every employee where the eye wash is located. They need to be able to find it when they have something highly irritating in one or both eyes.
- If the unit is not plumbed, it will contain a commercial eye wash solution (usually water plus an additive). The solution will require periodic replacement, as directed by the manufacturer of that solution/additive. Do not use plain water!
- For non-plumbed units, it is wise to maintain a log of when the solution was changed. If the eye wash is plumbed, the unit should be "operated" at least monthly (ideally more frequently) to ensure that the water supply is adequate and to flush out dust, debris and potential bacterial contaminants. Maintain a log of the periodic flushing of plumbed units. Recent studies have found that plumbed eye washes that are not periodically tested/used can contain bacteria that can infect the eyes of users. Thus, periodic flushing keeps the unit clean and ready for use.
- Remind employees how to use the eye wash. The unit should be operated to initiate the flow of water, then the employee should use their fingers to pry open the eye or eyes that have the problem. The tendency is to want to close the eyelids–so using the fingers to pry them open is a necessity. In summary, keep the eye wash accessible, ready and clean. It will serve you well if you ever need it-and help you avoid a citation.

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06/24/2025

Flammable Liquids Storage (Safety Brief)

PACIF has developed Safety Briefs to help municipal highway supervisors maintain a high level of safety and hazard awareness among employees. We recommend using these short "tailgate trainings" on a regular basis – and **at least once a month**. If you need a particular safety topic, please contact us at losscontrol@vlct.org.

Information for Supervisors

There are many flammable liquids commonly found in a highway garage. Some of the more common liquids include: gasoline, diesel fuel, oils and lubricants, brake cleaner and other "spray solvents", paints and thinners, etc. Storing these items in a flammable storage cabinet is a great way to reduce the risk of fire in your building.

A flammable liquid has a flash point at or below 199° Fahrenheit. There are 4 categories of flammable liquids that are based on flash point and boiling points (with category 1 being the most "flammable"). For example, gasoline is a category 1 flammable liquid and therefore requires the highest level of attention when used and stored.

Talking Points for Training

Remember the lower the flash point is, the easier it is for the liquid to ignite. Gasoline is one of the most flammable liquids typically stored in highway garages (unless spray finishing is performed). Some good rules for using flammable liquids include:

1. Only use safety cans or other approved portable fuel containers for all flammable liquids. Do not use random containers, plastic buckets, soda bottles, etc.
2. When storing your flammable liquids, give preferential storage to the most "flammable" liquids first. Check the safety data sheet (SDS) to determine what category the substance is. Liquids listed as category 1 and 2 are the most flammable and should be stored in a flammable storage cabinet (if one is available).
3. Oils and greases may be considered flammable but are a much lower hazard. These may be stored in a flammable storage cabinet, but give preference to more flammable liquids first.
4. Never store flammable gases (e.g. propane, butane, acetylene) with flammable liquids.
5. Keep all flammable liquid containers closed when not in use.
6. Limit storage of flammable liquids to only what is really needed.
7. Store flammable liquids away from all ignition sources and. consider storing away from operations such as welding, cutting and similar tasks. Never place flammable liquids or materials in a furnace/boiler room.
8. Keep flammable liquids away from exits, access areas, or areas where containers may be subject to damage from vehicles or equipment. Never store flammable liquids under stairwells.
9. Keep all cloth, paper and other items with flammable liquid residues (for example "oily rags") stored in an approved disposal container with tight fitting lid. NOTE: In the past, improper storage of these has caused fires in municipal garages!!

Following these rules will help reduce the risk of fire within your facility. If you have any questions about how to store flammable liquids or related materials, please contact your loss control consultant.

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01/26/2018

HazCom, SDSes, and Chemicals in Public Works (Safety Brief)

PACIF has developed Safety Briefs to help municipal highway supervisors maintain a high level of safety and hazard awareness among employees. We recommend using these short "tailgate trainings" on a regular basis – and **at least once a month**. If you need a particular safety topic, please contact us at losscontrol@vlct.org

Information for Supervisors

Every employer with hazardous chemicals in the workplace needs to have a Hazard Communication program and the required elements in place. The so called "hazcom" standard has been around for more than 30 years, yet compliance with the basic requirements still varies considerably. Ask your loss control consultant if you have any compliance or safety questions. Compliance elements include: a written program, container labeling, an inventory list of hazardous chemicals and a safety data sheet (SDS) for each, and employee training. This brief is intended as a safety refresher and does not meet all of the hazard communication training requirements. We suggest that you print this "Pictogram Card" and use it in your refresher training.

Talking Points for Training

Discuss your approach to product labeling in your facility. Do you rely on manufacturer labeling? If so, remind employees to not deface product labels and to look for quick hazard information there. This would be a good time to review the pictograms that you printed earlier. The pictogram is a quick "heads-up" about the

nature of the chemical hazard. These are showing up on small containers and bulk products - so it's important that employees understand what the symbols mean.

It is important to review basic hazard categories of chemical products that are in use in your workplace. You don't need to review each product individually - just each hazard category. This part of the discussion should include:

- A review of the hazards posed by the hazard categories you have. For example, most public works garages have flammable liquids present. These pose an obvious fire danger, but may also pose skin irritation or even absorption hazards.
- Acids, caustic cleaners, or other products with a low or high pH are often present. This is another "category" of hazard that you should discuss (corrosives). If you conduct spray finishing, additional hazard categories may be present. Ask your loss control consultant if you have any questions about what chemical hazards are in your workplace.

Discuss the SDS and remind employees where the most important information is located. Key information includes: Sections 1 and 2 - these describe the name of the product and basic hazard information - and Section 8 which contains personal protective equipment (PPE) guidance. Remind employees where the SDS documents are located in your garage and that they can access them at will. It may also be helpful to practice finding an SDS so employees know how to find them if needed.

Reviewing the SDS, discussing the appropriate PPE and good storage practices will improve the level of safety within your garage and help avoid citations from VOSHA. As always, call us if you have questions about hazard communication!

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01/26/2018

Heavy Equipment Hazards (Safety Brief)

PACIF has developed Safety Briefs to help municipal highway supervisors maintain a high level of safety and hazard awareness among employees. We recommend using these short "tailgate trainings" on a regular basis – and **at least once a month**. If you need a particular safety topic, please contact us at losscontrol@vlct.org or call PACIF Loss Control at 800-649-7915.

Information for Supervisors

Heavy equipment is commonly used in many municipal public works operations and tasks. While these can make a task much easier and save time, they can also present hazards to the operator and other workers on site, as well as potential hazards to the general public. For example a worker could be electrocuted by overhead or underground power lines, crushed if the equipment overturns, struck by backhoe or excavator booms, or struck by passing vehicles. A healthy respect for the use and operation of heavy equipment is a must for all operators and employees on the job site. Take the time to remind your employees of these hazards and safety "best practices".

Talking Points for Training

Vehicle:

- Make sure Dig Safe has been contacted and has marked any planned excavation location prior to beginning work.
- Be familiar with your equipment's blind spots: it may be helpful to mark these so everyone knows where they are. These vary depending on the specific type of equipment in use. Be vigilant in watching for employees on the ground.
- Conduct a pre-use safety inspection of the equipment. Make sure all controls are in proper working order prior to each use and that all attachments are properly connected. Consider adding a back-up camera to the vehicle if it's not equipped with one.
- Be aware of and work within the vehicle's load rating and capacities. Follow all manufacturer safety information.
- Always use a seat belt if the equipment is equipped with roll over protection. Most heavy equipment fatalities occur when operators leap from overturning vehicles.
- Always use a 3-point technique to enter and exit the vehicle. Never jump as this is major cause of injury.
- Identify overhead electrical hazards. Maintain all required separation distances and use signage if needed.

Site Works:

- Never ride on a piece of heavy equipment or bucket. This is a serious hazard and VOSHA violation.
- Establish hand signals and use only one person as a signal person. Maintain a high level of awareness!
- Be familiar of the swing radius of the equipment and always establish eye contact with the operator when working near the bucket or within the swing radius. Avoid working in the blind spots!
- Always wear high visibility clothing to enhance visibility to the operator and motorists.

- Avoid working under a bucket, backhoe, or any load.

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01/29/2018

Machine Guarding for Public Works (Safety Brief)

PACIF has developed Safety Briefs to help municipal highway supervisors maintain a high level of safety and hazard awareness among employees. We recommend using these short "tailgate trainings" on a regular basis – and **at least once a month**. If you need a particular safety topic, please contact us at losscontrol@vlct.org.

Information for Supervisors

Moving blades, wheels, gears, pulleys, pistons, shafts and other objects can expose employees to a wide range of injury types. Proper machine guarding prevents employee "access" to specific locations on these machines (often called the "point of operation"). The most common type of guarding is called "barrier guarding" and is essentially the placement of a barrier that prevents the employee from being exposed to the machine or tool's moving parts.

We'll review some of the commonly used equipment and exposures in public works, the proper methods to guard them, the need to use lockout/tagout (LOTO) procedures when removing guards (for repairs, etc.) and guarding best practices.

Talking Points for Training

The proper guarding of equipment and machinery is probably not often thought of as a significant hazard in highway garages, wastewater plants or water facilities. Still, these operations use a wide variety of equipment that do (or should have) guards.

Below is a list of commonly found items and guarding concerns. Review these with employees and pay particular attention to equipment that you have and commonly work with. Make sure they know where the guard should be and never operate the tool, machine, or equipment unless the guard is properly attached. Always make sure required attire and PPE is used as well!

- Benchgrinders-this is one of the most common VOSHA safety citations. The spindle nut end and enclosure of the wheel is required, allowing for a maximum of 90˚ exposure. A workrest is required and must be kept within 1/8" of the wheel surface. A tongue guard (on top of wheel) is also required and must be maintained within 1/4" of the wheel periphery. This guard must be substantially constructed, adjustable and oriented in a vertical position relative to the wheel surface.
- All table saw blades and circular saw blades must be guarded. Cutoff saws must have working moveable guards.
- Belts and pulleys present on fans, compressors, electric motors and other equipment must have the in-running section of the belt/ pulley assembly guarded. This is often done with a barrier guard using sheet metal or metal grating that is screwed to the frame. These should be closely fitted to the piece of equipment to offer adequate protection.
- Older sludge "piston" pumps in wastewater plants are often unguarded. The moving shaft creates a pinch point and therefore must be guarded. A tight fitting barrier guard is a good fix for this hazard.
- Mowing equipment, weed trimmers, chippers, etc. Guards should be in good condition, securely attached and adequately enclose the moving parts. In this case, the guards are more designed to control the dispersal of grass, brush and other objects, rather than protect the user - though some protection of the user is provided. Make sure chipper e-stops work!
- When removing any guard, make sure that LOTO procedures are performed PRIOR to guard removal. When the repair is completed, replace the guard and

restore the equipment to its normal state using LOTO procedures.

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Noise in the Workplace (Safety Brief)

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Information for Supervisors

Within public works operations, there are a wide range of noise sources – some of which are exceptionally loud. Employees may be exposed to tool and equipment noise, grinding, jack hammering, cutting, chainsawing, vehicle noise, and a number of other operations that generate significant noise. You may be required to monitor your noise levels. Contact us with questions.

Provide a variety of hearing protection for employees to choose from. As a minimum, you should provide muffs and insert type plugs as options for employees. Remember, the louder the noise is, the more effective the protection must be!

Talking Points for Training

You can improve the knowledge level of your employees and support their use of hearing protection by sharing the following information with them:

- Follow the requirements established by your PPE Assessment. If you've not completed this or are unaware of this requirement, contact your loss control

consultant for assistance.

- As a general rule, if a task produces noise that is so loud that you have to raise your voice to be heard when you are 3' away, then hearing protection should be used.
- Wear hearing protection properly. Insert plugs should be rolled and fully inserted into the ears. Never fold ear plugs and insert them. They are ineffective when used that way! When wearing muffs, attempt to clear hair from between the sealing pad and your ear. This improves the protection that the device offers.
- The noise reduction rating (NRR) can be used as a general guide of how effective a hearing protection device is when used properly. The higher values provide better protection, when the device is used properly.
- Think about some of the noise-generating tasks that we do at work. Here is a partial list (that you can add to): grinding, chainsawing, concrete cutting, mowing and weed trimming, using pneumatic tools, hammering on metal, etc. You must use hearing protection for all of these - regardless of how long the task will take.
- Keep your hearing protection clean. You may reuse roll-up plugs, but don't be afraid to replace them either!
- Apply a similar approach to protecting your hearing while at home. Use hearing protection to save your hearing!
- Hearing loss generally occurs over a long timeframe and unfortunately, once lost it cannot be brought back. Wearing the proper hearing protection and wearing it properly is your best defense against hearing loss.
- Consider ways to reduce noise in the workplace. Enclosure of noisy equipment (such as a compressor) or replacing loud tools with newer, quieter tools can be helpful. Does anyone have other ideas on how reduce noise in our shop?

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Nuisance Vegetation (Safety Brief)

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Information for Supervisors

During summer months, highway crews often engage in roadside mowing, weed trimming and highway right-of-way maintenance. When performing these tasks, employees may be exposed to plants that can cause chemical burns and serious skin irritation. The most common plants that pose hazards to workers include: poison ivy and wild parsnip. Other plants that also pose problems but are less commonly encountered include poison oak, poison sumac, and giant hogweed. To avoid injury, it is important that employees be able to identify these plants, use the proper protective equipment and follow proper procedures for the cleanup of plant residues.

Talking Points for Training

Teach your employees how to identify these common roadside plants. A quick search on the internet can provide you with pictures, physical descriptions and locations where the above listed plants are often found. It will be helpful to print out pictures in color and review them with your employees when you give this "safety brief" training. Make sure employees can identify the plants, and understand these basic work

practices and protection measures:

1. Identify where the plants are before starting work so that the right PPE and work practices can be used for the task.
2. Prevent exposure by wear proper clothing when contact is expected. As a minimum, wear long sleeves, long pants, boots, eye protection, and gloves.
3. Avoid contact with the juice or sap from these plants as much as possible. Avoiding all contact is preferred.
4. Recognize that tools and equipment that have come into contact with the plant residues are sources of exposure to the plant residue. Wash these with water and avoid skin contact. Rubber or similar gloves should be used for washing tools and should be thoroughly rinsed or discarded after use.
5. If exposed skin comes into contact with the sap or plant residue, wash the skin thoroughly with soap and water as soon as possible. If employees are exposed to Wild Parsnip or Giant Hogweed, it is also helpful to keep the affected skin area out of the sun for 24-48 hours.
6. If clothing comes into contact with sap or plant residue, it is a good idea to lauder these items separately.
7. Do not burn plants that may be poison ivy, poison oak, or poison sumac. The combustion by-products can cause severe allergic respiratory problems to anyone in the immediate area.

For first-aid, consider use wet compresses, calamine lotion, or hydrocortisone cream to reduce itching. If severe reactions occur, seek immediate medical attention.

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Review of Drug & Alcohol Testing for CDL Drivers (Safety Brief)

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Information for Supervisors

All individuals operating a commercial motor vehicle (CMV) must either have a valid CDL license, or have a CDL permit and be accompanied by a person with a valid CDL license. For these individuals, participation in a drug and alcohol testing program is required by the Federal Motor Carrier Safety Administration (FMCSA). Anyone who has a CDL should be familiar with the various requirements, including testing. This safety brief provides you with some things to review with your employees to ensure that they are in tune with current standards and avoid common pitfalls.

Talking Points for Training

The current Alcohol and Drug Testing program is provided as a service to PACIF members. It fulfills the FMCSA requirements for a testing pool. Always follow your Drug & Alcohol Policy (which is required). Tips for employees include:

- All drug and/or alcohol tests are randomly selected. Drug and/or alcohol tests can occur at any time and without warning. If you are frequently selected for testing, it is truly a random occurrence (unless that testing is “follow-up testing” that was mandated by a substance abuse professional (SAP) in response to a prior positive test.
- Remember that taking over-the-counter medications can affect your ability to operate a commercial motor vehicle safely. In addition, be aware that some do contain alcohol, as do certain “energy drinks”. In general, avoid these products when there is an expectation of operating a commercial motor vehicle (or any motor vehicle for that matter).
- Don’t take prescription pain-killers or medications that are not prescribed for you. These may show up in a urine test and could result in a positive test result if the medication is a prohibited substance and was not prescribed to you.
- When taking narcotics that are prescribed to you, please check with your physician to ensure that it is safe for you to operate a commercial motor vehicle while taking these drugs. In some cases, you may need to defer the use of these products to avoid being under the influence while you are operating a CMV.
- During the winter months, it is particularly important to avoid drinking alcohol whenever there is the possibility of a storm that would result in the highway crew being called in to work. It is not ok to have a few beers and then come to work on a call in. You must not consume alcohol within 4 hours of reporting to duty. If you did consume alcohol and are called in, do not come for at least 4 hours. Make sure you can meet with legal limits (which for CDL operators is low).
- Remember that a blood alcohol concentration .04% is a positive test, while a level of .02% is prohibited and would result in removal from safety sensitive duties. Reasonable suspicion testing may be done in cases where there is objective evidence that suggests an individual may be under the influence of drugs or alcohol.

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01/24/2018

Personal Protective Equipment (Safety Brief)

PACIF has developed Safety Briefs to help municipal highway supervisors maintain a high level of safety and hazard awareness among employees. We recommend using these short "tailgate trainings" on a regular basis – and **at least once a month**. If you need a particular safety topic, please contact us at losscontrol@vlct.org.

Information for Supervisors

Hazards exist in every workplace and in many different forms: sharp edges, falling objects, flying sparks, chemicals, noise, corrosive liquids, welding and arc flash among many others. When these hazards cannot be eliminated, then personal protective equipment (PPE) must be worn by all employees who have exposure to them.

VOSHA requires that every employer complete a PPE assessment. Forepersons should train the crew on PPE use and certify (sign/date) the PPE assessment annually. This training/certification process should be documented in writing and kept on file with the PPE assessment. If you have not yet completed this assessment, create a list of tasks your employees perform, identify the hazards associated with each task, and list the PPE that you will use to protect employees from the identified hazards. VLCT has PPE assessment templates available for municipalities. Check our online resources or contact your loss control consultant for more guidance.

Talking Points for Training

1. **Review your completed PPE Assessment with all employees, if you have completed it**. The PPE assessment is an effective training document and can also be used to hold employees accountable if they do not wear the required equipment.

2. **Make sure employees understand that wearing PPE is not an option**, when they are exposed to physical or environmental hazards. PPE must be worn all the time, every time, even for the shortest duration task. Why risk getting hurt? For example, appropriate safety footwear (ASTM F-2413-11 compliant) is almost always necessary when working in municipal garages.

3. It is critical that **employees understand when they need to wear PPE.** Your PPE assessment helps you communicate this, but if the assessment is not done, take the time to discuss the work tasks that are performed and the various types of PPE that are needed for each situation or exposure. Remind employees where replacement PPE is located.

4. Make sure employees understand **how to use or wear the protective equipment.** For example, insert hearing protection must be rolled and fully inserted into the ear to be effective. When putting on muffs, hair should be moved so that it does not interfere with the sealing surface.

5. Remind employees to **keep PPE clean and to replace dirty or damaged gear.** Consider the following examples: Dirty Class 2 vests; dirty insert hearing plugs, scratched safety glasses, goggles or faceshields; dirty N-95 dust masks; chaps that have a nick or cut in them; scratched welding mask lens. All of these items should be replaced in these circumstances.

Note that the guidance in this document excludes respiratory protection, except for voluntary use of N-95 mask for control of minor levels of nuisance dust. Please contact us with respiratory protection questions or other questions related to the use, suitability or subsidy (as is permitted for footwear) of PPE.

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Plowing and Driver Fatigue (Safety Brief)

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Information for Supervisors

Many municipal departments are responsible for snow removal, yet have limited or outdated policies in place for managing driver fatigue during snow plowing and related operations. Not managing employee fatigue during winter weather events increases the risk of driver error, which can result in injury and property damage.

Establishing a policy–even an informal one–can help everyone involved better manage driver fatigue, rest periods and safety. If you have a policy regarding driver fatigue and storm events, review it with your drivers before the winter season, along with the practical tips and reminders below. You may also want to review the Safety Brief called "Winter Storm Preparations".

Talking Points for Training

1. These days, forecasts are fairly good about letting us know when storms are coming, so it is important that drivers get adequate rest in advance of the storm. This is the number one best defense against operator fatigue.

2. Before starting a long shift, avoid consuming items that can make you drowsy. Large meals, alcoholic beverages, prescription drugs, caffeine, and certain over-the-counter medications can all make you drowsy. It is also important to stay adequately hydrated.

3. All drivers should be aware of fatigue symptoms, and know when it is time to stop and take a rest break. Common symptoms of fatigue include:

- Frequent yawning or catching yourself dozing off (if this occurs, pull over ASAP at the next safe location)
- Lack of visual focus. This can also occur during heavy snow events and can be hypnotizing.
- Missing a turn, location, or typical plowing procedure such a wing use, lifting or dropping the plow, etc,

4. While plowing, and whenever possible, keep a steady flow of fresh, cool air into the cab and sit with proper posture in your seat. Crack a window if necessary.

5. If you feel the onset of fatigue you should stop and consider one or more of the following:

- Get out of the truck at a safe, well-lit location and walk around the vehicle. Perform some gentle stretches and movements to get the blood flowing. This is also an opportunity to clean off lights, back-up cameras, and check safety equipment.
- If all else fails, you should stop in a safe location and take a short nap.

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Publication Date

01/24/2018

Portable Power Tools (Safety Brief)

PACIF has developed Safety Briefs to help municipal highway supervisors maintain a high level of safety and hazard awareness among employees. We recommend using these short "tailgate trainings" on a regular basis – and **at least once a month**. If you need a particular safety topic, please contact us at losscontrol@vlct.org.

Information for Supervisors

Portable power tools are commonly used by municipal highway, recreation and maintenance employees. As with any tool, safe use and operation relies on the employee being familiar with its features and understanding how to use it properly. Of course, the tool must also be in good operating condition.

Using tools becomes so routine, that it is not unusual for individuals to become desensitized to potential hazards. They may be so focused on accomplishing the task at hand, that they forget to check the tool itself to make sure that the safety features are functioning or that the power cord (if present) is intact. These are the types of reminders that we'll highlight below.

Talking Points for Training

Before Using the Tool

- Always inspect the tool before each use and check for obvious damage or cracks to the body, cord and plug defects. Make sure that all guarding (if part of

the tool) is attached as designed and set at compliant distancing or orientation. Remove the tool from service if damaged or if guarding cannot be properly set.

- Always use the appropriate PPE for the task being completed, such as safety glasses with side shields, hearing protection, etc.
- Plan to use the right tool for the job. Using the incorrect tool often increases the difficulty of the task and subjects the tool to potential breakage and the employee to injury.
- Read and familiarize yourself with the operator's manual.

Using the tool

- Be sure all portable electric tools are properly grounded using a 3-prong plug, or a double insulated cord. If using with an extension cord, plug into a GFCI outlet or use an extension cord equipped with a GFCI.
- Never remove the grounding prong from the tool (or extension cord)..
- Always disconnect the tool from the power source before changing accessories, blades or bits.
- Be aware of loose clothing or jewelry that could get caught in moving or rotating parts of the tool.
- Make sure you have proper illumination so you can see safely what you are doing while operating the tool.
- Be aware of the location of other employees when operating power tools and always use the tool in a way that does not place any portion of your body in a "compromised" position.
- Tools that throw sparks or hot metal should be used far away from flammable gasses, liquids, or other combustible materials.

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01/26/2018

Pre-Trip Vehicle Inspections (Safety Brief)

PACIF has developed Safety Briefs to help municipal highway supervisors maintain a high level of safety and hazard awareness among employees. We recommend using these short "tailgate trainings" on a regular basis – and **at least once a month**. If you need a particular safety topic, please contact us at losscontrol@vlct.org.

Information for Supervisors

Although municipalities are not required by federal or state law to conduct pre-trip or post-trip inspections for commercial motor vehicles, federal and state enforcement agencies highly recommend that municipalities regularly perform and document inspections. PACIF agrees and considers these to be a risk management best practice.

Completing daily inspections of your commercial motor vehicles is the best way to ensure that they are safe to operate and it increases the likelihood that they will be ready when they are needed and reduces the potential for break down. If you would like a simple form to use for this purpose, contact your loss control consultant or email us at: losscontrol@vlct.org.

Talking Points for Training

Remind your operators about the importance of completing thorough daily inspections and your expectations as a supervisor. If you plan on adopting the PACIF

form, this would be a good time to introduce it and discuss how you will use it in your operation.

Whether you're using your own inspection form or the PACIF form, place them in an easily accessible, central location. Review the actual form with your drivers and consider completing an inspection together so you can review your expectations on how to complete them. As part of any hands-on training session, make sure that you touch on these areas:

• Lights, Signals and Reflectors	• Engine and Driveline	• Wipers and Washer Fluid
• Tires, Rims and Lugs	• Visual Under Hood	• Heater, AC and Defrost
• Service Brakes (leak, alarm, buzzer)	• Fluid Levels	• Horns
• Parking Brake	• Gauges	• Emergency and First Aid Equipment
• Suspension and Springs	• Interior Equipment Secure	• Coupling Devices
• Steering	• Mirrors and Windshield	• Attached Equipment (Plow, Sander, etc.)

Each of these items should be inspected daily. If any one of these is found defective during the inspection, the operator must notify the road foreman or mechanic, and all

necessary repairs must be made before operating the vehicle. If you do not have ready access to a mechanic, you'll need to stock the most common "wear" items so you can replace/repair them.

A good inspection program will ensure that the vehicle is ready for operation, reduce vehicle breakdowns and better protect general public. We've had more than one municipal dump truck lose a tire and narrowly miss an oncoming motor vehicle. You don't want this to be your truck!

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01/24/2018

Preventing Heat Stress (Safety Brief)

PACIF has developed Safety Briefs to help municipal highway supervisors maintain a high level of safety and hazard awareness among employees. We recommend using these short "tailgate trainings" on a regular basis – and **at least once a month**. If you need a particular safety topic, please contact us at losscontrol@vlct.org.

Information for Supervisors

When the weather finally turns to summer after a long winter and spring, employees are often not yet conditioned to the heat. This means that these employees are at risk for heat-related injuries, especially if a very hot day hits early in the season. Conditions such as heat rash, heat cramps, heat exhaustion, and heat stroke are all possible. Weather conditions that are both hot AND humid pose an even greater risk for heat-related injuries.

Do your part by discussing ways to prevent these heat-related injuries with your employees – and by always making sure that adequate drinking water is provided at job sites, as required by VOSHA.

Talking Points for Training

The most important ways to reduce the potential for a heat-related injury is to encourage the following best practices when weather turns hot and humid:

- When hot weather sets in, consider whether employees have had a chance to "get acclimated". It is a fact that the body adapts to hot weather, though this process can take 2-3 weeks.
- Do most of the heavy physical labor early in the morning when temperatures are cooler. Avoid doing physically demanding tasks during the hottest part of the day (typically noon to 3 PM during the summer) whenever possible.
- Consider the employee's physical condition and fitness when making work assignments. Individuals that are significantly overweight or who have other health issues are at increased risk for heat-related injury.
- Remind employees to wear light colored clothing. This absorbs less heat and keeps the employee cooler.
- Remind employees to regularly consume cool drinking water. Avoid caffeinated beverages as this causes the body to lose more water. Sports drinks such as PowerAde and Gatorade are acceptable, but generally water is best.
- Take periodic breaks to let employees cool down and to hydrate. Ideally they should be drinking liquids even when they are not thirsty, since thirst occurs after dehydration. Find a shady or cooler area to do this when possible.

Signs and symptoms of heat-related injury include:

1. **Muscle Cramps** – This is an early sign of dehydration. Have the employee drink water or sports drink and cool down.
2. **Heat Exhaustion** – This is a more significant heat injury where the employee is sweating excessively and may have nausea, dizziness, or a headache. Make sure the person stops working, hydrates, and cools down. This may take a while.
3. **Heat Stroke** – This can include symptoms such as confusion, lack of sweating, fainting, or seizures. Request emergency medical services and cool the employee down until help arrives. This is a serious situation!

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01/29/2018

Refueling Containers and Portable Equipment (Safety Brief)

PACIF has developed Safety Briefs to help municipal highway supervisors maintain a high level of safety and hazard awareness among employees. We recommend using these short "tailgate trainings" on a regular basis – and **at least once a month**. If you need a particular safety topic, please contact us at losscontrol@vlct.org.

Information for Supervisors

Overfills, spills, and leaks that occur during container and equipment re-fueling, vehicle maintenance, etc. can result in the release of these chemicals into the environment. They get into storm water runoff and flow into sewers and surface water. In addition, spills of these products can increase the potential for fire, physical injury (slips/falls), and airborne exposure. Don't assume that everyone knows or follows "best practices" when it comes to refueling. Make it a point to discuss these refueling reminders with employees so that you can reduce the likelihood of an undesirable event such as a property loss, environmental spill or employee injury within your operations.

Talking for Points for Training

Review the following best practices with your employees:

Filling Portable Containers

- Use only approved safety cans or DOT approved containers (5 gallons or less).
- Place the container on the ground when refueling. Never fill it on the bed of the work vehicle as this can interfere with the discharge of static electricity to ground and result in a “spark” which can ignite the flammable liquid.
- Keep the nozzle in contact with the fuel tank’s inlet tube. Use care to eliminate spills.
- Do not refuel in areas with heavy vehicle or foot traffic or where there are sources of ignition. Refueling Portable Equipment • Turn off the engine, place equipment on a firm and level surface, and allow it to cool prior to refueling. • Stand by the tank so you can act quickly if something goes wrong.
- Do not refuel near any open flames or other sources of ignition.
- Do not overfill the fuel tank. 95 percent full is a good guideline for any type of tank or container. On hot days, it is particularly important to allow room in the tank for the fuel to expand.

Operational Considerations

- Make sure that all fuel pumps have nozzles that automatically shut off and that hoses are equipped with breakaway couplings.
- Never smoke when refueling anything. Plain and simple. Following these simply rules will reduce fire potential and keep these materials out the environments, which benefits everyone.

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01/26/2018

Sandpile Hazards (Safety Brief)

PACIF has developed Safety Briefs to help municipal highway supervisors maintain a high level of safety and hazard awareness among employees. We recommend using these short "tailgate trainings" on a regular basis – and **at least once a month**. If you need a particular safety topic, please contact us at losscontrol@vlct.org.

Information for Supervisors

Sand piles are commonplace at municipal highway garages, where road crews stockpile sand for use on roads during the winter months. Large piles of sand can pose a range of hazards to both municipal employees and the public at large. The sandpile itself can be an "attractive nuisance" to local kids and can also pose hazards to members of the public who might try to get sand from the pile during the winter months. Although incidents are not common, when they do occur, they can be serious or fatal. With this in mind there are a few basic steps that can be taken by municipalities when locating and working on and around sand piles.

Talking Points for Training

Consider the following best practices for providing sand for public use.

- Maintain a "public use" sand pile that is separate and away from the primary pile and replenished as needed. Clear and obvious signage to direct citizens to the proper location is helpful. This keeps the public out of the primary pile.
- When possible locate this pile outside the entrance to the garage. • Never load private vehicles using municipal equipment. • It is best to establish and

communicate policies regarding the amount of sand available to residents, as well as clarifying that contractors are not welcome. Use your town website and other means to communicate this information.

Best practices for stockpiling

- When dumping from the top of the pile, dump in a location where it can be pushed over the edge with the bucket loader. Avoid backing right up to the edge of the pile. Avoid driving off with the dump body fully raised while it is still full. Doing so creates excessive torque and wear to the dump piston and can cause failure, vehicle damage, and injury.
- Always load trucks from the toe of the pile. Never load from under and overhang.

Additional best practices:

- Sand piles are notorious for creating overhangs during the winter - especially after rainy conditions followed by a freeze. Use heavy equipment, or hire a (properly insured) contractor with an excavator if needed to remove hazardous overhangs and make the sand pile safe for use.
- If your sand is stored in a sand shed, keep the doors closed and locked when not in use
- If your sand pile is near a residential area with children, place “Do not climb or play on sand pile” signs in the area

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01/29/2018

Seatbelts Save Lives (Safety Brief)

PACIF has developed Safety Briefs to help municipal highway supervisors maintain a high level of safety and hazard awareness among employees. We recommend using these short "tailgate trainings" on a regular basis – and **at least once a month**. If you need a particular safety topic, please contact us at losscontrol@vlct.org.

Information for Supervisors

Seatbelt use by municipal highway departments varies significantly. Some departments strictly enforce seatbelt use, while others "look the other way" when seatbelts are not used. To be clear, seatbelt use is not an option. It is the law.

The State of Vermont requires the use of seatbelts in all motor vehicles. The Federal Motor Carrier Safety Administration (FMCSA) requires that seatbelts be used in all commercial motor vehicles. VOSHA can issue citations for not wearing seatbelts. Most importantly, using seatbelts does prevent serious injury or death when a serious motor vehicle accident occurs.

Talking Points for Training

Each year, PACIF receives around 300 auto claims from municipal members, with more than half of those coming from public works and highway departments. Imbedded within those claims are a few motor vehicle accidents (MVAs) with serious injury potential. After reviewing those accidents, it is clear that seatbelt use has saved

lives, or greatly reduced the severity of injury when they were used. To help you improve and reinforce seatbelt use within your operations, consider sharing the following stories and discuss any related experiences that your driver might have:

- A dump truck plowing a paved road abruptly came to a stop when its plow dug into soft gravel as the vehicle transitioned between the pavement and dirt road. The driver indicated that he would have been thrown through the windshield, had he not been wearing a seatbelt. The truck was totaled. The driver had a minor shoulder strain and was glad he was belted!
- A driver was hauling gravel on a paved road and came into contact with the guardrail on a narrow bridge. This eventually pulled the vehicle off the road and caused a rollover which crushed the passenger side of the truck. The driver indicated that the seatbelt kept him in his seat and prevented him from sliding into the area that was crushed.
- A dump truck was sanding a section of icy back road when the driver lost control, slid off the road and rolled over. The truck was moderately damaged but the driver was thrilled that he wore his seatbelt because he was not thrown to the passenger side of the vehicle when the rollover occurred.

Aside from the real life stories, try and get your drivers to commit to seatbelt use and to think about the following:

- The impact on their family if they are injured or worse. Isn't it reasonable to commit to wearing a simple safety device? Think about the potential impacts on their career, income, etc. Wearing a seatbelt is really a commitment to your family!
- Make sure your drivers know that seatbelt use is not an option and that you will monitor and enforce usage!

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01/26/2018

Spontaneous Combustion and Fire Safety (Safety Brief)

PACIF has developed Safety Briefs to help municipal highway supervisors maintain a high level of safety and hazard awareness among employees. We recommend using these short "tailgate trainings" on a regular basis – and **at least once a month**. If you need a particular safety topic, please contact us at losscontrol@vlct.org.

Information for Supervisors

While spontaneous human combustion is an ongoing topic of debate, there is no doubt that rags and other cloth items containing flammable or combustible liquids have "self-ignition" potential. So-called "oily rags" have a long history of being a source of fire, because they are commonplace and many people are unaware of the hazard they pose.

Use the information below to inform your employees about "oily rags", their potential for spontaneously catching fire, and other measures you want them to adhere to in order to prevent a fire from occurring in your workplace.

Talking Points for Training

Clothing, rags, or other fibrous organic materials that contain oils, fuels, flammable solvents, thinners, oil-based paints and similar flammable or combustible products are examples of items that can ignite "spontaneously" during the drying process and under the right conditions. Paint scrapings and filters from spray booth cleaning

projects are beyond the scope of this guidance.

These events occurred at Vermont municipalities and serve as valuable lessons for your employees. If a fire occurred in your garage and damaged all your equipment, how would you be able to service the roads?

- Linseed oil contaminated rags that were used to coat a wood panel on a fire truck were placed in the regular trash and later "self-ignited", causing major damage to a municipal fire station.
- Rags soaked with exterior varnish were placed in a metal container and eventually self-ignited. The heat generated from the fire within the container (which may not have been fully closed) was sufficient to ignite nearby combustible materials, causing damage to the town garage and much of the equipment within.

Explain ways to reduce the potential for spontaneous combustion and other fire hazards.

- If you have rags that are soaked in flammable liquids, drying them (outdoors) is a good option. Once dried, they should still be placed in an appropriate container with tight fitting lid. Do not dry them indoors!!
- Rags with small quantities of oils, or greases, should be placed into a metal container with tight fitting lid (self closing lids are preferred). These rags should be disposed of or cleaned by a qualified vendor.

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01/26/2018

Sprain & Strain Injury Prevention (Safety Brief)

PACIF has developed Safety Briefs to help municipal highway supervisors maintain a high level of safety and hazard awareness among employees. We recommend using these short "tailgate trainings" on a regular basis – and **at least once a month**. If you need a particular safety topic, please contact us at losscontrol@vlct.org.

Information for Supervisors

Background

- Injuries from lifting, pushing, pulling, and similar work-related activities – and also from jumping out of trucks and heavy equipment – are among the most common and costly for municipal highway employees.
- Employees experience injuries to the back and major joints (primarily the shoulders, elbows, and knees) that can have significant impacts on the employee's long-term health and the employer's ability to provide adequate highway services. That's why preventing injuries should be a major goal for both the employee and employer

Talking Points for Training

A good way to start any training is to ask about possible sources of injury in your own shop and have a discussion about them, as well as some possible solutions. It is also helpful to discuss things that increase the potential for injury. Some of the following

bullets might be good things to share:

- Strain and sprain injuries often occur from tasks or activities that involve the following:
    - Lifting awkwardly, twisting while lifting, or lifting something that is too heavy (e.g. over 50 lbs)
    - Excessive reaching and pushing or pulling on an object, especially one that is overhead
    - Applying high force in any direction, or even when using a tool or lever. Use care when changing plow blades!
    - Repetitive tasks with modest weights that overly tire muscle groups
    - Lifting an object from ground level to a vehicle, or higher elevation, as well as placing heavy items on the floor from an elevated height
    - Climbing in and out of vehicles (especially when jumping off of steps)
- Ask: What are tasks that we do that have the above listed physical requirements? Make a short list and have the group think about ways to do these more safely. Consider team lifting, using mechanical assistive devices, using hoists, using rollers, etc.
- It is fair to remind employees that there are some physical demands in the job and that maintaining some measure of fitness not only helps them personally but also reduces the likelihood that they will be seriously injured.
- Sometimes, things will need to be lifted or moved manually. When the need arises, remind employees to use good lifting technique. Bend at the knees, keep the head focused straight ahead, and always try to keep the object as close to their body (spine) as possible.
- Remind employees to avoid shortcuts and instead use equipment to reduce their potential for injury.
- Maintain 3 points of contact when entering & exiting vehicles. Never Jump!

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01/26/2018

Tailgate Safety Reminders (Safety Brief)

PACIF has developed Safety Briefs to help municipal highway supervisors maintain a high level of safety and hazard awareness among employees. We recommend using these short "tailgate trainings" on a regular basis – and **at least once a month**. If you need a particular safety topic, please contact us at losscontrol@vlct.org.

Information for Supervisors

Every year, especially in winter, PACIF receives a significant number of hand and finger claims that are linked to tailgate use or operation. All of these injuries are preventable. By warning and educating employees about the hazard, we can prevent injuries!

Use the discussion points below to train all employees, new and seasoned, about the potential hazards of dump truck tailgates, latch pins, and chains. Observe how employees work with this equipment, periodically reminding them about the proper safety practices. As is the case with all safety and other policies, hold employees accountable if they do not follow your procedures.

Talking Points for Training

Share the following reasons why tailgate injuries occur:

- Trying to dislodge a rock, frozen sand, or other object that's caught between the tailgate and the truck bed. When the object is removed, the tailgate suddenly

slams shut, crushing some part of the worker's body between the tailgate and the truck.

- Holding on to a latch pin while trying to push or pull the tailgate for one reason or another. Doing this can easily jam fingers and hands between the tailgate pins and the "dogs", or restraint chains causing significant injuries.
- Manually controlling the tailgate position when the lower hinges were open and the bed was raised. Multiple pinch points can cause serious damage and lost work time.

Point out these simple ways to prevent these injuries:

1. Explain specific ways to deal with lodged materials. For example, workers should always use a tool rather than a hand or arm to remove jams, and the tool should be long enough for the worker to stand away from the tailgate in case the load is released suddenly. Make sure that every truck is always equipped with an appropriate tool (such as a long-handled shovel or crow bar) and that the tailgate hazard warning sticker is visible.
2. Make it clear to employees that if a blockage cannot be dislodged, they should dump the load instead of risking their personal safety.
3. If it is absolutely necessary to dislodge materials that are jammed in the tailgate, employ a lockout/tagout approach so that the energy stored in the tailgate or in materials in the dump body is controlled. Contact your PACIF Loss Control Consultant if you have questions about this. However, in the vast majority of cases, dumping the load is the best solution.

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01/24/2018

Trenching and Excavation (Safety Brief)

PACIF has developed Safety Briefs to help municipal highway supervisors maintain a high level of safety and hazard awareness among employees. We recommend using these short "tailgate trainings" on a regular basis – and **at least once a month**. If you need a particular safety topic, please contact us at losscontrol@vlct.org.

Information for Supervisors

Whether completing repairs to a water or sewer line, or replacing an aging culvert, most municipalities will have a need to dig a hole in the ground for one reason or another. This brief provides an overview of some of the key safety requirements that apply when working in or around them. You should review this information with employees who will be engaged in these operations and make sure they understand all safety measures. You should also review how and when to use equipment (such as a trench box or shielding). When performing excavation work, consider who will serve as the VOSHA required "competent person". This person will determine the safety of the excavation and site, and has the authority to cease work if hazards arise.

Talking Points for Training

Working in excavations is hazardous, primarily due to the hazard of collapse - though other hazards exist. Some of the key VOSHA requirements for these operations are listed below. The list is not comprehensive, so if you do a lot of excavation work, please refer to the OSHA.gov website, other excavation guidance, or ask your loss

control consultant for assistance.

- **Know where underground utilities are located. Before you dig, call 811.**
- Excavations that are 4' or more in depth (at any point), must have means of egress that are within 25' from employees. Ladders, stairs or ramps may be used. Make sure ladders are rated for the weight of employees using them!
- Test for atmospheric hazards such as low oxygen, hazardous fumes, and toxic gases when excavating 4' deep or greater.
- If the excavation has exposure to vehicular traffic, employees must wear appropriate Class 2 retroreflective garments and be protected by a properly designed and operated workzone, including traffic control if needed.
- Employees must be protected from excavated or other material (spoils pile), or equipment that could pose a hazard by falling or rolling onto the excavation. The best practice is to keep material at least 2' away from the edge of the excavation. Heavy equipment, road traffic, etc. should be kept further away from the excavation to prevent accidental collapse.
- Any excavation that is 5' in or more in depth (at any point) must be sloped and benched according to the soil type, or it must be properly shielded or shored. When using shielding systems, additional considerations include:
    - The system used must be used in accordance with its engineered design.
    - It is permitted to excavate material up to 2' below the depth of the support system if the system is designed to resist the forces calculated for the full depth of the trench. The top of the trench box should be 18" above grade.
    - Employees should not be in an excavation when shields or boxes are being installed, moved, or removed.
    - When using gas powered equipment or products that contain chemicals within the excavation, consider the potential for hazardous atmospheres to develop.
- If shoring or shielding is not used, it is best to assume that soil type "C" exists. Apply a slope or bench of 34˚ or a run/rise of 1.5:1. This will require significant

enlargement of the excavation (e.g. a 34' opening for a 10' deep, 4' wide trench).

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01/26/2018

Vehicle Maintenance and Energy Control (Safety Brief)

PACIF has developed Safety Briefs to help municipal highway supervisors maintain a high level of safety and hazard awareness among employees. We recommend using these short "tailgate trainings" on a regular basis – and **at least once a month**. If you need a particular safety topic, please contact us at losscontrol@vlct.org.

Information for Supervisors

When performing vehicle maintenance tasks, employees may be exposed to a wide range of hazardous energy exposures. Things like stored hydraulic pressure, air pressure, moving parts and vehicles, or even raised equipment pose hazards. Can a plow, wing or bucket fall from a raised position while it is being worked on? It can, unless its potential to fall is controlled by placing the piece of equipment on the ground, by dead blocking, or by other means. With this in mind, it is important to educate employees about energy control exposures in your workplace and reinforce the use of energy control procedures. If you need help developing your own procedures (which are required by VOSHA), please email or call VLCT Loss Control.

Talking Points for Training

When working in situations where vehicles or attachments might move, there is an energy control exposure. Working on hydraulic lines, electrical systems, air brakes, and other systems also expose employees to uncontrolled releases of energy. Some tips to prevent injuries from uncontrolled releases of energy include the following:

- Anyone performing vehicle maintenance tasks must understand potential sources of hazardous energy and methods to control them. Some of the more obvious sources of hazardous energy and their controls include:

1. Vehicle movement. The vehicles should be chocked in both directions to restrict movement. Setting the air brake is not adequate.
2. Control the movement of belts, pulleys, shafts etc. The vehicle should not be able to be started. A simple way to control this is by requiring the person performing the repairs to have the key in their pocket.
3. Control hydraulic, air pressure and electrical exposures. If working on air or hydraulic lines, bleed lines prior to beginning maintenance activities. Consider whether there is a shock hazard and disconnect the electrical system if needed.
4. Prevent raised objects/equipment (such as dump bodies, plows, wings, buckets, etc.) from falling. These should all be dead blocked, placed on the ground, or controlled with specially designed devices (such has a Dump-Lok).

- Anyone not performing maintenance activities, but working in the area, must understand the reason for energy controls and be able to identify when they are in use. Furthermore, make sure they know to never touch equipment where energy controls are in use.

PACIF has had some fairly serious claims from individuals who have been struck by falling buckets, crushed by rolling vehicles and injured while working on live spreaders. By reminding employees about the importance of energy controls and following procedures, we hope to avoid these in the future. As always, contact your loss control consultant with any questions you may have about energy control programs or procedures.

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01/26/2018

Welding Safety Basics (Safety Brief)

PACIF has developed Safety Briefs to help municipal highway supervisors maintain a high level of safety and hazard awareness among employees. We recommend using these short "tailgate trainings" on a regular basis – and **at least once a month**. If you need a particular safety topic, please contact us at losscontrol@vlct.org.

Information for Supervisors

Welding and cutting are common in most municipal garages. Virtually all municipalities have an oxyacetylene torch set and most have some type of arc welder (stick or wire feed) that may use an inerting gas such as carbon dioxide or argon. When performing welding tasks, the employee is exposed to a range of hazards. Obvious hazards, such as UV light exposure or heat can be controlled by using appropriate personal protective equipment (PPE), while airborne contaminants are more subtle.

This safety brief provides a quick refresher on the basic hazards of cutting and welding and provides bullet points that you can use to review these issues with your employees.

Talking Points for Training

Everyone understands that welding and cutting has hazards because we can see them. Employee protection measures include:

- A welding helmet that provides shading that is appropriate for the welding method in use. Auto-tint helmets are common and typically preferred.
- Welder's gloves and leathers. These provide protection from flying slag and molten metal.
- Appropriate foot protection. While safety toed boots should be standard in any highway garage operation, additional thermal protection may be needed depending on the nature of the welding. This will vary from garage to garage.
- Use of welding screens to protect nearby co-workers from "arc-flash".

Less obvious, are the exposures that occur from breathing in welding fume. Some key reminders and best practices include:

1. When welding or cutting on painted equipment, determine whether the paint contains any toxic metals such as lead, chromium, etc. Many of the coatings used on older pieces of heavy equipment contain these materials. Best practice is to grind away paint that would otherwise burn off during welding.
2. Hard facing of blades, buckets, etc. should only be performed using local exhaust ventilation. This type of stick welding exposes the employee to hexavalent chromium which triggers a number of VOSHA requirements. The best approach is to contract this task out or use standard welding rod to build up material on the point of wear.
3. Avoid welding on galvanized metal, stainless steel or painted surfaces. Always use local exhaust ventilation when welding on these materials.
4. Use common sense and try to keep your head out of the rising plume. This reduces inhalation exposure.
5. Always use good hygiene and wash hands after welding. Avoid having food or drink in the welding area.
6. Always check the welding area for flammable liquids and combustibles and remove them before starting the project.

Safety Training Attendance Roster

Trainer:	Training Date:
1.	9.
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Publication Date

01/26/2018

Winter Storm Preparations (Safety Brief)

PACIF has developed Safety Briefs to help municipal highway supervisors maintain a high level of safety and hazard awareness among employees. We recommend using these short "tailgate trainings" on a regular basis – and **at least once a month**. If you need a particular safety topic, please contact us at losscontrol@vlct.org.

Information for Supervisors

Driver fatigue and equipment performance are two very critical elements that can impact the ease with which you handle a winter weather event. You want to make sure that your employees AND your equipment are able to perform at a high level and be able to tolerate the long hours that plowing and other winter road maintenance tasks demand.

To do that, some planning and maintenance is necessary for both the equipment and the driver. Reviewing the information below with your drivers should help remind them of the "little things" they need to do to prepare for a storm. You may also want to review the Safety brief called "Plowing and Driver Fatigue".

Talking Points for Training

To prepare for a winter weather event, both the equipment and their operators must be in the best possible condition, in order to sustain the heavy workload that is expected. By keeping the two basic principles of "planning" and "maintenance" in

mind before the storm arrives, you and your employees will have fewer "surprises" during the storm. Remember the following tips:

- As a driver, "plan" that you will not be home for extended periods of time. Make sure that some of the basic "home" necessities are taken care of. Taking care of the "home chores", such as making sure there is enough wood or heating oil and that there are adequate groceries should be done prior to the storm. Gas up personal vehicles as well.
- Maintain yourself! Don't forget to get plenty of rest and stay hydrated in advance of the storm.
- Make plans for child care if necessary during the event.
- Complete thorough checks of all equipment that will be used during the storm. Some key things to consider include:

1. Make sure that windshield wipers are in good condition and replace those that are not. Make sure the wipers operate properly. Check washer fluid. Clean the inside of the windshield if needed to maximize visibility.
2. Check all lights, strobes and signals to make sure they are fully operational. Checking them before the storm gives you a chance to get replacements and make the repairs before the storm hits.
3. Check the tires and inflation, as well as the horn, back-up alarm and hydraulic system. Don't forget to top off the fuel!
4. Check the plow and wing blades for excessive wear and replace as needed.
5. Check the safety chains (on the plow and wing) for weak spots, kinks and damage. Replace if needed.
6. Make sure the back-up camera is working and clean if your vehicle is so equipped. Backing is a major cause of accidents!

A little preparation can go a long way. By minimizing fatigue and equipment breakdown, you can get the job done better and more safely

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Publication Date

01/24/2018

Work Zone Safety Reminders (Safety Brief)

PACIF has developed Safety Briefs to help municipal highway supervisors maintain a high level of safety and hazard awareness among employees. We recommend using these short "tailgate trainings" on a regular basis – and **at least once a month**. If you need a particular safety topic, please contact us at losscontrol@vlct.org.

Information for Supervisors

Employees performing duties in and around work zones are exposed to many types of hazards which could result in injury or death. Always consider your visibility to traffic, traffic flow and volume and use advance warning signage and devices.

Work zones are often congested with workers, equipment and vehicles that all adversely affect visibility. Always employ a buffer zone when possible and review the safety level of the work zone once it is set up. Lastly, don't forget to complete a temporary traffic control plan and keep it onsite. VOSHA loves to check worksites that appear to be deficient. Always make sure that the proper signs are in place and that sufficient cones are used to make travels paths clear to motorists.

Talking Points for Training

The following tips should be practiced when in and around the work zone:

1. Maintain visibility at all times. Make sure to wear approved high visibility clothing (ANSI class 2 or 3).

2. Stay alert while in the work zone, especially when working close to traffic.
3. Remember equipment operators have blind spots. Be aware of these and stay out of these locations.
4. Never turn your back to traffic when you are flagging. Always know where vehicles are.
5. Always have an escape route. This is a must for flaggers, but also a useful consideration for others in the work zone.
6. Make sure the travel lane and the work area are clearly identified. Using more cones creates a better travel path for drivers.
7. Design your workzone to prevent pedestrians and children entering the work space. Consider alternate travel paths.
8. Complete and review your temporary traffic control plan with all those working in the zone. Follow your flagger training!
9. When working on mobile projects or projects that last 30 minutes or less, cones or other methods to alert drivers of the hazards ahead should be used if no signs are present. Vehicles MUST use flashing strobes!
10. Always make sure your advanced warning signs are in place before workers are in the work space.

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Publication Date

01/26/2018