Welding Safety Basics

(Safety Brief)

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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.

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- 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:

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