LONE WORKER SAFETY

INTRODUCTION

Today's municipal employees may work inside a central municipal building or a satellite facility; others move amongst a wide variety of public and private spaces in the course of performing their duties; still others work from home.

In any of these scenarios, there may be times when an employee works alone. Whether this occurs on an occasional or routine basis, whether the person is alone for less than an hour or an entire shift, any employee who experiences illness or injury while working alone is more vulnerable if no one knows where they are or knows they are in distress.

This Risk Control Solution identifies hazards and hazard mitigation measures to protect lone workers.

DEFINITIONS

- *Remote Workers*: Employees who perform their work away from a central office or workshop, whether they work in teams or alone.
- *Lone Workers*: Employees who perform an activity in isolation from other workers without close or direct supervision. Lone workers might work from a central, satellite, or home location on a permanent or temporary basis.

MIOSHA REQUIREMENTS

Several MIOSHA requirements specifically address working alone, notably applying to shipyards, permit-required confined spaces, Immediately Dangerous to Life or Health (IDLH) atmospheres, and electric power generation, transmission, and distribution equipment.

MIOSHA Part 1 *General Provisions, Section 408.1011 (General Duty Clause)* and MIOSHA Part 472 *Medical Services and First Aid, Rule 7201* contain provisions to protect against recognized hazards and provide readily available medical care or first aid that applies to lone worker situations.

These should be reviewed closely and implemented wherever applicable.

HAZARDS

Depending on the nature of the work, location, weather, and season, employees might be injured or become ill for a variety of reasons while performing their assigned duties. The following is by no means a

complete list; it is merely intended as starting point for more thorough consideration. Identifying these and other possibilities and planning for them in advance can greatly improve outcomes.

- Slips, trips, and falls may leave an employee injured and/or unconscious.
- Exposure to prolonged heat or cold may leave an employee disabled.
- Insect stings, exposure to poisonous plants, or food and other allergies affect people differently and may be disabling or deadly.
- An individual may be criminally assaulted while conducting code enforcement, reading meters, or working in parks or remote locations.
- Employees may be attacked by an improperly-controlled domestic animal or by a wild animal.
- Law enforcement officers may be injured during pursuits or interactions with subjects.
- A traffic mishap may leave an employee injured or stranded in a remote location.
- Severe weather may result in injury from wind-driven or falling objects.
- Independent of work and environmental conditions, employees may suffer disabling or life-threatening events such as a heart attack, seizure or stroke, or may become ill due to a medication reaction or an underlying medical condition such as diabetes. Even something that seems to be a mild cold may progress to more impairing symptoms in the course of a work shift.

HAZARD MITIGATION

Wherever employees work alone or might work alone, there should be a policy defining:

- Universal precautions for all lone workers
- What tasks are permissible and impermissible for lone workers
- Requirements and methods for employees to check in for work and during work
- Protocols for emergency signaling and response.

<u>Universal Precautions for all Lone Workers</u>

Employees working alone should be prohibited from using music or other entertainment headphones or “ear buds” where the device could interfere with or inhibit:

  - the wearing or functionality of required hearing protection,
  - general situational awareness,
  - detecting imminent danger,
  - hearing warnings or necessary communications such as check-in alerts.

An appropriately stocked first aid kit should be available to each lone worker at all times. The individual should be trained in first aid and use of supplies in the kit.

Permissible and Impermissible Tasks for Lone Workers

The following tasks are *not permissible* for lone workers, as MIOSHA regulations explicitly require two or more workers:

- permit-required confined space entry (MIOSHA Part 90 / 1910.146)
- atmospheres immediately dangerous to life and health (IDLH) (1910.120 and 134)
- electrical work > 660V (1910.269).

Additional tasks that should have two or more workers include:

- excavation deeper than 4 feet
- wherever falls from an elevation of more than 4 feet are possible
- work requiring personal fall protection (operating man lifts or bucket trucks)
- work on water or in boats
- work with chainsaws and wood chippers.

Other tasks may be permissible or impermissible based upon a risk assessment of specific factors like volume of work, available lighting, experience of the employee, or very hot or cold weather.

Check-Ins

Check-in protocols generally rely on the worker and the supervisor to contact each other in accordance with a set plan, notice any failure to check in as arranged, then reach out and investigate until the worker's situation is known. Protocols should require positive confirmations and ensure clear, mutual understanding about which person is supposed to initiate communication and when.

Protocols should specify a check-in process for the beginning of a lone employee's shift to verify they are fit and prepared for work. For a remote employee at a fixed location with regular duties, such as a wastewater treatment operator, this may be a call-in or computer sign-in. For a mobile employee with variable duties, such as code enforcement or public works, this check-in should be at a central location such as an office or shop where they pick up necessary equipment and a vehicle. For mobile employees authorized to take municipal vehicles to and from home, the check-in protocol should consider the locations and types of work they perform.

During the initial check-in, the work plan for the day should be reviewed to verify understanding of assignments and equipment needed. Any equipment and means of transportation should be inspected. The communication method and timing for additional check-ins during the shift should be agreed and emergency notification methods confirmed.

The schedule for check-in intervals during a shift may vary with the work performed, locations, and conditions. More frequent check-ins should be arranged when an employee is working at higher-risk locations, when performing higher-risk tasks, and when doing physical labor in hot weather to verify rest breaks and hydration.

Check-outs for lone mobile employees should be at the central location to return equipment and transportation.

Methods for Check-Ins/Monitoring

Employee check-ins or monitoring may be accomplished by phone, radio, or in person if a supervisor travels to verify work. Where work does not align with fixed check-in times or a supervisor is responsible for multiple persons checking in, the odds of mistakes and miscommunications are increased. For such settings, aids and systems are available to support more complex tracking. These aids generally fall into two categories: smartphone applications and wearable technology.

- *Smartphone Applications* - Applications that provide real-time information about location and facilitate communication are available for free or for a fee with third-party monitoring.

  Most applications provide passive monitoring of the phone's location, a means of signaling trouble or danger, and can be set to prompt check-ins at designated intervals. If a check-in is missed, an audible reminder message is provided to the employee. If the employee does not respond to the reminder, an alarm notification is sent to a designated recipient, supervisor, or third-party monitor.

  Some applications allow monitoring for a lack of movement, which can indicate an injury or incapacitation. If the phone stops moving for a pre-set interval, an audible notification is provided to the employee. Resumed motion resets the timer; continued lack of motion triggers notification to a designated recipient. Use of and settings for this functionality should be carefully considered to avoid false alarms.

  Some applications also allow tracking of the phone's position relative to pre-set expectations such as 30°, 45°, or horizontal, which may indicate a "man down." If the phone's position remains outside parameters for a designated interval, the application reminds the employee to adjust the angle. If not adjusted, an alarm is sent to a designated recipient. This application requires the phone to be carried securely upright and never laid down for any prolonged time.

  All of these smartphone applications require internet connectivity via wi-fi or cellular data service, so provider service gaps, lack of wi-fi, weak cellular signals, and even a specific device's age or functionality may affect application performance. Additionally, if the service plan doesn't include unlimited data, data charges for overages may apply. Therefore, before choosing a check-in system that relies on phone applications, consider the availability of wireless services in your area, cellular reception at locations and within buildings where employees work, and the types of phones, services, and data plans your employees have or your organization provides. Finally, consider the work employees perform – are they generally in motion, such as driving or walking, or relatively motionless for extended periods?

- *Wearable Technology* - No smartphone necessary. These devices can provide functionality such as active alerts, timed interval alerts, lack of movement alerts, and body position or impact (from a fall) alarms, and are available with or without third-party monitoring. Some wearable technology services offer communication via radio or satellite signals, which may be beneficial if a lone worker tends to work where wi-fi or cellular data are not reliable or available. Results can be highly situation-specific so it's best to perform on-site tests before purchasing.

Some wearable devices are built onto air-packs for firefighters; others are incorporated into gas monitoring devices worn or carried by workers. Several available stand-alone devices may be worn as a work ID.

Emergency Signaling, Response, and Rescue

Effective emergency response policies establish clear guidelines for situations when emergency alerts should be used. Your policies should also establish the means for emergency signaling, which may include phone call, text, radio, a check-in aid such as the phone applications or wearable technology described above, or visual signs if a supervisor or other employee happens to be on site.

If visual signs or danger code-words are used, they should be simple and unambiguous; ongoing reminder trainings and displays are recommended.

Develop and reinforce a clear understanding of response processes in different scenarios. If an employee signals distress, what steps will be taken and by whom? What factors will be considered when determining whether a supervisor should respond to the location, versus calling EMS, versus calling law enforcement? Consider the probable on-site arrival times for supervisor, EMS, or law enforcement to avoid risky delays. If your check-in service provides a third-party monitor, will the monitor or the supervisor communicate with the employee? When necessary, will the monitor or supervisor call 911?

Establish processes for missed check-ins as well. Determine whether the supervisor or third party monitor should immediately activate an emergency response or first attempt to contact or locate the employee. If the latter, how many attempts should be made and for what period of time before moving on to next steps?

All of these procedures should be clearly defined ahead of time before assigning lone work tasks to an employee.

Finally, these plans should be reviewed and critiqued after each use or emergency incident, as well as at regular intervals, to identify and address additional safety precautions needed and possible plan improvements.