

# Roofing Contractors Association of Washington

## Safety Monitor Training Plan

### Introduction

This training is to teach you to carry out the duties of a safety monitor. A fall protection safety monitor is a fall protection method and is responsible for protecting workers from falls or other hazards.

There are nine (9) basic areas we will cover today:

1. What a safety monitor does and does not do
2. When a safety monitor system is used and when it cannot be used
3. Definition of terms
4. How a safety monitor is identified on the job
5. How the workers under the control of a safety monitor are identified
6. Identifying fall hazards and how safety monitors protect workers from those hazards
7. What responsibilities and authorities a safety monitor has
8. How a safety monitor performs its activities
9. What a safety monitor needs to know about the warning line system

We will review each of these in order. At the end of each section there will be time for questions. At the end of this course, there will be a quiz to demonstrate to the Department of Labor and Industries that you understand this training. To receive your certificates you must get a score of 15 or higher.

### **1. What a Safety Monitor Does and Does Not Do**

The safety monitor system is a method of preventing workers from falling when they are working, without other types of fall protection, on a leading edge or roof perimeter, or in other instances where there is a fall hazard of more than ten (10) feet. The system involves the use of a safety monitor – a worker whose SOLE DUTY is to protect up to eight (8) other workers working in a control zone (the area, usually outside warning lines, on the leading edge or roof perimeter) and through voice commands protect them from fall hazards. This involves warning workers who are moving too close to the roof edge, but also includes warning them of areas of rot,

other roof openings, materials left on the roof, and so on. This is what you are being trained for today.

As a safety monitor, in addition to warning of hazards, you have the authority and responsibility to see that hazards are corrected as well as protected against. The protection is voice warnings – obviously, a roof edge cannot be “corrected” and that is the usual hazard. However, materials or tools left on the roof can create hazards, as can other roof openings, poor decking (including rot), and other violations such as the improper use of mechanical equipment. It is your duty as a safety monitor to stop the work, have workers return behind the warning line, except for workers directly involved in making the corrections, and have these hazards corrected before resuming work.

The state regulations require that you, as a safety monitor be a “competent person.” That has been defined to mean that you are an individual who is:

- a. Knowledgeable of the fall protection equipment and practices used in the safety monitor system
- b. Capable of identifying existing and potential fall hazards – not just protecting against a worker going over the roof edge, but recognizing rot, noticing tools or materials that could be a problem, and so forth.
- c. With the authority to act to correct or protect against the hazards
- d. Knowledgeable of the rules governing the use of the safety monitor system
- e. Knowledgeable of the general provisions of the fall protection regulations

## **2. When a safety monitor system is used and when it cannot be used**

The safety monitor system is designed to be used only in the following cases:

- a. On low pitched roofs (roofs having a slope equal to or less than 4 in 12) outside the warning lines – in the area between the warning lines and the leading edge or roof perimeter and around otherwise unprotected deck or wall openings. This is usually an area 6 to 10 feet wide. This includes hot tar applications on buildings more than 50 feet wide.

- b. In hot tar application situations, where the roof is less than 50 feet wide, the safety monitor system may be used without warning lines. On buildings more than 50 feet wide, the warning line system must be used with safety monitors for work in the control zone, outside the warning line.
- c. The safety monitor system can only be used in safe weather conditions. It CANNOT be used when there is ice, high winds, or other conditions where weather may contribute to a fall.
- d. Monitoring 8 or fewer workers at a time, provided you, as a safety monitor can observe all of the workers at the same time and each worker can hear your commands.

### **3. Definition of terms**

Definitions will be considered where necessary throughout this discussion – otherwise refer to WAC 296-155-24503 in the regulation. If something is not clear, please ask. There are a few terms that are essential to this discussion that will be gone over now.

**Competent Person:** As noted in the introduction, this is the definition of you, as a safety monitor. (1) Knowledgeable of the fall protection equipment and practices to be used; (2) capable of identifying existing and potential fall hazards; (3) capable of correcting or protecting against them, with the authority to do so; (4) knowledgeable of the rules governing the safety monitor system; and (5) knowledgeable of the fall protection regulation generally.

**Control Zone:** Any area not otherwise inside warning lines or where workers are wearing fall protection harnesses, and the unprotected sides, edges or openings in the roof.

**Fall Protection Work Plan:** A written planning document for a job site that has any fall hazard of ten (10) feet or greater. The plan describes the method or methods of fall protection to be utilized to protect employees, and includes the procedures governing the installation, use, inspection, and removal of the fall protection method or methods which are selected by the employer. The plan must also include the

method to be used for the prompt, safe removal of injured workers. The plan must be available on the job site.

If the safety monitor fall protection system will be used on the job, it requires the following:

1. Identifying the names of trained safety monitor(s) who will be at the site
2. How the safety monitors will be identified
3. How the workers under the control of a safety monitor will be identified

**Leading Edge:** The edge of a roof, deck, or similar structure. Where the roof deck is under construction, the leading edge moves as construction progresses (in contrast to the fixed edge of an existing roof, for example). All leading edges of the building must be protected from fall hazards at all times when construction is being done anywhere on that surface.

**Low-pitched Roof:** A roof having a slope equal to or less than 4 in 12.

**Mechanical Equipment:** Mechanical felt laying equipment that is used to roll out roofing felt is referred to in the regulation as mechanical equipment. A special 10-foot warning line set back from the roof edge is required in the direction of travel for mechanical felt laying equipment. NO mechanical equipment may be used or stored between a warning line and the roof's edge.

**Safety Monitor System:** A system of fall restraint is where a competent person, having no additional duties, watches and by voice instructions advises workers to keep them from falling while they are working in the control zone, including the leading edge of a low-pitched roof or walking/working surface.

**Unprotected Sides and Edges:** Any side or edge (except at entrances to points of access) of a floor, roof, ramp, or runway where there is no wall or guardrail system.

**Walking/Working Surface:** Any area whose dimensions are 45 inches or greater in all directions, through which workers pass or conduct work.

**Warning Line System:** A line suspended from stands set up around the walking or working surface that includes flags at least every 6 feet to warn employees that they are approaching an unprotected fall hazard. The line presses against them if they begin to cross it.

**Work Area:** That portion of a walking/working surface where the job duties are being performed.

#### **4. How a safety monitor is identified on the job**

You as a safety monitor must be instantly identifiable on the job – distinct from the members of the crew under your supervision and from other workers.

The means of identification will usually be through distinctive clothing that is readily noticeable and UNLIKE anything anyone else on the job site (other than another safety monitor) is wearing. For this company, safety monitors will be identified by \_\_\_\_\_ (colored vests in a different color from those workers being monitored are recommended). DO NOT wear the \_\_\_\_\_ when inside the warning lines and NOT performing the duties of a safety monitor.

The \_\_\_\_\_ must ONLY be worn while performing the duties of a safety monitor. Whenever you are relieved of the safety monitor duty, you MUST immediately remove the identifying clothing.

The \_\_\_\_\_ requirement is an essential part of the system – it is MANDATORY that the \_\_\_\_\_ be worn when you are serving as a safety monitor and not worn at other times.

In addition, your name and verification of the safety monitor training must be included in the fall protection work plan.

#### **5. How the workers under the control of a safety monitor are identified**

Workers under your control while you are a safety monitor are required to be distinguished from all other members of the crew. This is to be done by wearing a high visibility vest while they are in the control zone – and ONLY while in the control zone. Whenever a worker leaves your control as a safety monitor, the vest MUST be removed.

As with the safety monitor, the vest requirement is an essential and MANDATORY party of the safety monitor system.

## 6. Identifying fall hazards and how safety monitors protect workers from those hazards

As the safety monitor you have two basic duties: (1) identification of existing and potential fall hazards; and (2) protecting workers from those fall hazards. To perform these duties as safety monitor you need to be aware of the many types of fall hazards to be expected when working in situations where a safety monitor system may be used, and how to act to protect workers from those hazards.

- A. **Unprotected Sides and Edges:** The obvious fall hazard is the roof edge (or leading edge, depending upon the type of construction situation) – it is the hazard that will be most in mind, and the hazard most be guarded against. They are constraints, they exist, and they cannot be eliminated from the control zone. As safety monitor you must protect workers from these fall hazards through the constant observation of the workers and voice commands to the workers as they approach and/or work around the hazard.
- B. **Openings Greater Than 12” in Any Direction:** Skylights or openings for skylights; elevator shafts; and other vents, shafts or equipment openings are all typical of openings in the roof that must also be guarded against. If guardrails are not in place or the openings are not covered, as a safety monitor you may have to stop work until they are in place. If work is being done around the opening, it must be treated as an unprotected side or edge.
- C. **Poor Decking:** Loose decking or rot are examples of hazards in this category. If you are unclear as to the condition of the deck, assume it to be a fall hazard until it has been proven otherwise. In the case of poor decking, workers should not be allowed to work in the poor decking area under the safety monitor system. Poor decking must be repaired using fall arrest equipment and NOT a safety monitor system. When not possible to repair, poor decking must be treated as an opening would be – guardrails put in place if possible, the workers to be made aware of its existences, and you as a safety monitor, to observe and keep them away from the poor decking area.

- D. **Poor Housekeeping:** Tools and/or materials left in the work area; or any kind of substance spilled that may create a slick, sticky, or unsafe condition that could cause a worker to lose his footing (water, coffee, mastics, coatings) are typical of this type hazard. Poor housekeeping is to be cleaned up. Tools and materials are not to be left lying in the work area, but are to be properly stored. Any kind of spill is to be cleaned up. Precautions should be taken to avoid poor housekeeping, but when the hazard occurs, your duty as a safety monitor is to see that it is cleaned up by someone else while you can observe them if the hazard is in the control area so that the hazard is eliminated.
- E. **Worker Health/Conditions:** Sunstroke, dizziness and intoxication are all situations that can cause a fall hazard to be created. As a safety monitor, you need to observe and recognize these conditions. A worker who is having trouble balancing, has bright red face coloring, appears clumsy, etc., are indicators to look for. Worker health/conditions are protected against by removing a worker having problems from the control zone and having treatment provided by someone as required. Providing liquids can help prevent sunstroke and heat related problems.
- F. **Noise:** Loud or distracting noise can create fall hazards by interfering with communication between you and the workers, or by distracting workers and/or yourself. No radios or other noise creating devices should be near the work area. As a safety monitor, you should regularly check that you can be heard by all of the workers you are monitoring by asking each to respond occasionally to something like “can you hear me o.k.?” and each should respond. Excessive noise is dealt with by the monitor moving close enough to the workers to maintain normal voice communication despite the noise (while maintaining constant observation of all workers) or by halting work until the noise level is reduced sufficiently so that normal voice communication can be maintained. Noise distractions are dealt with either by you and all of the workers being monitored, successfully ignoring the distraction and being able to maintain a safe work area or, if the noise is such that it is distracting you OR creating a hazard for the workers that you CANNOT protect against, by halting work until the distraction is eliminated and effective fall protection is restored.

- G. **Poor Weather Conditions:** Wind, rain, snow, frost, ice and fog are all poor weather conditions that can create fall hazards. The safety monitor system is not supposed to be used in poor weather, and you need to be able to recognize those weather conditions that would require the use of a different method of fall protection. When poor weather conditions are present, you as a safety monitor must stop the use of the safety monitor system and require the use of an alternative method of all protection before work can continue.
- H. **Hot Tar Applications:** The use of hot tar creates additional fall hazards that must be guarded against. These include:
- Collision with the machinery or workers operating the machinery. In hot tar application situations there are often no warning lines separating leading edge and perimeter areas from other work areas, increasing the chance of collision.
  - Contact with the hot tar. Again, the possible lack of warning lines can increase the chance of inadvertent contact. With hot tar being in the range of 400 degrees, burns and the resulting panic can result in a fall, as can the loss of footing or other possible distractions caused by contact. Hot tar applications require an extra awareness. In the case of a building less than 50 feet wide the lack of warning lines and the special hazards of hot tar are protected against ONLY by your observations, commands and actions. The panic created by a worker being burned by hot tar, for example, may require that a worker be restrained to avoid them running off the roof edge. There is no substitute for concentrating upon the duties at hand in protecting workers before this situation occurs.
- I. **Mechanical Equipment:** No mechanical felt laying equipment may be used or stored in any control zone area. Mechanical equipment must always be inside warning lines.
- J. **Other Hazards:** Collisions, distractions and other situations that can cause loss of concentration or footing are potential hazards and must be guarded against. The danger is not created just by places where a worker may fall, but also by situations which may cause a worker to fall. As a safety monitor, you are responsible for identifying these and doing what is needed to stop them from



creating a fall hazard for the workers you are monitoring. These other hazards are protected against by your observations and commands. Avoiding collisions by having verbally warned against them and protecting against the consequences of a worker having been distracted, by not also being distracted, are part of your job. Acting or commanding action if a worker trips or stumbles or otherwise endangers him or herself or another worker is the basic protection workers have against the situations that may cause a worker to fall.

## **7. What responsibilities and authorities a safety monitor has**

As a safety monitor, you are responsible for the implementation and operation of the safety monitor system. You also have the authority necessary to carry out the responsibilities. That means on the job site, as a safety monitor, you are THE SINGLE AUTHORITY over the safety of the workers you are monitoring.

As a safety monitor, you are responsible for the work area outside the warning lines - out to the roof edge/leading edge and any other fall hazard (i.e., an opening or poor decking). No worker is to be in the control zone except under your authority. You are responsible for ensuring that each worker in the control zone is wearing the high visibility vest required by the state regulations, and that the vest is removed when the worker leaves the control zone. You have the responsibility to control workers' movements so as to deter them from fall hazards, and to ensure that action is taken should a fall be eminent or actually occur. In order to meet these responsibilities, you are given the authority over all those in the control zone under your direction and control.

In addition to personnel, as a safety monitor, you are responsible for the physical area of the control zone. You must act to eliminate fall hazards when possible including having poor decking repaired, poor housekeeping cleaned up, and distractions removed. If poor weather conditions exist, you are responsible for stopping the use of the safety monitor system and requiring the use of an alternative method of fall protection. As a safety monitor you have the authority to stop work until fall hazards are eliminated or protected against in the best possible manner.

When acting as a safety monitor, that is your ONLY task and responsibility. Your authority as the safety monitor must be made clear to all parties. You must know

how and to whom to report violations or problems if workers fail to follow your directions.

## **8. How a safety monitor performs its activities**

The safety monitor function is performed in two ways. First, through awareness of the physical work area by identifying and, whenever possible, correcting any fall hazards; and second, through supervision of the workers in the control zone. You DO NOT perform any other function or duty when serving as a safety monitor.

As a safety monitor, you do not allow work to begin until the work area has been inspected for fall hazards, and you stop work as necessary when an additional fall hazard is identified and do not allow work to resume until the hazard has been eliminated or protected against.

As a safety monitor, you must be wearing identifying clothing to identify himself or herself and ensure that workers in the control zone are wearing their high visibility vests.

As a safety monitor, you may supervise up to eight (8) workers at a time as long you can see all of the workers at the same time, all of the workers can hear your commands, and the workers are only exposed on one edge at a time. You must be positioned so that you can see all of the workers at the same time – it is NOT allowable to have one or more workers to be monitored in back of you or to your side where you cannot see them well. Generally people have a field of view of about 90 degrees – any worker farther too either side than 45 degrees off center may be in your peripheral view and NOT be safe. Nor is it allowed to have any obstruction in the way of your view of a worker. ALL workers MUST BE IN VIEW AT THE SAME TIME at ALL times.

The workers must ALWAYS be in range of normal voice communication with you. Normal voice communication is not easy to define, but it is NOT having to shout to be heard. It is being able to be HEARD and UNDERSTOOD by the worker when speaking in a normal tone of voice. There is no rule of thumb, but workers more than 8 feet away may have trouble hearing you. As noted previously, noise on the job site is a hazard to the extent it interferes with communication between you and the

workers you are monitoring. You MUST ensure that you can be heard and understood by the workers. This is best done by the safety monitor asking the workers he or she is observing to respond to a question every 5 to 10 minutes, like “can you hear me o.k.?” with each worker then responding by saying their name and giving their answer. If there is a problem in maintaining normal voice communication, you MUST correct it, either by closer proximity to the workers (while maintaining all in view) or by eliminating the noise.

As a safety monitor, you must AT ALL TIMES observe the movements of the workers in control zone and through voice communication warn them away from the fall hazards in the work area. You must also take any other action necessary to protect workers you are monitoring.

As a safety monitor, you MUST also observe for new fall hazards – worker’s condition (dizziness, sunstroke), changing weather conditions, the physical condition of the work area (tools, materials, other items), and external distractions (noise, visual distractions) and take appropriate action.

If your view of a worker is obstructed, the worker must be told to stop work/stop moving and you are to either direct someone to remove the obstruction or you must reposition yourself to have a clear view of ALL the workers. Work must be stopped until a clear unobstructed view of all workers in the control zone is obtained.

If voice communication is not being maintained and followed – if a worker is not listening, not hearing, not understanding commands, or if the worker is not obeying commands – you must stop work and find out why. Work cannot resume until voice communication with all workers in the control zone is effective. If a particular worker is having trouble and the problem cannot be resolved, the worker must be removed from the control zone. This is true whether the worker has become ill, cannot hear or understand the voice commands, or will not obey you. Until the problem is corrector or removed, work SHALL NOT resume.

Should any problem develop beyond your ability or authority to solve, work SHALL be stopped until the problem is resolved. This includes ANY challenge to your authority regarding fall protection in the control zone.

As a final note regarding your performing the duties as a safety monitor, NOBODY is watching YOU! It is safest for you to be inside the warning lines or at least 6 feet from any leading edge whenever possible so that you are not exposed to a fall hazard. If you are not protected by a warning line, take precautions. Remember, no one is watching YOU!

#### **9. What a safety monitor needs to know about the warning line system**

With the exception of hot tar application situations, where the roof is less than 50 feet wide, the safety monitor system is used in conjunction with the warning line system. The warning line system is NOT your responsibility as the safety monitor. HOWEVER, as the safety monitor, you need to know the basic requirements of the warning line system so that you will recognize problems or errors that need to be corrected and recognize when a change in warning line system are needed.

When used, warning lines must be at least 6 feet from the roof edge or leading edge. Where mechanical equipment is being used, warning lines must be at least 10 feet from the edge in front and behind the direction of travel of the mechanical equipment operation and at least 6 feet from the edge to the sides of the mechanical operation.

The warning line consists of a rope, wire, or chain that is hung from stands. The rope, wire, or chain is to be flagged with high visibility material at least every 6 feet. It is to be rigged and supported so that its lowest point (including sags) is no lower than 36 inches above the roof surface and its highest point is no more than 42 inches above the roof surface.

Certain areas are required to be INSIDE the warning lines – this includes mechanical equipment usage and storage areas, roof edge materials handling areas and material storage areas, and access paths. The safety monitor system is NOT used to provide fall protection for these areas.

If you notice an error in the establishment for use of the warning line system, you must bring it to the attention of the proper persons. In addition, you should recommend a change in the warning line system to protect against new fall hazards if that would be the best method of protection against the new hazard.

**Conclusion:** That is the end of this safety monitor training program. Now, before we give you a quiz to demonstrate that you understand this training, we will take questions.