



# Safety Training Program

## Water-Fed Pole Safety



Through the OSHA and IWCA Alliance, IWCA developed this presentation for informational purposes only. It does not necessarily reflect the official views of OSHA or the U.S. Dept. of Labor. August 2011

# Introduction

This Water-Fed Pole Safety Module sets out practical precautions and instruction to help window cleaners reduce risks on job sites, taking into account the needs of the job.





The OSHA-IWCA alliance, signed on June 10<sup>th</sup>, 2010, will concentrate on educating IWCA members by providing them with information and guidance to help them protect their employees. It is IWCA's intention to focus on:

- 1- Improving fall protection education
- 2- Reducing other job site hazards
- 3- Addressing the challenges of small business owners and low literacy and limited English employees in the window cleaning industry.

“We pursued the Alliance with OSHA to promote the importance of on-going safety education in our industry. With representatives of both organizations working together, we should be able to achieve our goal of increasing safe and healthful working conditions.”

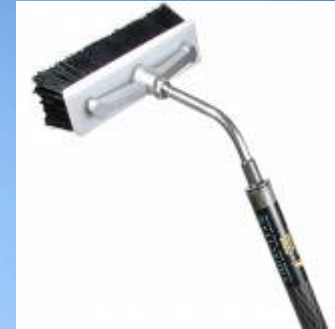
Vic Munson- 2010 IWCA President







# Definitions



**Water-Fed Pole (WFP)** is defined as:

Telescopic pole fitted with a brush and a means of delivering purified water for window cleaning. The use of purified water is an integral part of the cleaning process.

**Load** is defined as:

The water treatment system/water delivery taken, water-fed poles and other ancillary accessories such as hose reels and warning signs.



# Choosing Your Equipment



# Consider the Weight of the Pole

For many buildings, water-fed poles may be used for the entire cleaning. Due to the physical rigor or prolonged use, consider using the lightest pole that adequately reaches the top of the window but does not over reach, i.e., do not use a 45ft pole to clean a window that is 20ft high.





# Your choice of Tank System and Waterfed Pole Equipment will be determined by the following:

- The duration and extent of work.
- The height of windows to be cleaned.
- The condition of the site.
- The means of purified water delivery required.



Purified water may be delivered to the waterfed pole by flexible hose from a variety of sources, such as...



De-ionizing Cylinders, Columns,  
or Cartridges



Vehicle or Trailer Mounted  
Systems



# Training and Competence

All water-fed pole operators should be suitably trained and competent. A competent person may be defined as a designated person suitably trained or qualified by knowledge and practical experience to enable them to:

- Carry out their required duties at their level of responsibilities
- Fully understand any potential hazards related to their work.
- Detect any defects or omissions in that work.
- Recognize any implications for health and safety and be able to specify appropriate remedial action needed including refusal to perform the work in the risk is too great.
- Know their limitations and not be frightened to ask for help.
- Identify broken or potential problems with the equipment prior to using.



# Risk: Assessment & Avoidance



# Risk Assessment

The purpose of risk assessment is simply to identify particular risks on any job in order to take precautions to minimize them. Risk assessment conducted by your employer should occur before arriving on the job. This is needed to identify any hazards or risks and steps to eliminate or minimize them. Typically these may include but are not limited to:

- Instruction for the operator to be vigilant with regard to the work area surroundings.
- Providing adequate personal protective equipment and/or roof edge protection or other systems.
- Giving consideration to the day and time of cleaning for worker safety, vehicular traffic, pedestrian traffic, etc.
- Provision of high visibility clothing.
- Barricading off work areas to prevent public access.
- Adverse weather conditions.





# Avoiding Risk

The use of water-fed poles removes the need to work at height for windows that can be viewed from the ground without obstruction. Although adopting water-fed pole systems for window cleaning may remove the risks involved when working at height, consideration must be given to both operational risks and other risks that apply to water-fed pole use.



# Waterfed Pole Hazards (WFP)

What is the hazard in this photo?

How can this Hazard be Avoided?



(Continued)

### Operator Hazards

- Adverse Weather- Wind contributing to falling poles
- Electrocution from pole coming to close or into contact with overhead power source
- Slip hazard present from wet pathways
- Slip and/or trip hazards for operator while concentrating on work
- Hazards from carrying tanks, systems and equipment that is overloaded, unstable, unsecured, or incorrectly installed within a vehicle
- Falls from height when working from flat roofs
- Injury through incorrect manual handling of poles and other equipment
- Falling WFP brushes and accessories

### General Public Hazards

- Injury to others from falling poles or fabric of the building that may be dislodged
- Trip hazards to general public presented by trailing hoses
- Injury to others from falling poles caused by incorrect handling or failure of pole





# Steps to Reduce Fatigue

- Operate poles with greater use of the legs, by stepping a single stride forward and back. This technique significantly reduces the use of the arms
- Sharing the work with other members of the team and switch off handling the pole as needed to reduce fatigue
- Switching from left hand side of the body to the right hand side of the body
- Taking regular breaks to undertake other tasks
- Taking periodic breaks free from activity
- Do not scrub or rinse sideways with any pole above 10 feet. This puts dangerous pressure on your spine/back area
- Rotate the pole to one side or the other to “hop” over window frame / mullion to reduce fatigue. This allows the brush weight to remain on the glass
- Poles over 30 feet must be lowered prior to moving around a building corner. It is easy to loose control of the pole
- All motions should be confined to the waist and shoulder region. Avoid extending the arms above the shoulder height



# Lone Working

Any employee that works by themselves without close contact with co-workers or direct supervision is considered a “lone worker\*.”

- Do not work alone in any area or location that would involve increased risk to safety (e.g. on a busy street or near high voltage electricity)
- Regular checks should be made on any lone worker
- Establish a contact system



*\* This section does not apply to self employed window cleaners.*



# Working in Exposed Positions

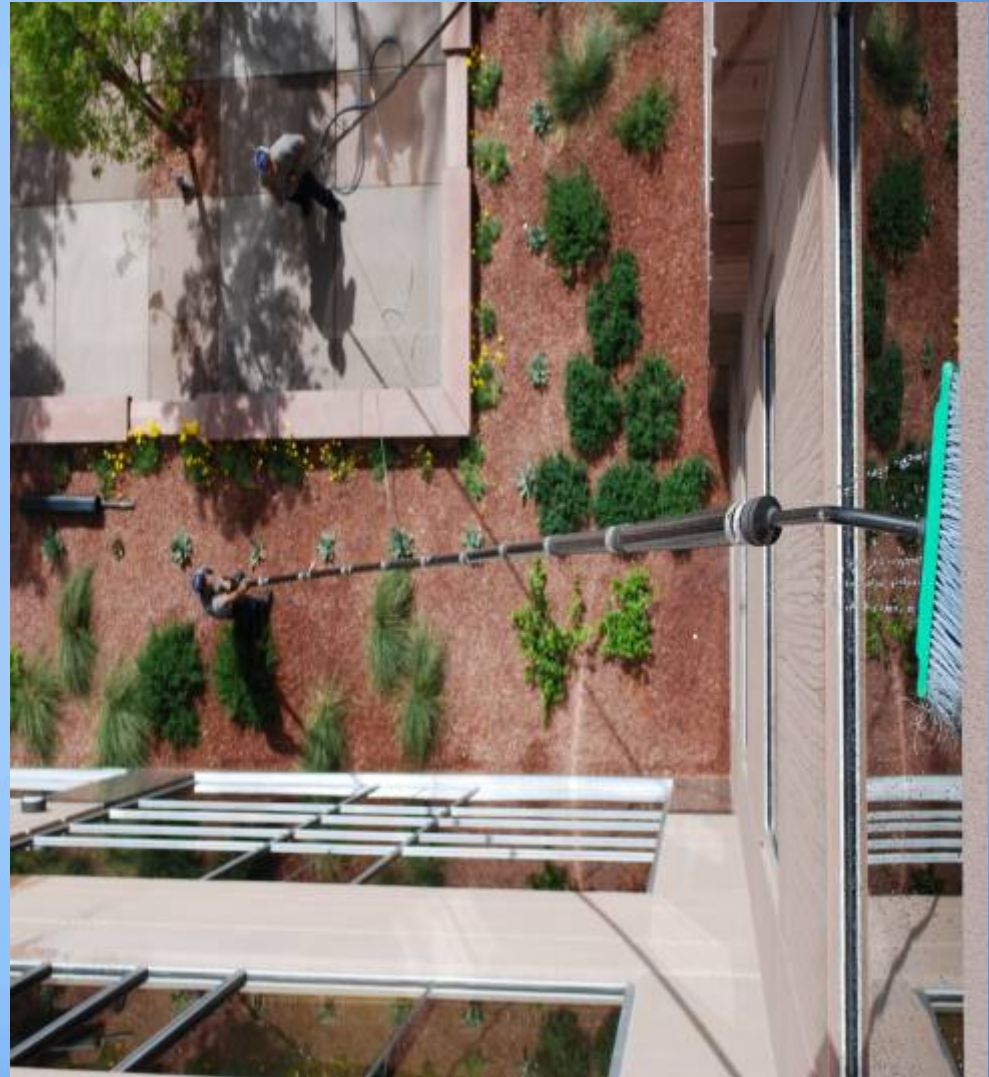
Exposed Position is defined as working in the same position for an extended period of time





Mitigate the possibilities of accidents from working in exposed positions, by working with a partner. This person will assist with the following:

- Identifying risky work surfaces
- Assist with managing hose and equipment to reduce the risk of trips and falls
- Direct pedestrian and/or traffic away from your work area



Reduce the opportunity for accidents while working in exposed positions by:

- Taking regular breaks
- Tidying up work areas
- Assessing your work area to identify potential hazards



**If you are working alone and are working in exposed positions, it is important to stop working and notify a supervisor.**





# Adverse Weather



Take special care when working with your WFP in adverse weather conditions, such as:

- High winds
- Rain
- Lightning storms
- Below freezing temperatures

The time to stop working in adverse weather conditions is when YOU feel it is unsafe to work. This could mean 5 mph or 15 mph, depending on your level of comfort and/or experience.





# Electrical Hazards

Purified water is a poor conductor of electricity; however, one should exercise great caution when working near electrical sources. If the water source for your Water-Fed Pole system is pump driven and requires electricity to operate, it is important that the electrical connections and electrical source remains dry at all times. This includes the following considerations:

- Keep the extension cord for the pump away from pooling and spouting water
- Ensure the pump electrical system is GFCI protected. Test this device before each use to ensure it is functioning properly
- Keep the extension cord and power supply away from pedestrian traffic. Barricade your work area to ensure that pedestrians are directed away from your work area



# Slip and Fall



Any surface that becomes slippery when wet must be identified with appropriate signage to direct pedestrians and workers away from your work area

During winter time, it is important to avoid water pooling, which could become a great slip hazard if freezing occurs

Reject water of your system should be properly disposed into a proper area. This water can become a slip and fall hazard if not properly managed. Direct this water into landscaping or proper drainage systems



# Road Safety

Journeys to and from the workplace are subject to documented risk assessment. To assess road safety risks, consideration should be given to:

- The design of water treatment/delivery tanks.
- The manufacture of the water treatment/delivery tanks.
- The installation/anchorage of water treatment/delivery tanks.
- The payload capacity of the vehicle and the potential of overloading.
- The security of waterfed poles, hose reels, and ancillaries, etc.
- Driving conditions and braking distances.
- Ensure DI tanks and RO carts are properly secured down to the trailer or truck bed.



Design and manufacture of the tank systems and equipment should comply with federal and state standards.



# Maintaining Your Pole

- Operators should visually inspect their WFP before each use
- Management should conduct regular documented inspections that take in account the degree of use and type of pole
- Any defects found should be repaired according to the manufacturer's instructions or should be replaced if necessary
- Inspect all of the electrical parts before each use to ensure the GFCI is tested and operating properly and the insulation of the extension cord and electrical system has not been damaged and is in good condition
- Waterfed poles in a poor state of repair will require more physical effort to operate



# Handling Your Water-fed Pole

## Initial Pole Extension

- Horizontal Extension- Raising the pole from the ground to an upward position requires two people. This is done by one person footing the base of the pole, while the other walks the pole to a vertical position.
- Vertical Extension- The most desirable method to raise the WFP is by extending it vertically. This is done by raising the pole carefully upwards against the building.



(Continued)

### Manual Handling

- Operating with only your arms- This method can be used more easily with poles that are shorter than approximately 30 feet. This is because shorter poles weigh less than taller poles and put less stress on the body
- Leg/full body movement- Using your legs and body to maneuver poles that are over 30 feet is recommended. Rocking the pole in an upward and downward fashion by utilizing your body allows the weight of the pole to be distributed more evenly.

### Ergonomics

- WFP positioning ratios- It is important that the weight of the pole is displaced onto the building façade and less on the operator of the pole. The recommended ratio is 1:3, since it is important that not too much pressure is applied to the building causing strain to the body and not achieving optimal cleaning results.





# Dos and Don'ts

- Do identify defects and hazards that may compromise safety
- Do carry out pre-use checks of equipment
- Do tag and take out of service equipment that is defective and/or damaged
- Do cordon off and/or display suitable warning signs when working in public areas
- Don't use a defective water-fed pole
- Don't use a water-fed pole in high winds or adverse weather conditions
- Don't use a water-fed pole near overhead power lines
- Don't use a water-fed pole system if the GFCI is not working properly
- Don't use an extension cord that is damaged or severed





# DO

Cordon or barricade your work area so pedestrians stay clear of you  
Cover up extension cords and cordon off your area of work







# DON'T

Leave excess hose and equipment laying around your work area.





# QUESTIONS?

