

Fifteen-Year-Old Worker Falls from Roof of Building in Washington State

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SUMMARY

On August 17, 1998, a 15-year-old window washer's helper (the victim) died after falling 40 ft. from the roof of a medical office building. The helper was stationed on the roof to move a window washing carriage and assist the window washer, who worked from a boatswain's chair as he cleaned the windows of the 4-story building. On the afternoon of the incident, the window washer seated himself in the boatswains' chair and positioned himself over the edge of the roof's parapet. He then "bounced" in the boatswain's chair to make sure it was set to go. Because the carriage was not tied down and did not have counterweights attached, the carriage was pulled over the rooftop's parapet. Both workers had their fall arrest harnesses secured to the carriage. The window washer fell straight down while the helper was pulled from the roof by the carriage and struck the ground head-first. The local emergency medical unit was summoned immediately. The window washer's helper died from his injuries at the scene and the window washer suffered multiple severe injuries.

To prevent similar occurrences, the Washington Fatality Assessment and Control Evaluation (FACE) Investigative team concluded that window washers should follow these recommendations:

- **Anyone working on, or from a roof with a fall exposure should be tied off with a safety line. The safety line should be attached to a specifically engineered independent anchorage point.**
- **The window washer's "portable support device" (carriage) should be set up with appropriate counterweights and tie-backs. The tie-backs need to be attached to approved, specifically engineered anchorage points.**
- **All persons who work at heights, should be trained, educated, and knowledgeable in all aspects of the safe use of their tools and equipment and be made aware of all the hazards related to their job.**
- **Work safety and fall protection plans should be developed and implemented at all work sites.**
- **Employers need to effectively supervise and coach employees who have little or no experience in performing high-risk jobs, such as working at heights in the window washing industry.**
- **Employers should have a clear understanding of and abide by child labor laws that prohibit persons less than 18 years old from working in occupations that are declared to be hazardous.**
- **Building owners and contractors should conduct pre-job inspections to review job requirements and safe work plans.**
- **Safer methods to conduct high-risk jobs should be sought.**

INTRODUCTION

On August 18th, 1998, the Washington FACE Program was notified by WISHA* (Washington Industrial Safety and Health Administration) of the death of a 15-year-old window washer's helper on the previous day.

The Washington FACE personnel met with the regional WISHA representative who was investigating the case. After reviewing the case with WISHA, the WA FACE team, along with an investigator from the NIOSH FACE Program, traveled with the WISHA representative to the incident site. The WISHA representative helped locate the incident site and gave an overview of the incident.

An exterior building maintenance/window cleaning company had a contract with the management of a mall and medical office building to clean the windows of the mall's entry way and skylights and the windows of the nearby 4-story medical office building. The mall's entrances had been cleaned a number of times in the past, but the office building only once, two years prior.

The employer had approximately 18 employees working on various projects throughout the region and in an office. Four of the employees were minors (less than 18 years old). At the beginning of each job, the company owner would designate which employees would work on the project, though there was some ad-hoc reassignment done by site supervisors and the office manager. Work consisted of jobs such as painting, caulking, pressure washing, and window cleaning. Work was done both at and above ground level.

The owner of the company bought the high-rise window cleaning company, including the carriage used in this incident, from a friend in 1993. The previous owner of the company gave him minimal training on using the equipment. For approximately 3 years he worked alone. The window washer of the medical office building was the company's first employee that worked from the boatswain's chair. The chair had been used before by the company's owner. Other employees had experience in a boatswain's chair from working for other companies. The owner trained the window washer on his initial job and then a supervisor continued with his training after that.

At the time of the incident, the company had two crews of two people cleaning windows at a mall and a medical office building located in the mall's parking lot. At the medical office building, the location of the incident, the crew consisted of a window washer's helper and a window washer. The helper's job was to assist the window washer in the set up of the roof-top equipment and with the window washing tools and supplies. The window washer's job was to sit in the boatswain's chair that was attached to a mobile roof top carriage and clean each vertical section of windows of the 4-story building.

The supervisor of the employees had worked for the company for a week prior to the incident and had been a self-employed window cleaner for a year before his current employment. His

previous employment included work as a chimney sweep. He had experience using "controlled descent" equipment (a boatswain's chair with descending/ascending mechanism). During his first week of employment, he had started to develop a safety plan for the company. Because he was assigned other responsibilities, he was not on site at all times to provide continuous supervision.

The window washer who was working on the office building was employed by the company for about 2½ months prior to the incident and had spent approximately 200 hours in a boatswain's chair caulking the exterior of another building. He had set up the carriage only once before and had received no formal training, only on-the-job training. The victim (the window washer's helper) had worked for the company for 1½ weeks, was 15-years-old and did not have a work permit and had no parent authorization. He had never set up the window washing carriage. None of the crew members at the mall/medical office building had received formal safety or job hazard training.

There appeared to be poor communication and understanding by most employees about restrictions related to minors on the work sites. A week before the incident, on August 7th, the office manager learned about the requirement to have an employer work permit for minors and to also have signed parent/school authorization forms for each minor. An application for the employer permit was sent that day and the actual permit received by the employer on the 12th (5 days prior to the incident).

The permit listed the job tasks that were allowed for minors, which were: "SWEEPING, CLEAN UP, MANUAL PAINTING (ROLLER & BRUSH) WINDOW CLEANING**MINORS MUST BE 16 YRS OLD TO WORK ABOVE GROUND LEVEL (10FT MAX)". A discussion was held prior to the incident between the company owner, the supervisor, and the office manager, about whether to restrict minors from doing roof-based work. It was unclear whether a decision was made regarding restricting the activities of the minors, but if a decision was made, it wasn't passed down to the field operations.

INVESTIGATION

On August 17th, 1998, a Monday morning, two crews of two workers went to work cleaning windows at a mall and nearby medical office building ([Figure 1](#)). One crew was to clean the skylights of the large mall and the other, the 4-story medical office building's windows. Work started between 9 and 10:30 a.m. The crew working on the mall building in the morning consisted of an experienced window washer and a helper who was 15 years old. The crew working on the medical office building also consisted of a more experienced window washer and a second 15 year-old helper.

The crew on the mall building was cleaning windows from ground level and roof-top skylights from roof level. The crew on the medical office building was using a boatswain's chair suspended by a roof top wheeled carriage ([Figure 2](#)). Two hundred and fifty pounds was normally used as counterweight for the carriage. The horizontal beam for tying in the boatswain's chair was between 12 and 14 ft. in length.

The boatswain's chair was attached to the front end of the horizontal beam with a rope. This rope had an ascending/descending mechanism that allowed the window cleaner to move the chair up and down the length of the rope. The window cleaner used a fall protection harness and lanyard that was anchored to the carriage. All employees familiar with the operation said that the carriage was the only safe anchorage point on the roof.

The window washer's helper worked from the roof, positioning the carriage to allow the window washer to clean the three levels of 72, 1 ft. by 4 ft windows without getting down from the chair. The window washer would whistle to his helper when he required repositioning. The helper would then push and/or pull the carriage to the next set of windows. The helper also wore a fall protection harness anchored to the carriage.

The morning of the incident, a supervisor visited the site to check on the job. He reviewed the job's progress, the set up, and took photos of the job. While on the site, he instructed the window washer on window cleaning techniques and how to navigate ledges. He also instructed the initial helper on how to be a second pair of eyes, making sure the weights were on the roof, making sure the carriage's bolts were tight, and that everything was secure. He left after one or two hours on site.

The initial crew finished cleaning the windows on the west side of the medical office building when the helper said that he wanted to switch jobs with the other minor who was working at the mall. He had become tired of assisting the window washer in the boatswain's chair. At about 12:30 p.m., they removed the weights from the carriage and rolled it to the east side of the building and proceeded to roll the carriage's weights to the new site ([Figure 3](#)). For an unknown reason, they stopped rolling the weights and went to the mall to switch crew members. They found the crew and switched personnel, making it back to the roof of the medical office building with the new helper (the victim) at approximately 1:20 p.m.

When the window washer and his helper (the victim) got back on the roof, they put on their fall protection/fall arrest gear and anchored themselves to the carriage. The window washer then positioned himself in the boatswain's chair over the side of the parapet. To test the set-up, the window washer bounced in the chair. Because the carriage did not have counterbalance weights attached and was not anchored to an appropriate anchorage point, his bouncing action caused the carriage to be pulled up to the top of the 30-inch parapet. For a short time, one of the carriage's wheels caught on the edge, but was then pulled completely over the edge of the building ([Figure 4](#)).

Because both workers were tied to the carriage, they were pulled to the ground as the carriage fell. The window washer sitting in the boatswain's chair fell straight down and suffered multiple severe injuries. The window washer's helper working on the roof, was pulled over the parapet by the carriage to which his fall protection system was anchored and landed on his head on the asphalt parking lot. He died instantly.

Staff from the medical office building were first on the scene and called the local emergency medical unit. The area was cordoned off and the injured worker taken to a local trauma unit.

CAUSE OF DEATH

The medical examiner listed the cause of death as extensive basal skull fracture and cerebral lacerations due to, or as a consequence of, blunt force injury to the head.

RECOMMENDATIONS/DISCUSSION

Recommendation #1: Anyone working on, or from a roof with a fall exposure should be tied off with a safety line. The safety line should be attached to a specifically engineered independent anchorage point.

Discussion: The FACE investigation showed that both the window washer and the 15-year-old window washer's helper (the victim) were not properly protected from a fall while they were working on and from the roof of a four-story office building.

An ironic element of this incident is that the window washer and his helper were both wearing body harnesses with lanyards attached to an "anchorage" point. The window washer's lanyard was attached to a lifeline, but the lifeline in turn was attached to the carriage that was being used on the roof of the building. Likewise, the window washer's helper also had his lanyard directly attached to the carriage.

The two window washing employees were using the roof-top portable carriage as their fall protection anchorage. In this incident, the roof-top portable carriage failed due to not being properly set up and secured. The weight of the window washer pulled the carriage off of the roof.

One of the first items that need to be addressed when working at heights, such as in the high-rise window cleaning industry, is personal safety. In this type of work the use of fall prevention, fall protection, and personal fall arrest systems are essential.

The window washer should have had in place a complete fall arrest system consisting of a full body harness, a lanyard connected to the back of the harness, and a lifeline attached to the lanyard on one end and to a specifically approved and engineered anchorage point, on the other end. The window washer in this incident had his lifeline connected directly to the unsecured mobile carriage.

Even if the carriage had been properly anchored, it would not have been an acceptable anchorage point. The anchorage point should be for the exclusive use of the fall protection/fall arrest lifeline and should be separate from the chair support system, which was the window washer's carriage. Separate anchorage is required because if the chair and/or support system failed, as it did in this incident, the primary safety device, the fall arrest system would prevent the worker from striking the ground. It is also recommended to use shock-absorbing lanyards to help decelerate a fall and reduce the shock load that is transferred to the body during a fall.

The window washer's helper should also have been attached to a separate fall prevention system as he was working from the roof. He was wearing a harness but had his lanyard connected directly to the window washer's carriage.

Recommendation #2: The window washer's "portable support device" (carriage), should be set up with appropriate counterweights and tie-backs. The tie-backs need to be attached to approved, specifically engineered anchorage points.

Discussion: The window washer's "portable support device" also known as the carriage, failed and took the life of one worker (the 15-year-old victim) and seriously injured another.

The FACE investigation review of this incident revealed that the carriage was not properly counterweighted and was not tied into an independent anchor point. Shortly after the incident occurred, during WISHA's investigation, the counterweights were found on the roof at what appeared to be the previous set-up location where the window washer's carriage had been. There was no evidence that tie-backs had been used to secure the carriage in either location.

A window washer's carriage is a piece of mobile equipment that can be set up on the roof of a building that has not been designed with structural devices to assist in external building maintenance, such as window washing. The window washer's carriage is a metal frame with a beam that supports a boatswain's chair for the window washer to be lowered down the side of a building. Most are designed with wheels for improved mobility, like the one used in this incident.

There are several basic principles that window washers should follow when working with boatswain's chairs that use window washer carriages.

First, the carriage must be tied back to an approved anchorage point. The anchorage point should be used exclusively for the carriage. The anchorage point needs to be different from the fall-protection anchorage point for the purpose of safety redundancy. Second, the carriage needs to be counterweighted in order to properly support the window washer, the boatswain's chair, and assorted equipment while the window washer is working on the building. Counterweight must be properly calculated using a formula that incorporates a minimum safety factor of four (see [Figure 5](#)). The counterweights also help with the physical stability of the window washer's carriage, so that it doesn't overturn.

The window washer's carriage should not be moved or relocated while the window washer is still seated in the boatswain's chair. The window washer needs to be physically out of the chair in a safe location prior to re-positioning the carriage.

Recommendation #3: All persons who work at heights should be trained, educated, and knowledgeable in all aspects of the safe use of their tools and equipment and be made aware of all the hazards related to their job.

Discussion: The training and education of all workers who work at heights is a very important element in injury prevention. In order to safely and effectively do their jobs, workers need a clear understanding of how their work activities interrelate with tools and equipment that they use. Their decision-making process must allow them to properly, consistently, and safely set up and use equipment and be able to use this knowledge for a variety of window washing needs.

The investigation of this fatality showed that the employees involved in the incident had little to no training in the elements of the job that was required of them. It was determined that neither worker had general or job-specific training. The window washer had only a limited knowledge of window washing using a boatswain's chair and this was the 15-year-old victim's first experience working on a roof as a window washer's helper.

The qualifications of workers assigned to perform specific job tasks need to be identified and understood prior-to beginning the work. An employer should know the skill levels, knowledge, and abilities of his or her employees, especially if they are asked to perform "high risk" jobs, such as window washing.

Job skills training and education that encompasses good health and safety practices should be at the core of any businesses' operating plan. Proper job training has been recognized as one of the fundamental elements in the reduction of injury incidents in the workplace.

Recommendation #4: Work safety and fall protection plans should be developed and implemented at all work sites.

Discussion: A site specific work safety plan should be developed and used for each window washing job. The safety plan should also include a fall protection plan. A work safety plan essentially outlines the tasks that need to be done, the equipment that needs to be in place, and how the tasks and equipment are to be performed and utilized safely.

The plan should specify procedures and actions that consider not only the protection of the workforce but also the safety of the general public that might be affected by the work activities.

The employer should have two safety work plans; one that is general and outlines the overall work or job requirements dealing with work at remote locations and a site-specific work safety plan dealing with safety and health guidelines for that specific work site. Both plans should outline very specific fall protection procedures.

Essential elements of the site-specific work safety plan should include items such as:

- Overall scope of the job and specific tasks that will be required to complete the job,

- Who will perform the job,
- How the job will be performed,
- Materials and equipment needed for the job and how the equipment is to be utilized and setup,
- Specific safety equipment that is required,
- Specific hazards of the job that have been identified and how they will be addressed,
- Medical and emergency procedures, and
- How the safety of the general public will be ensured in relation to the job activities.

Recommendation #5: Employers need to effectively supervise and coach employees who have little or no experience in performing high-risk jobs, such as working at heights in the window washing industry.

Discussion: An important element in work skills development is to have on-the-job, hands on supervision and coaching for individuals who have little or no experience in the job or task that they are asked to perform. This is in essence an extension of their job training and education that takes place at the work site.

In this incident the supervisor at the mall/medical office building work site did spend some time on the roof with the crew that was washing the office building's windows. But in the afternoon, when they changed window washer helpers, the supervisor was not on site.

If, as in this incident, a worker is required to set up and use a number of systems for the safe conduct of the operation, oversight of some kind should be required. This is especially important for activities with severe outcomes if an error occurs, such as the moving and set up of the roof-top carriage.

The degree of supervision and coaching required is dependent on the risk and severity of injury associated with the job, the worker's skill level, his or her competency to safely conduct the job, and their attitude towards safety.

The supervisor should be well trained in the safe conduct of the job and be able to identify and correct hazardous situations as they occur. Because the window washer had set up the carriage only once before, he had little knowledge of what looked right or wrong on the carriage. An experienced supervisor probably may have glanced at the carriage, recognized the hazard, and corrected the situation instantly.

The supervisor essentially has the oversight responsibility to get specific jobs done in an efficient, cost effective, and safe manner. The supervisor needs to be cognizant of where his time and energy must be applied in relationship to those factors. When a crew with limited or no experience has been assigned to a job with a possible high risk of injury, such as working off the roof of a building, more attention by the supervisor needs to be applied to that job and crew until they have demonstrated that they can perform that job with less supervision.

Recommendation #6: Employers should have a clear understanding of and abide by child labor laws that prohibit persons less than 18 years old from working in occupations that are declared to be hazardous.

Discussion: The Fair Labor Standards Act (FLSA), also known as the Wage-Hour Law, includes child labor provisions that prohibit employment of youths in jobs and under conditions detrimental to their health or well being. The Washington State Department of Labor and Industries enforces these regulations in Washington State and also has additional rules regulating youth employment.

Child labor laws have been developed generally because people under the age of 18 are typically not as physically and mentally developed and most lack the experience and judgment necessary to protect their own safety and health. The laws also cover youth who work while they are attending school during the school year. The child labor laws can be broken down into 2 main types of restrictions: the hours of work (i.e. how many hours per day or week and how early or late) and hazardous conditions.

Because this incident did not occur during the school year and the hours restrictions were not violated, this was not an issue in this incident.

Two of the applicable hazard restrictions for children under the age of 16 in Washington State are:

- No window washing can be performed above ground or floor level, and
- Personal protective equipment cannot be required for the job.

These restrictions may differ from state-to-state.

Young workers should not be placed in hazardous situations because they may not be able to make proper judgements regarding actions and risk, they may fear retaliation if they decline to do a hazardous task, they may not have the physical strength to do the job or their "physical strength exceeds their mental strengths", and they may not feel that they have the authority to intervene in a hazardous operation in which they are involved.

The victim in this incident weighed approximately 170 pounds and was an athlete. He was probably physically capable of helping the window washer move the carriage's counterweights, but due to lack of experience, not understanding the consequences of not using the counterweights, or a host of other factors related to his youth, he lost his life after a week and a half of work. People in his situation (youths) or similar (workers with inadequate training) should not be placed in jobs with high risk that require appropriate decisions and judgements. This will only result in more injuries and deaths.

Recommendation #7: Building owners and contractors should conduct pre-job inspections to review job requirements and safe work plans.

Discussion: The responsibility for a safe workplace should be a partnership between the building owner and the contractor who performs the job.

Prior to work commencing on any window cleaning job, the building owner (or their representative) and/or the person responsible for building maintenance should meet with the window washing contractor/supervisor and conduct a pre-job inspection of the work site.

The pre-job inspection is an opportunity for the window cleaning contractor to review their work safety plan with the building owner/manager, to outline what equipment is to be used, how the job is to be done safely, and any worker restrictions that may apply.

On a window washing job, the task of ensuring a safe work environment should be shared by the building owner and the employer. When a building owner develops a contract for maintenance work to be done on their building, they should ensure to the best of their ability, that proper safety precautions are taken by their contractor. This may entail written criteria or walk-through site visits for the building owner and contractor to discuss potential hazards and methods the contractor will use to deal with the hazards. This principle also can be applied to numerous other owner/contractor situations.

Recommendation #8: Safer methods to conduct high-risk jobs should be sought.

Discussion: A solution that may have removed some of the fall exposure hazards, would have been to use a mobile aerial lift device from the parking lot to raise the worker to the windows needing cleaning.

The building from which the workers fell was a four-story office building surrounded by a parking lot up to the base of the building. It is possible to have used a mobile aerial lift, such as a scissors lift, stick boom, articulating boom, trailer-mounted boom etc., based in the parking lot to access the windows. Fall protection devices would still be required, but the lift is a method to reduce the workers' exposure. The rental of this type of equipment would cost approximately \$500/week, though training on its use would be required.

It is important to note that even though aerial lift devices can make access to and performance of a job easier, they also present their own unique set of hazards that have to be addressed. Only people who have been trained, qualified, and in many cases, certified in their operation, should use aerial lift devices. Persons using aerial lift devices also need to use the recommended fall protection equipment.

Another solution would be to have the building owner retrofit the building with permanent anchor points for building maintenance activities. This retrofit and similar incidents could be avoided if the building were initially constructed with durable anchor points.

ACKNOWLEDGEMENTS

In conducting this investigation, the Washington State FACE Investigation Program requested that the contents of this report be reviewed by key representatives from the business and labor communities and Washington State and Federal agencies prior to its publication.

Though we are not able to acknowledge specific individuals for their invaluable input into this document, we would like to recognize the following for their help and support to the FACE process:

- WISHA enforcement
- WISHA Policy & Technical Services staff
- Specialty Compliance
- Federal FACE Program Management (NIOSH)
- Ironworker's Union
- A window washing company representative



Figure 1. The building from where the victim fell.

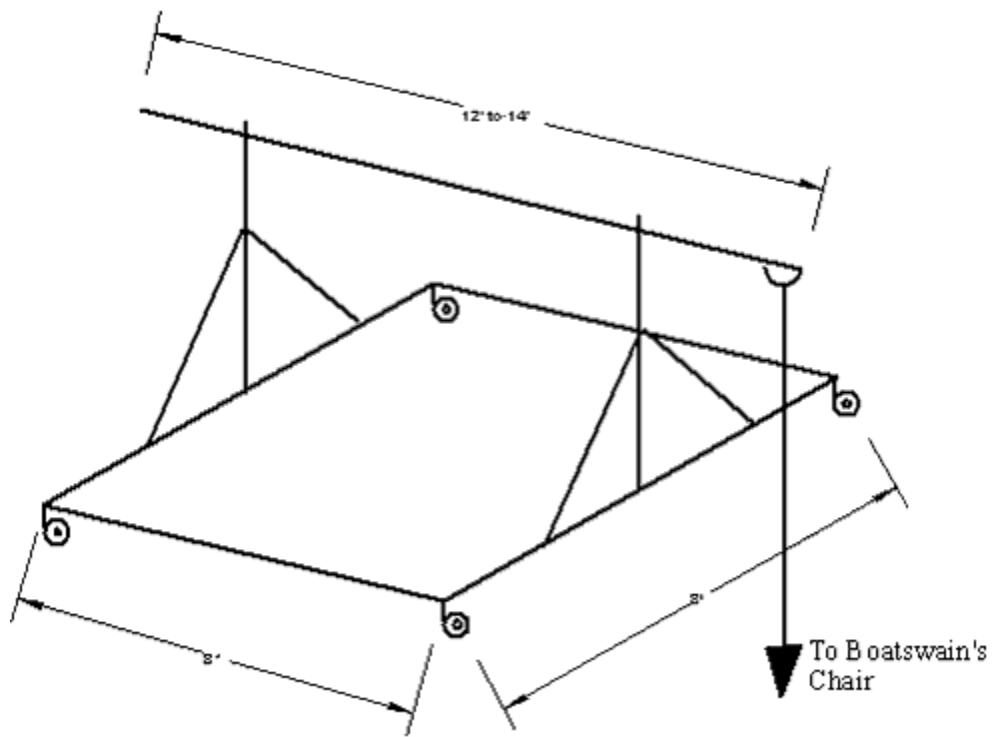


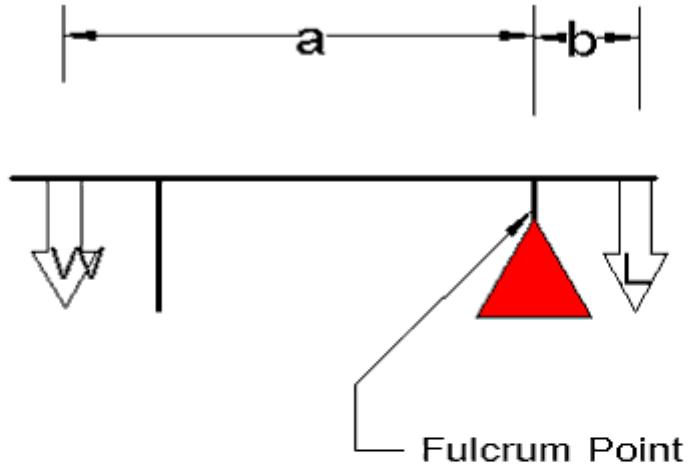
Figure 2. Schematic diagram of the carriage



Figure 3. Roof top from where victim fell and counterweights.



Figure 4. The carriage after falling.



L = Load (200 lb. person)

W = Required counter weight

a = Length of beam from fulcrum point to counter weights (11ft.)

b = Length of beam from fulcrum point to load (3 ft.)

Safety Factor = 4

$$a \times W = b \times L \times 4$$

$$W = 3 \times 200 \times 4 / 11 = 218 \text{ lbs.}$$

Figure 5. Example of counterweight calculation formula.

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APPENDIX

Applicable Regulations

In reviewing the WISHA standards, there are defined requirements that deal with window washing and rigging operations. There are also requirements that address the employment of minors, which can be found in the Wage & Hour Rules. Although the investigation of this incident was not regulatory in nature, we offer the following code requirements for information and reference purposes. This is not intended to be a complete list of regulatory guidelines that address these issues:

No employee who has not been properly trained to handle such equipment shall be assigned to work on scaffolds or boatswains' chairs.

WAC 296-24-14507(6)

The employer shall verify that the required workplace hazard assessment has been performed through a written certification that identifies the workplace evaluated; the person certifying that the evaluation has been performed; the date(s) of the hazard assessment; and, which identifies the document as a certification of hazard assessment.

WAC 296-24-07501(2)(b)

(CORE RULE: WAC 296-800-16010 - PPE hazard assessment not documented)

Training

WAC 296-24-07501(4)

The employer shall provide training to each employee who is required by this section to use PPE. Each such employee shall be trained to know at least the following:

- (i) When PPE is necessary;
- (ii) What PPE is necessary;
- (iii) How to properly don, doff, adjust, and wear PPE;
- (iv) The limitations of the PPE; and
- (v) The proper care, maintenance, useful life and disposal of the PPE.

WAC 296-24-07501(4)(a)

(Core Rule: WAC 296-800-16025 - Employee not properly trained to wear or adjust)

Each affected employee shall demonstrate an understanding of the training specified in (a) of this subsection, and the ability to use PPE properly, before being allowed to perform work requiring the use of PPE.

WAC 296-24-07501(4) (b)

The employer shall verify that each affected employee has received and understood the required training through a written certification that contains the name of each employee trained, the date(s) of training, and that identifies the subject of the certification.

WAC 296-24-07501(4) (d)

(Core Rule: 296-800-16035 PPE Employee training not documented)

Vertical lifelines, independent support lines, and suspension ropes must not be attached to each other, nor must they be attached to or use the same point of anchorage, nor must they be attached to the same point on the scaffold or personal fall arrest system.

WAC 296-24-86010(7)(c)(v)

WAGE & HOUR RULES

WAC 296-125-0210 Do I need minor work permit endorsements for my business? If you plan to employ one or more minors, you must obtain, keep current and post valid minor work permit endorsements before you:

1. Employ minors; or
2. Allow minors to work at your workplace; or
3. Allow minors to work under work conditions controlled by you.

WAC 296-125-0260 If I employ minors, do I need authorization from the parent or school?

Before allowing a minor to begin work, you must obtain and keep on file, at the minor's workplace, a fully completed parent/school authorization form. As the employer, it is your responsibility to ensure that the parent/school authorization form is complete.

WAC 296-125-030 Prohibited and hazardous employment -- All minors.

(22) Occupations requiring the wearing of personal protective equipment or wearing apparel as defined and required by statutes or rules and regulations administered by the department's division of industrial safety and health as related to hazardous substances exposure and/or hazardous noise exposure per chapters 296-24 and 296-62 WAC; except those occupations where the only requirement is the wearing of gloves, boots, or eye protection if the occupation is not otherwise prohibited by this section or by WAC 296-125-033. This subsection's prohibitions shall not apply if a minor is a student in a bona fide health care career training or vocational education program

(28) All work performed more than ten feet above ground or floor level.

WAC 296-125-033 Prohibited and hazardous employment -- Special restrictions for minors under the age of 16. Employment of minors under age 16 is subject to the following additional restrictions. They are prohibited from working:

(b) Window washing or other work requiring worker to be positioned at higher than ground or floor level.

WAC 296-126-060 Minor work permits. No minor shall be employed in any occupation or industry unless the employer shall have on file during the period of employment an unexpired work permit issued pursuant to section 15, chapter 16, Laws of 1973 2nd ex. sess., and regulations implementing said section in chapter 296-125 WAC. Such permit will not be issued except upon presentation of such evidence of age as is required by the industrial welfare committee.

WAC 296-126-094 General duty -- Working conditions. It shall be the responsibility of every employer to maintain conditions within the work place environment that will not endanger the health, safety or welfare of employees. All facilities, equipment, practices, methods, operations and procedures shall be reasonably adequate to protect employees' health, safety and welfare.

* The OSHA State Plan program in Washington State