



CONN-OSHA Quarterly

CONNECTICUT DEPARTMENT of LABOR DIVISION of OCCUPATIONAL SAFETY and HEALTH

Winterize Safely....Anne Bracker, MPH, CIH



We are in the middle of one of the coldest winters in years. Weatherization projects have made Connecticut's homes and workplaces more energy efficient. Weatherization work has provided Connecticut's workforce with "green jobs" that serve an environmental purpose. In addition to enhancing environmental quality, green jobs should be safe. As David

Michaels, Assistant Secretary of Labor for Occupational Safety and Health, noted at a Green Jobs Conference: "It is vital that we integrate worker safety and health concerns into green manufacturing, green construction and green energy...Most people instinctively see green jobs as safe. But at OSHA, when we hear insulation, we think isocyanate exposure. When we hear rooftop solar power, we see fall hazards. When we hear wind energy, we see lockout hazards."¹

The following summary highlights some of the hazards associated with work in the weatherization sector. Employers in this sector should implement health and safety programs to protect weatherization workers from these hazards. The potential hazards associated with other "green jobs" can be found on OSHA's Green Jobs website.²

Weatherization: Insulation Work

Removing old insulation: Workers may need to remove old insulating materials before they install the new insulation. If these materials are tested and found to contain asbestos, employers must comply with OSHA's asbestos standard³. The inhalation of asbestos fibers can cause cancer and asbestosis. Compliance with OSHA's asbestos standard includes several core elements which include: exposure monitoring to determine which work tasks are associated with asbestos exposure, exposure controls if excursions above the permissible exposure limits are documented, medical surveillance, and health hazard training for these workers.



In addition to asbestos and other fibrous materials, workers may be exposed to biological contaminants such as mold when they remove old, musty insulating materials. Precautions should be taken when removing these materials as well.

Installing new insulation: Some insulating and sealing products can be blown-in and spray-applied. Blown-in materials can include fiberglass and cellulose; spray-on materials can include spray polyurethane foam (SPF). Exposure to these and other insulating materials can be hazardous. Fiberglass is a skin, eye and respiratory irritant and a potential human carcinogen. Cellulose is a respiratory irritant. SPF may release isocyanate monomer when it is applied. Respiratory and dermal exposure to SPF can cause sensitization and may lead to asthma and other respiratory problems as well as eye and skin irritation. Because of these potential hazards, employers should provide insulating workers with appropriate respiratory protection, personal protective equipment and adequate ventilation.



In addition, employers should protect insulating workers from electrical hazards, flammable and combustible materials and confined space risks. OSHA has identified several fatalities and incidents due to fires associated with the use of isocyanate-containing materials. For example, a Springfield, Massachusetts worker was killed when the spray foam chemicals he was applying in a home attic caught fire. In Vermont, a similar incident is believed to have happened when the vapors from spray foam chemicals caught fire after an insulation worker applied the 2-part product in an attic. When the worker's unconscious body was removed from the building, efforts to revive him were unsuccessful.⁴

Weatherization: Air Sealing Work

Weatherization workers may seal the building envelope by removing leaky windows and replacing them with new ones. Removing old windows can present a lead hazard if the windows have lead paint. The presence of lead

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based paint in pre-1978 homes should be assumed unless testing confirms otherwise. Chronic overexposure to lead may result in severe damage to workers' blood-forming, nervous, urinary and reproductive systems.

Employers must comply with OSHA's lead standard⁵ during these types of renovation projects. Compliance with OSHA's lead standard includes several core elements: representative exposure monitoring to determine which work tasks are associated with lead exposure, exposure controls if air levels are above the permissible exposure limit, medical surveillance, hygiene



facilities and health hazard training if exposures are above the action level. Until the employer performs an exposure assessment the employer should

provide employees with interim protection.

The move towards energy efficiency has led to changes to traditional jobs and the creation of new kinds of occupations. Weatherizing, insulating and sealing are important parts of energy conservation. Weatherization activities have clear benefits. However, we need to remain vigilant in protecting workers against the well-understood and emerging hazards associated with this work.

1 NIOSH Workshop: Making Green Jobs Safe: Integrating Occupational Safety & Health into Green and Sustainability:

http://www.cdc.gov/niosh/docs/video/pdfs/OSHA_closing_remarks.pdf

2 OSHA: Green Job Hazards:

<http://www.osha.gov/dep/greenjobs/index.html>

3 29 CFR 1926.1101

4 OSHA: Weather Insulating/Sealing:

http://www.osha.gov/dep/greenjobs/weather_spf.html

CT DPH: Environmental Health Technical Brief: Spray Polyurethane Foam Insulation:

http://www.ct.gov/dph/lib/dph/environmental_health/eoha/pdf/technical_brief_sfi_final.pdf

5 29 CFR 1926.62

OSHA Recordkeeping

Posting time period~ February 1 thru April 30

It's time to prepare your OSHA 300A Summary form. This form provides a snapshot of your safety record for the year and provides the data to calculate your DART (Days Away, Restricted or Transferred) rate. This rate provides the number of cases with days away, job transfer, or restriction per 100 full-time employees. In 2009, the U.S. DART rate for private industry was 1.8. To find the DART rate for a specific industry, visit <http://www.bls.gov/iif/oshwc/osh/os/ostb2435.pdf>

OSHA Recordkeeping reminders:

- Post the OSHA 300A Summary form where employees may easily see it, from February 1st through April 30th. You must ensure that the form is not altered, defaced or covered by other material.
- If your establishment did not have any OSHA recordable cases for the year, you must still post the OSHA 300A Summary. Enter zeros for each column total under Number of Cases, Number of Days, and Injury and Illness Types.
- All sections of the form must be completed. Don't overlook the establishment name and address,

industry description, annual average number of employees, and total hours worked.

- A company executive must sign the OSHA 300A Summary. The company executive must be one of the following: the owner of a sole proprietorship or partnership, an officer of a corporation, the highest ranking company official working at the establishment, or the immediate supervisor of the highest ranking company official working at the establishment.
- You are not required to post the OSHA 300 Log of Work-Related Injuries and Illnesses.
- Keep OSHA records for the past 5 years and update the OSHA 300 Log as needed.

You may download copies of the OSHA Recordkeeping forms in PDF or Excel format from <http://www.osha.gov/recordkeeping/RKforms.html>. For recordkeeping questions, please call 860-263-6941. Upcoming recordkeeping workshops are listed on page 4.

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To receive the *Quarterly* electronically, contact gregory.grayson@dol.gov. In the subject line type "subscribe" and provide your e-mail address. You may also reach us by phone at (860) 263-6900 or visit our website at <http://www.ctdol.state.ct.us/osh/osh.htm>

Safe Roof Snow Removal

By: Thomas Retano, MS, Construction Consultation Safety Coordinator

Record snow accumulations in New England have resulted in many structural failures of roofs on buildings in both the public and private sector. Dozens of workers have been seen on rooftops clearing snow with shovels, snow rakes, and snow blowers. Fears of possible structural collapse have now motivated property managers and others to prioritize the removal of snow as soon as they can get workers up on the roof. According to a recent quote by Governor Malloy, "People need to be vigilant about clearing their roofs and they need to be smart about it."

Being "smart" about removal of ice and snow from a roof must emphasize eliminating or controlling hazards related to this work. Manual removal of snow/ice from a roof is more than hazardous to workers; it can also severely damage the roof. Removal of snow and ice without workers on the roof must be a primary consideration. Heating attics or crawl spaces can promote the melting of ice and snow without exposing employees to fall hazards. OSHA Standards require employers to provide effective fall protection and related training for workers at heights of four feet or more from the ground; less than four feet if there is dangerous equipment that could increase the severity of injuries in the event of a fall.

CONN-OSHA Safety Consultants can help employers create and implement a Roof Snow Removal Plan. Such a plan may be a very appropriate addition to an effective Safety and Health Program which should be reviewed

and updated periodically with input and support of all employees.

Working on a roof with ice, snow, and wind will greatly contribute to the probability of a fall onto the roof. Falling off of the edge of the roof to the ground below or through a snow covered skylight to the floor below can result in fatal injuries. Use of a Personal Fall Arrest System (PFAS) is the least desirable choice to protect employees and used only after implementation of Engineering Controls (use of interior heat/application of de-icing materials without climbing onto the roof) is proven infeasible by the employer.

The hazard of roof collapse can best be addressed by consulting with a competent Structural Engineer to inspect and certify load capabilities of the roof in question. Before workers access a roof to evaluate and/or remove snow or other debris, a qualified person should evaluate and determine that the load bearing on the roof will not put workers in danger of being part of a possible collapse. Emergency Action Plans for occupied buildings must be updated and in place for all workplaces.

One life lost is one too many.

The following table is not inclusive of all possible related hazards/corrective actions but can serve as a guide for some of the most severe hazards related to Roof Snow Removal:

HAZARDS	TRAINING	CONN-OSHA RECOMMENDATIONS MOST TO LEAST DESIREABLE
Roof Collapse	Emergency Action Plan Training	<ul style="list-style-type: none"> •Inspection/Certification from a competent Structural Engineer or other Qualified Person •Evacuation Procedures reviewed and updated
Falls From Roofs / Through Skylights	Specific training required for all employees	<ul style="list-style-type: none"> •Use of interior heat or Aerial lifts or other appropriate equipment keeping employees off of the surface of the roof to melt/apply non-damaging de-icing materials •Temporary guardrails installed by employees wearing PFAS/flagging skylights •Use of PFAS for all employees on roofs or elevated areas more than 4 feet from the ground •Use warning line systems with employees as safety monitors set back not less than 10 feet from the roof edge
Electric Shock / Electrocution	Specific training required for all employees	<ul style="list-style-type: none"> •Shut off electric services while using snow rakes •Use extendable, non conductive poles for snow rakes •Use employees to serve as monitors to maintain 10 feet from snow rakes to overhead power lines.

Hazard Corner...

In November 2008, a 52-year-old barge worker died from carbon monoxide poisoning. He was assigned to a barge to off-load dredged materials upon arrival at a dumpsite. The barge had a two-compartment scow house. One compartment housed a mobile gas powered generator that provided power to a radio and a small electric heater. The second compartment was used for sleeping and work space.

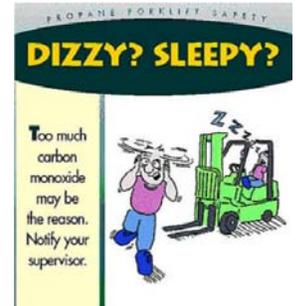
Four hours after the trip began, the crew attempted to contact the barge worker via radio and then by horn. The captain sent a crew member to check on the barge worker, who was discovered unresponsive in the second compartment. Despite attempts to revive the barge worker, he died at the hospital. Investigation revealed that the scow house compartments were not adequately ventilated.

Carbon monoxide (CO) is an odorless gas that can kill a person in minutes. Whenever a fuel, such as gas, oil, kerosene, wood, or charcoal is burned, CO is produced. When appliances are not maintained or used properly, dangerous levels of CO can result. Generators, concrete cutting saws, compressors, power trowels, floor buffers and space heaters are all possible sources of CO.

Recognize warning symptoms of headaches, dizziness, drowsiness, nausea, vomiting, or tightness across the chest. If you experience symptoms of CO poisoning, get to fresh air right away and seek immediate medical attention.

To prevent CO Exposure

- Make sure generators have 3-4 feet of clear space on all sides and above to ensure adequate ventilation. Do not use them in enclosed or partially enclosed spaces such as garages, crawl spaces, and basements.
- Choose appliances that vent their fumes to the outside, have them properly installed, and maintain them according to manufacturers' instructions.
- Have your fuel-burning appliances inspected by a trained professional at the beginning of every heating season. Make certain that the flues and chimneys are connected, in good condition, and not blocked.
- Don't idle vehicles in a garage -- even if the garage door to the outside is open. Fumes can build up very quickly.
- Consider using tools powered by electricity or compressed air, if available.



CONNECTICUT-OSHA ~ Training Update...

OSHA Recordkeeping March 7, 2011, from 9:00 a.m. to noon At this workshop, you will learn how to fill out the OSHA 300 Log of Work-Related Injuries and Illnesses accurately and correctly

Construction Site Safety March 9, 2011, from 9:00 a.m. to noon Construction managers, first line supervisors, and construction employees will be provided with an overview of four areas of concern on the construction site. Program contents include: fall protection, scaffolding and ladders, electrical hazards, and trenching safety.

The Control of Hazardous Energy March 22, 2011, from 10:00 a.m. to noon This two-hour course will help to satisfy the requirements for training as detailed in the OSHA regulation for those who are working in areas where Lockout programs are in place, or whose job requires them to actually do the Lockout and isolate the energy sources.

Material Handling & Ergonomics April 26, 2011, from 10:00 a.m. to noon Confronted with making ergonomic improvements to an existing manufacturing process or office environment but have run out of ideas? A number of manufacturing case studies will be reviewed that have improved worker safety and health with minimum cost. This session will help attendees develop a process for recognizing and quantifying risks, creating cost-effective solutions, and documenting the effectiveness of the results.

Breakfast Roundtable This discussion group meets the third Tuesday of every month from 8:15 am to 9:45 am. Pre-registration is required. To be placed on the e-mail distribution list, contact John Able at able.john@dol.gov

Classes are free and held at 200 Folly Brook Boulevard, Wethersfield, CT in Conference Room A/B. To register, contact John Able at able.john@dol.gov or Catherine Zinsser at zinsser.catherine@dol.gov. Pre-registration is required. A Photo I.D. is required to allow entry into a public building. For more training information, visit the CONN-OSHA web site www.ctdol.state.ct.us/osha/osha.htm

Fatality & Casualty Reporting

State & Town: CONN-OSHA (860) 263-6946 (local) or 1-866-241-4060 (toll-free)
Private Employers: Report to Federal OSHA at 1-800-321-OSHA(6742)