

The question from the month of January; What does PPE stand for?.....The answer is: Personal Protective Equipment. The winner for the drawing is **Beverly Price**, she will receive a \$20 prize. The February question is now on the Facilities website.



Get your answers in before February 22nd to be eligible for the next prize drawing!

Cold Stress

Cold Stress Can be Prevented

It is important for employers to know the wind chill temperature so that they can gauge workers' exposure risk better and plan how to safely do the work. It is also important to monitor workers' physical condition during tasks, especially new workers who may not be used to working in the cold, or workers returning after spending some time away from work.

The National Oceanic and Atmospheric Administration ([NOAA Weather Radio](#)) is a nationwide network of radio stations broadcasting continuous weather information from the nearest NWS office. It will give information when wind chill conditions reach critical thresholds. A Wind Chill Warning is issued when wind chill temperatures are life threatening. A Wind Chill Advisory is issued when wind chill temperatures are potentially hazardous.

Who is affected by environmental cold?

Environmental cold can affect any worker exposed to cold air temperatures and puts workers at risk of cold stress. As wind speed increases, it causes the cold air temperature to feel even colder, increasing the risk of cold stress to exposed workers, especially those working outdoors, such as recreational workers, snow cleanup crews, construction workers, police officers and firefighters. Other workers who may be affected by exposure to environmental cold conditions include those in transit, baggage handlers, water transportation, landscaping services, and support activities for oil and gas operations.

Risk factors for cold stress include:

- Wetness/dampness, dressing improperly, and exhaustion
- Predisposing health conditions such as hypertension, hypothyroidism, and diabetes
- Poor physical conditioning

What is cold stress?

What constitutes cold stress and its effects can vary across different areas of the country. In regions that are not used to winter weather, near freezing temperatures are considered factors for "cold stress." Increased wind speed also causes heat to leave the body more rapidly (wind chill effect). Wetness or dampness, even from body sweat, also facilitates heat loss from the body. Cold stress occurs by driving down the skin temperature, and eventually the internal body temperature. When the body is unable to warm itself, serious cold-related illnesses and injuries may occur, and permanent tissue damage and death may result. Types of cold stress include: trench foot, frostbite, and hypothermia.

For more information, see OSHA's [Cold Stress Safety and Health Guide](#).

How can cold stress be prevented?

Although OSHA does not have a specific standard that covers working in cold environments, under the Occupational Safety and Health Act (OSH Act) of 1970, employers have a duty to protect workers from recognized hazards, including cold stress hazards, that are causing or likely to cause death or serious physical harm in the workplace.

Employers should train workers. Training should include:

- How to recognize the environmental and workplace conditions that can lead to cold stress.
- The symptoms of cold stress, how to prevent cold stress, and what to do to help those who are affected.
- How to select proper clothing for cold, wet, and windy conditions.

Employers should:

- Monitor workers physical condition.
- Schedule frequent short breaks in warm dry areas, to allow the body to warm up.
- Schedule work during the warmest part of the day.
- Use the buddy system (work in pairs).
- Provide warm, sweet beverages. Avoid drinks with alcohol.
- Provide engineering controls such as radiant heaters.

Wind Chill Temperature: A Guide for Employers

Outdoor workers exposed to cold and windy conditions are at risk of cold stress, both air temperature and wind speed affect how cold they feel. Wind Chill is the term used to describe the rate of heat loss from the human body, resulting from the combined effect of low air temperature, and wind speed. The Wind Chill Temperature is a single value that takes both air temperature, and wind speed into account. For example, when the air temperature is 40°F, and the wind speed is 35mph, the wind chill temperature is 28°F; this measurement is the actual effect of the environmental cold on the exposed skin.

[National Weather Service \(NWS\) Wind Chill Calculator](#): With this tool, one may input the air temperature and wind speed, and it will calculate the wind chill temperature.

The American Conference of Governmental Industrial Hygienists (ACGIH) developed the following Work/Warm-up Schedule for a 4-hour shift takes both air temperature and wind speed into account, to provide recommendations on scheduling work breaks and ceasing non-emergency work.

Work/Warm-up Schedule for a 4-Hour Shift

Air Temperature--Sunny Sky °F (approximate) °C (approximate)	No Noticeable Wind		5 mph Wind		10 mph Wind		15 mph Wind		20 mph Wind	
	Maximum Work Period	Number of Breaks	Maximum Work Period	Number of Breaks	Maximum Work Period	Number of Breaks	Maximum Work Period	Number of Breaks	Maximum Work Period	Number of Breaks
-26 to -28 -15 to -19	(Normal Breaks) 1		(Normal Breaks) 1		75 min	2	55 min	3	40 min	4
-29 to -31 -20 to -24	(Normal Breaks) 1		75 min	2	55 min	3	40 min	4	30 min	5
-32 to -34 -25 to -29	75 min	2	55 min	3	40 min	4	30 min	5	Non-emergency work should cease	
-35 to -37 -30 to -34	55 min	3	40 min	4	30 min	5	Non-emergency work should cease			
-38 to -39 -35 to -39	40 min	4	30 min	5	Non-emergency work should cease		Non-emergency work should cease			
-40 to -42 -40 to -44	30 min	5	Non-emergency work should cease							
-43 & below -45 & below	Non-emergency work should cease		↓		↓		↓		↓	

Schedule applies to any 4-hour work period with moderate to heavy work activity; with warm-up periods of ten (10) minutes in a warm location and with an extended break (e.g. lunch) at the end of the 4-hour work period in a warm location.

Adapted from ACGIH 2012 TLVs