



Policy # TS-008

Policy Title: Working in Extreme Weather

Policy Objective:

Outside work is sometimes required by the R.M. of Rosedale No. 283's employees during hot and cold times of the year. It is important to recognize the additional hazards created by working in extreme temperatures, and use the available information to mitigate some risks to employees and equipment.

Authority:

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POLICY:

1. HOT WEATHER WORK:

Heat stress disorders occur when our bodies cannot sweat fast enough to get rid of heat. High heat and humidity force our sweat glands to work harder. However, if these glands cannot handle the heat stress, body temperature will rise. If unchecked, this can cause vital organs to malfunction resulting in sickness and even death as a result. Three common heat disorders are:

Heat cramps – painful cramps in the stomach, arms and legs can result if heavy sweating drains a person of salt. Cramps may occur suddenly at work or after hours. Cramps are a warning that more serious heat disorders may occur if the stress continues. Lost salt cannot be replaced by drinking water alone. When heat cramps occur, move the casualty to a cool area, loosen their clothing and have them drink cool, salted water (mix one teaspoon of salt per gallon of water). If cramps continue, provide first aid and seek medical attention.

Heat exhaustion – occurs when the body's cooling system cannot keep up with the heat stress. Sweat contains a balance of important fluids and salts. If lost water and salt are not replaced, the body becomes dehydrated. Signs of heat exhaustion include; heavy sweating, cool and/or moist skin, body temperature greater than 38 degrees Celsius, weak pulse, and normal or low blood pressure.

Heat stroke – develops when all the water and salt available for sweating has been used up. The body's temperature rises to above 40 degrees Celsius, and the skin becomes hot, dry and red. Victims may act strangely, be weak, confused, have a fast pulse rate, headache or be dizzy. In later stages, victims may faint or have convulsions. Heat stroke can kill. Anyone in this condition must be taken to a hospital immediately. During transport, remove excess clothing from the victim, fan and spray their body with cool water, and offer sips of cool, salted water.

WORKING IN HOT WEATHER PROTOCOL:

- a) Have adequate supplies of drinking water. Workers should be strongly encouraged to frequently drink small amounts of water or other cool (but not cold) fluids. One cup of fluid every 15 – 20 minutes should replace water lost in sweat. If workers drink only when thirsty, they may not get enough fluid.
- b) Light colored, light weight, loose-fitting clothing should be worn.
- c) Use an effective sun block in order to prevent sunburn.
- d) Wear effective shaded glasses and a hat (may include a wide brim hard hat) to protect the eyes.

2. COLD WEATHER WORK:

Working outdoors in cold weather places workers at risk of losing body heat. Fingers and toes are the first to get cold and then shivering sets in – a distraction that could result in an incident. Exposed skin increases the risk of frostbite. Workers are encouraged to wear several layers of clothing, rather than one heavy layer, to prevent overheating and sweating. Sweating should be avoided to minimize the body's heat loss, which may require removing clothing layer(s).

Frostbite – is a severe reaction to cold exposure that causes freezing in the deep layers of skin and tissue. Frostbite can cause permanent damage. It is recognizable by a loss of feeling and a waxy-white or pale appearance in fingers, toes, nose or ear lobes.

Hypothermia – occurs when the body temperature drops to less than 35 degrees Celsius (95 degrees Fahrenheit). Symptoms of hypothermia include uncontrollable shivering, slow speech, memory lapses, frequent stumbling, drowsiness and exhaustion.

Dehydration – occurs when a person does not take in or drink enough liquids. In cold weather, this is compounded as people drink less when they are cold.

Heavy shivering, uncomfortable coldness, severe fatigue, drowsiness, and/or euphoria are symptoms of cold-related stresses.

WORKING IN COLD WEATHER PROTOCOL:

- a) Try to avoid using nicotine, caffeine and certain medications as they can inhibit the body's response to cold.
- b) Get plenty of rest and sleep as exhaustion may accelerate the effects of cold weather.
- c) Wear appropriate layers of clothing and pay special attention to the head, hands and feet:
 - i. **For the body:**
 - Inner layer: light-weight polyester or polypropylene
 - Insulating layer: fleece or wool
 - Outer layer: rain, snow, and wind repellent with provisions for ventilation
 - ii. **For the feet:**
 - Felt-lined, rubber-bottomed, leather-topped boots with removable insoles and socks
- d) Follow the below guidelines for rest breaks as a minimum.

Work Warm-up Schedule for Outdoor Work

The information in the chart applies to moderate to heavy physical work activity in any four-hour period. At the end of the four-hour period, an extended break in a warm location is expected. Warm-up breaks are assumed to be provided for ten minutes in a warm environment. This guideline applies to workers wearing dry clothing.

Sunny sky Air temperature		No noticeable wind		Wind 8 km/h (5 mph)		Wind 16 km/h (10 mph)		Wind 24 km/h (15 mph)		Wind 32 km/h (20 mph)	
°C below zero *	°F below zero *	Max. work period	Number of breaks**	Max. work period	Number of breaks**	Max. work period	Number of breaks**	Max. work period	Number of breaks**	Max. work period	Number of breaks**
26 to 28	15 to 19	120 minutes	1	120 minutes	1	75 minutes	2	55 minutes	3	40 minutes	4
29 to 31	20 to 24	120 minutes	1	75 minutes	2	55 minutes	3	40 minutes	4	30 minutes	5
32 to 34	25 to 29	75 minutes	2	55 minutes	3	40 minutes	4	30 minutes	5	Non-emergency work should stop	
35 to 37	30 to 34	55 minutes	3	40 minutes	4	30 minutes	5	Non-emergency work should stop			
38 to 39	35 to 39	40 minutes	4	30 minutes	5	Non-emergency work should stop		Non-emergency work should stop			
40 to 42	40 to 44	30 minutes	5	Non-emergency work should stop		Non-emergency work should stop		Non-emergency work should stop			
43 and below	45 and below	Non-emergency work should stop		Non-emergency work should stop		Non-emergency work should stop		Non-emergency work should stop		Non-emergency work should stop	

* All temperatures are approximate.

**Includes a normal break after two hours and the number of additional warm-up breaks needed.

Apply the schedule one step lower for work with limited physical activity. For example, at -35C (-30 F), with no noticeable wind, a worker with a job requiring little physical movement should have a maximum work period of 40 minutes with four breaks in a four-hour period.

If reliable weather reports are not available, use the following as a guide to estimate wind velocity:

- An 8 km/h (5 mph) wind will move a light flag.
- A 16 km/h (10 mph) wind will fully extend the flag.
- A 24 km/hr (15 mph) wind will raise a newspaper sheet.
- A 32 km/h (20 mph) wind will produce blowing and drifting snow.

Environment Canada may report a wind chill index. If wind speeds are higher than those identified in the chart, a wind chill of -51C should be used to determine the point at which all non-emergency work should stop.



Administrator

Reeve