POLICY

Hawk Energy, LLC has implemented this plan to ensure that no employee is exposed to cold stress illnesses in the workplace and will evaluate if coldness will be a problem on a particular day based on temperature levels, and then implement adequate controls, methods, or procedures to reduce the risk of cold stress.

RESPONSIBILITIES

Employers

- Adjust work practices as necessary when an employee complain of cold stress.
- Wherever possible, make engineering controls as the primary method of exposure control.
- Oversee cold stress training and acclimatization for new hires and for employee who have been off the job for a while.
- Provide the employee education and training, including periodic safety meetings on cold stress during cold weather or during work in cold environments.
- Monitor the workplace to determine when cold conditions arise.
- Determine whether the employee is drinking enough water.
- Determine a proper work/rest regimen for employees.
- Arrange first aid training for employees.
- Contractors may opt to adopt the plant’s protective clothing program, if there is available, when working in a refrigerated workplace.
- Ensure that the program and procedures are documented and available to all employees.

Safety Committee Responsibilities

- Assist in ensuring cold stress management is followed when necessary.
- Assist in training employees to recognize and control workplace hazards.
- Monitor the workplace for hazards.
- Encourage employees to report hazards.
- Implement appropriate controls.
- Ensure corrective action is taken promptly.

Employees

- Follow instructions and training for controlling cold stress.
- Be aware of your own and other people's symptoms.
- Get adequate rest and sleep.

TRAINING

Hawk Energy, LLC will ensure employees who are required to work in cold weather conditions receive initial and annual training regarding the health effects of cold stress can have on the body. Training includes but is not limited to:

- Proper rewarming procedures and appropriate first aid treatment
- How to dress for the cold
- Buddy system procedures
- Use of warming shelters
- Recognition of frostnip and frostbite
- Recognition of the signs and symptoms of impending hypothermia
- Additional special training for those employees working in remote locations

HAZARD / RISK ASSESSMENT

Hawk Energy, LLC will ensure that a hazard / risk assessment is conducted before each project to identify the potential risk for cold exposure. Specifically, the company will identify the jobs, tasks and/or company employees who are at risk of cold exposure and conduct a risk assessment based on job classification.

Cold stress applies to work environments where employees may be exposed to either artificial or natural cold.

- Artificially cold workplaces include cold storage rooms, freezers and refrigerated transportation units.
- Industries where employees may be exposed to natural cold include fishing, forestry, construction and the petroleum industry.
- Exposure in this document is exposure to cold air or water either as part of routine work procedures or because of accidental or an unplanned event.
- Accidental or unplanned events include an employee falling into water such as from a boat or breaking through ice (cold water immersion) or an employee becoming stranded outdoors in the cold.

Signs and Symptoms

Hawk Energy, LLC will ensure employees are made aware and familiar with the signs and symptoms of cold weather induced health problems.

- Non-freezing cold injuries includes chilblain, immersion foot and trench foot.
- Freezing injuries includes frostnip and frostbite.

Areas That Do Not Have Major Muscles to Produce Heat Are at the Greatest Risk

- The toes, fingers, ears and nose fall into this category.
- The body preserves heat by favoring the internal organs. This reduces the flow of blood to the extremities under cold conditions.

Hands and Feet Tend to Get Cold More Quickly Than the Torso Because:

- They lose heat more rapidly since they have a higher surface area-to-volume ratio.

They are more likely to be in contact with colder surfaces than other parts of the body.

The eyes will be protected with goggles in high wind chill conditions. If left unprotected, the corneas of the eyes may freeze.

The most severe cold injury is hypothermia. Hypothermia is the excessive loss of body heat and the resulting lowering of the inner core temperature (internal temperature of the body). Hypothermia can be fatal.

Non-freezing Injuries

Chilblains are a mild cold injury caused by prolonged and repeated exposure for several hours to air temperatures from above freezing 32°F to as high as 61°F.

- In the affected skin area, there will be redness, swelling, tingling and pain.
- Immersion foot occurs in individuals whose feet have been wet but not freezing cold for days or weeks. It can occur at temperatures up to 50°F. The primary injury is to nerves and muscle tissue.
- Symptoms include tingling and numbness; itching, pain, swelling of the legs, feet or hands; or blisters. The skin may be red initially and turn to blue or purple as the injury progresses. In severe cases, gangrene may develop.
- A similar condition of the hands can occur if a person wears wet gloves for a prolonged period under cold conditions. The symptoms are similar to immersion foot.

Trench foot results from prolonged exposure to a damp or wet environment from above the freezing point to about 50°F

- Depending on the temperature, the onset of symptoms may range from several hours to many days, but the average is three (3) days.

Trench foot is more likely to occur at lower temperatures while immersion foot is more likely to occur at higher temperatures and longer exposure times.

Freezing Injuries

Frostnip is the mildest form of freezing cold injury. It occurs when ear lobes, nose, cheeks, fingers, or toes are exposed to the cold and the top layers of skin freeze. The skin of the affected area turns white, and it may feel numb. The top layer of skin feels hard, but the deeper tissue still feels normal (soft).

- Prevention of frostnip can be achieved by wearing warm clothing and footwear. Frostnip is treated by gentle rewarming, e.g., holding the affected tissue next to unaffected skin of the victim or of another person.
- As for all cold-induced injuries, never rub the affected parts. Ice crystals in the tissue will cause damage if the skin is rubbed. Do not use very hot objects, such as hot water bottles, to rewarm the area or person.

Frostbite is a common injury caused by exposure to extreme cold or by contact with extremely cold objects, especially those made of metal. It may also occur at normal temperatures from contact with cooled or compressed gases.

- Frostbite occurs when tissue temperature falls below the freezing point 30°F or when blood flow is obstructed.
- Blood vessels may be severely and permanently damaged and blood circulation may stop in the affected tissue.
- In mild cases, the symptoms include inflamed skin patches accompanied by slight pain.
- In severe cases, there can be tissue damage, without pain, or there will be burning or prickling sensations and blisters.
- Frostbitten skin is highly susceptible to infection and gangrene may develop.
- Wind chill factors can allow frostbite to occur in above freezing temperatures.

First Aid for Frostbite, Immersion Foot and Trench foot

- Seek medical attention.
- Move the victim to a warm area, if possible.
- Gently loosen or remove constricting clothing or jewelry that may restrict circulation.
- Loosely cover the affected area with a sterile dressing.
- Quickly transport the victim to an emergency care facility.
- Do not attempt to rewarm the affected area on site but do try to stop the area from becoming any colder. Without the proper facilities, tissue that has been warmed may freeze and cause more damage.
- Do not rub the area or apply dry heat.
- Do not allow the victim to drink alcohol or to smoke.

Hypothermia

Hypothermia occurs when the body is unable to replace body heat faster than it is lost. Symptoms normally begin when the core body temperature drops below the normal 98.6°F to around 95°F.

The sensation of cold followed by pain in exposed parts of the body is the first sign of mild hypothermia. The affected person may attempt to generate some heat by shivering or stomping their feet.

As the temperature continues to drop, or as the exposure time increases, the feeling of cold and pain starts to diminish because of increasing loss of sensation. If no pain can be felt, serious injury can occur without the victim noticing it.

The affected person may lose coordination, have slurred speech, become disoriented, and the skin may be pale and cold. Muscular weakness and drowsiness usually occur when the body temperature falls below 91°F.

When the affected person’s body temperature reaches 81°F, coma most likely sets in, while heart activity stops around 68°F, and the brain stops functioning at around 63°F.

Hawk Energy, LLC will ensure that employees are knowledgeable on how to administer first aid on cold induced injuries or illnesses, therefore the following procedures will be followed.

First Aid for Hypothermia

- Hypothermia is a medical emergency. At the first sign, find medical help immediately.
- The survival of victims depends on their co-employee's ability to recognize the symptoms of hypothermia.
- The victim is generally not able to notice his or her own condition.

First Aid for Hypothermia Includes the Following Steps

- Seek medical help.
- Ensure that wet clothing is removed.
- Place the victim between blankets so the body temperature can rise gradually. Body to body contact can help warm the victim's temperature slowly.
- Give warm, sweet (caffeine-free, non-alcoholic) drinks, unless the victim is rapidly losing consciousness, unconscious or convulsing.
- Quickly transport the victim to an emergency medical facility.
- Do not apply direct heat, i.e., hot water bottles.

Factors That Influence Your Response to Cold

A cold environment challenges the employee in three (3) ways: Air temperature, air movement (i.e., wind speed), humidity (i.e., wetness).

- To work safely, these challenges will be counterbalanced by proper insulation, such as layered protective clothing, physical activity and by controlling exposure, e.g., work/rest schedule.

Air temperature: Air temperature is measured by an ordinary thermometer in degrees Fahrenheit (°F) or degrees Celsius (°C).

Wind speed: Various types of commercially available anemometers are used to measure wind speed or air movement.

Humidity: Water conducts heat away from the body 25 times faster than dry air.

Physical activity: The production of body heat by physical activity is difficult to measure. However, tables are available in literature, which shows metabolic rates for a variety of activities. Metabolic heat production is measured in kilo calories (kcal) per hour. One (1) kcal is the amount of heat needed to raise the temperature of one (1) kg of water by 24°F.

Work/rest schedule: Regular rest breaks in a heated area are recommended for anyone working in the cold. The frequency of breaks depends on the air temperature and wind speed, as well as the degree of physical activity.

Protective clothing: To be protected from the cold, employees will dress in layers.

The inner layers will trap moisture and wick it away from the body; the middle layers provide insulation; the outer layers protect against the wind and weather.

- As work activity and environmental conditions change, employees will be able to easily add or remove layers.

Wind Chill

At any temperature, you feel colder as the wind speed increases. The combined effect of cold air and wind speed is expressed as equivalent chill temperature (ECT) or simply wind chill temperature in degrees Fahrenheit or Celsius.

- It is essentially the air temperature that will feel the same on exposed human flesh as the given combination of air temperature and wind speed.
- It can be used as a general guideline for deciding clothing requirements and the possible health effects of cold.
- In some parts of the United States, the term wind chill factor is used. This is a measurement of a heat loss rate caused by exposure to wind and it is expressed as the rate of energy loss per unit area of exposed skin per second (e.g., joules/[second-metre^2] or watts/metre^2, W/m^2)
- The American Conference of Governmental Industrial Hygienists (ACGIH) has adopted the work warm-up schedule (see table 1), developed by the Saskatchewan Department of Labor as threshold limit values (TLV) for cold stress.

CONTROLLING COLD STRESS

Environmental Measures

- Temperature and wind conditions will be known, e.g., weather report on the radio, current weather office information.
- Steps will be taken to protect employees from wind (or indoors from drafts or forced air from air handling units). The combination of low temperatures and even moderate winds can quickly create dangerous working conditions.
- Ensure that heated rest areas, such as a truck cab, tent, or hut, are available.

Equipment Design

For work below the freezing point, metal handles and bars will be covered by thermal insulating material. Also, machines and tools will be designed so that they can be operated without an employee having to remove mittens or gloves.

Work Practices

A schedule of regular rest breaks will be established to allow employees to warm up. These breaks will be not less than ten (10) minutes in length and will be taken in a heated area.

- Heated warming shelters, e.g., tents, cabins and rest rooms will be provided.
- When entering the heated shelter, outer and middle clothing layers (as necessary) will be removed to prevent overheating and to allow dampness to evaporate. A change of dry clothing may be necessary since returning to cold work while damp or sweaty may result in rapid chilling.
- Warm fluids will be consumed at the work site to provide energy and warmth and to replace fluids lost during work.
- Recognize the symptoms of cold stress. The onset of severe shivering, the feeling of excessive fatigue, drowsiness, irritability, or euphoria is indications to immediately return to the shelter.

The Following Additional Precautions Apply at Colder Temperatures:

- Employees will be under constant protective observation by a buddy or supervisor.
- Work rate will not be high enough to cause sweating. If heavy work will be performed, rest periods in heated shelters and the opportunity to change into dry clothing will be provided.
- New employees will not be required to work full-time in the cold during the first days of employment until they become accustomed to the working conditions and required protective clothing.
- Weight and bulkiness of clothing will be included in estimating required work performance.
- Work will be arranged to minimize periods of standing or sitting still.
- Employees will be appropriately trained.

Personal Measures

Diet - employees have increased energy requirements when working in the cold. Consider adding additional wholesome foods to the diet, such as pasta, potatoes, rice, dairy products, nuts, meat, herring and salmon. Light snacks and warm fluids will be taken during rest breaks. Alcohol will not be consumed when working in the cold. Alcohol produces a deceptive feeling of warmth but may contribute to dehydration and impair judgment.

Dressing for the cold - clothes will be layered to manage moisture and keep dry. Insulating layers will trap air for warmth, and the employee will be protected from the wind and weather.

To remain comfortable as weather and work conditions change, clothing layers will be added or removed, or ventilation openings in clothing opened or closed.

Employees will make every effort to avoid sweating and becoming damp. Clothing selections are normally made on the basis of staying warm while inactive. Consider the work to be performed and the weather conditions, then have employees dress so that layers can be shed, and they can remain comfortably warm. If clothing layers do become damp and remain that way, employees will be prepared to replace them before becoming chilled and hypothermic. If an employee is sweating, then his or her clothing is probably too warm for the conditions and tasks being performed.

Hawk Energy, LLC will provide plenty of liquids to affected employees and discourage the use of caffeine and alcohol that can lead to dehydration. The company program will address work schedules so that work is performed in the warmest part of the day when possible. The program will encourage affected company employees to take frequent breaks and to eat a high-calorie diet to maintain energy.

Hand Wear

- Mittens keep hands warmer than gloves since fingers are together. With gloves, fingers are separated and lose heat from each other.
- Have employees wear thin liners under gloves or mittens. Liners need not be removed when removing the gloves.
- Removable glove and mitten liners can be replaced and dried when they become damp.
- New mitten styles, including three-finger lobster claws that keep fingers warm yet offer good dexterity are available.
- Windproof over mist offer additional hand protection without adding significant bulk.

Headwear

- A hat or other head protection will be worn in the cold.

- Avoid cotton and use synthetic fabrics or wool instead.
- Employees will use an appropriate hard hat liner to reduce heat loss when wearing a hard hat.
- Select a hat appropriate for the weather conditions and activity level. Consider thickness, extent of head coverage (e.g., open face, full balaclava, ear coverage), need for windproof, effect on vision and hearing, and ability to fit into or overprotective headwear, if required.
- A face mask and eye protection may sometimes be necessary.

Footwear

- Warm, insulated safety footwear is essential. Boots will have thick soles for insulation while standing in snow or on cold concrete. Footwear selection will be based on the work being performed, the surfaces on which the employee will work and the weather conditions to which the employee will normally be exposed. Tight-fitting boots reduce circulation and can make feet feel cold.
- Footwear will be sized so that it will accommodate an extra layer(s) of socks.
- A synthetic sock liner, worn beneath a synthetic blend or wool outer sock, wicks moisture away from the skin, keeping feet drier and warmer.

Special Precautions

- Exposure to vibration may increase an employee’s susceptibility to cold injury because of the way that vibration can reduce circulation, particularly in the extremities.
- Work performed in snow or ice-covered terrain may require tinted safety eyewear and/or sunglasses with side shields. If there is a potential for eye injury from blowing snow or ice crystals, special safety goggles will be worn. Additionally, employees in such situations will be prepared for white-out conditions and have a plan in place regarding movement and navigation under such conditions.
- Alcohol will be avoided – it produces a deceptive feeling of warmth but can affect circulation, fluid balance and judgment.
- Limit the consumption of caffeine-containing beverages because they act as diuretics and affect hydration.
- Employees with health conditions which affects normal body temperature regulation or impair circulation, such as Raynaud’s Syndrome or diabetes, will take appropriate precautions when working in the cold. This might include more layers, including hat and mitts, and less time in the cold environment.
- Body parts that have sustained a frostnip or frostbite injury are sensitive to re-injury, so extra care will be taken to protect/cover these areas.

  If loose or bulky clothing is worn, special care will be taken when working around moving equipment or machinery to prevent clothing entrapment.

  If an employee is or may be exposed to:

- Thermal conditions that will cause cold stress or injury
- Thermal conditions that will cause a employee's core body temperature to fall below 96.8°F (36°C)
- Thermal conditions that are below the levels classified as "little danger" to employees in the criteria for the cooling power of wind on exposed flesh in the cold stress section of the ACGIH standard

COOLING POWER OF WIND (IMPERIAL UNITS)

The ACGIH criteria, in the Fahrenheit scale, are listed in the following table as it appears in "cold stress" of TLV and Biological Exposure Indices (the ACGIH Standard). The table shows the cooling power of wind on exposed

Estimated wind speed (in mph)	Actual temperature reading (degrees Fahrenheit)											
	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60
	Equivalent chill temperature (degrees Fahrenheit)											
Calm	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60
5	48	37	27	16	6	-5	-15	-26	-36	-47	-57	-68
10	40	28	16	4	-9	-24	-33	-46	-58	-70	-83	-95
15	36	22	9	-5	-18	-32	-45	-58	-72	-85	-99	-112
20	32	18	4	-10	-25	-39	-53	-67	-82	-96	-110	-121
25	30	16	0	-15	-29	-44	-59	-74	-88	-104	-118	-133
30	28	13	-2	-18	-33	-48	-63	-79	-94	-109	-125	-140
35	27	11	-4	-20	-35	-51	-67	-82	-98	-113	-129	-145
40	26	10	-6	-21	-37	-53	-69	-85	-100	-116	-132	-148
Wind speeds greater than 40 mph have little additional effect	LITTLE DANGER In < 1 hour with dry skin. Maximum danger of false sense of security.				INCREASING DANGER Danger from freezing of exposed flesh within one minute.				GREAT DANGER Flesh may freeze within 30 seconds.			
	Trench foot and Immersion foot may occur at any point on this chart.											

flesh. If there is a wind, use the wind speed in the first column and the actual temperature across the top to find what the equivalent temperature would be under calm conditions.

Note: Equivalent chill temperature requiring dry clothing to maintain core body temperature above 36º C (96.8 F) per cold stress TLV.

Cold Stress Risk Assessment

If an employee is or may be exposed to cold stress conditions specified earlier, the employer will conduct a cold stress risk assessment to determine the potential for hazardous exposure of employees.

Hawk Energy, LLC will ensure that a cold stress hazard / risk assessment is conducted before each project to identify the potential risks for cold exposure. Specifically, the company will identify the jobs, tasks and/or company employees who are at risk for cold exposure and conduct a risk assessment based on job classification. The first step in a cold stress assessment is to determine the areas, occupations or tasks that place employees at risk of hypothermia or cold-related injuries. Consider factors such as the following:

- Areas with an equivalent chill temperature below 19.4°F (see below)
- Fine dexterity tasks that require work with bare hands
- Contact with metal surfaces or use of evaporative liquids (gasoline, alcohol, or cleaning liquids)
- Working on or near bodies of water
- Areas or occupations that have been identified through accident investigation reports, first aid treatment record books, and records of injury and disease
- Areas or occupations about which employees have expressed concern

Once the areas, occupations, or tasks that will be monitored are determined, the risk of developing hypothermia or a cold-related injury will then be evaluated.

A cold stress risk assessment will include determining the air temperature and wind speed (to determine the "equivalent wind chill temperature”). This information is available by:

- Obtaining weather, temperature, and wind information from the local weather office if there is a monitoring station close to the area in which the work is to be conducted.
- Taking a direct measurement of the ambient air temperature using a dry bulb thermometer (or electronic equivalent) and a direct reading of the wind velocity in mph (or ft./sec) using a velometer, hot-wire thermometer, heated thermocouple, thermistor, or a thermocouple anemometer. Most air velocity instruments also provide a direct readout of air temperature.

Wind chill is a concern when the equivalent chill temperature is less than 19.4°F. The conditions when this occurs are:

- The air is calm, and the temperature falls below 19.4°F
- The wind speed is five (5) mph or greater and the air temperature is 23°F
- The wind speed is ten (10) mph or greater and the air temperature is 32°F
- The wind speed is 20 mph or greater and the air temperature is 41°F

As part of the risk assessment, the potential for employee exposure to artificially generated air velocities will also be considered, for example when working in walk-in refrigerators and freezers, when riding all-terrain vehicles or snowmobiles, or when exposed to helicopter rotor downwash.

A general assessment of contact cooling for exposed skin, particularly the hands, will consider the following when employees are in contact with metal:

- Below 59°F - prolonged contact may impair dexterity
- Below 44°F - prolonged contact may induce numbness
- Below 32°F - prolonged contact may induce frostnip or frostbite
- Below 19.4°F - brief contact with may induce frostnip or frostbite

For materials other than metal, such as plastics and wood, the temperatures will be lower than those noted above since they are less conductive than metal. Any contact with liquids at subzero temperature is also of concern, particularly with cryogenic "fluids" (super-cooled liquefied gases).

Employees will be provided with gloves or other method of warming the hands when the air temperature is below:

- 61°F for sedentary work
- 39°F for light work
- 19.4°F for moderate work

COLD EXPOSURE CONTROL PLAN

If an employee is or may be exposed to cold stress conditions, the employer will develop and implement a cold exposure control plan.

Some specific components of the exposure control plan, as they relate to education and training of employees are described below.

Education and Training

This element will contain initial and ongoing training and education that will be provided to all employees who work in areas where there is a reasonable likelihood of exposure to conditions that will cause cold stress. The training and education material provided to employees who have not previously worked in a cold stress environment will include the following information:

- Recognition of the signs and symptoms of impending hypothermia or excessive cooling of the body even when shivering does not occur
- Recognition of impending frostbite
- Proper rewarming procedures and appropriate first aid treatment
- Proper use of clothing
- Proper eating and drinking practices
- Safe work practices appropriate to the work that is to be performed

For those employees exposed to cold stress environments, provide refresher training and education to ensure that employees remain knowledgeable about the above-mentioned items. It is recommended that continuing education be provided at least annually.

Engineering Controls

An employer can reduce the exposure hazard of employees to thermal conditions that will cause cold stress or injury using a hierarchy of control methods: Engineering controls, followed by administrative controls and, as a last resort, personal protective equipment (PPE).

Here are some examples of engineering controls to reduce cold exposure:

- Isolate the employee from the environment, where possible.
- Use local heating for the body and especially bare hands (when fine work is required). This may include the use of warm air jets, radiant heaters, or contact warming plates.
- Provide barricades or other structures to block air or reduce air velocities at the work location.
- Provide heated metal tools and equipment handles or cover them with thermal insulating materials.
- Use machine controls and tools designed so that employees do not have to remove mittens or gloves to use them.

Administrative Controls

If the above action is not workable, the employer will reduce the exposure hazard by providing effective administrative controls to reduce the exposure hazard of employees to thermal conditions that will cause cold stress or injury.

Several administrative controls that are commonly used to reduce employee exposure to cold stress are described below:

Fluid replacement and diet: An ample supply of warm drinks or soup will be available, and employees will be encouraged to drink them to replace fluids lost through breathing and perspiration.

- Employees will restrict their intake of coffee because of diuretic and circulatory effects.

A diet high in fats and carbohydrates may help to maintain body temperature.

Scheduling and organization of work: There are several ways to organize and to schedule tasks to minimize the length of time of exposure and to maximize the temperatures to which employees may be exposed.

For example:

When possible, schedule tasks for the warmest part of the day or when the wind is the calmest.
Schedule routine maintenance and repair work for warmer seasons of the year.
Postpone non-urgent tasks when equivalent chill temperatures are in the "great danger" portion of the "cooling power of wind" ACGIH table.
Take the equivalent chill temperature into account when planning or scheduling work activities.

Work/Warm-Up Schedule for a Four (4) Hour Shift

A work/warm-up schedule is an example of an administrative control. The ACGIH standard contains a work/warm-up schedule for a four (4) hour shift for employees who are properly clothed. See table 3.

Table 3 TLVs Work/Warm-up Schedule for Outside Employees based on a Four (4) Hour Shift*

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

PPE

PPE can be used to reduce exposure if the equipment provides protection equally effective as administrative controls.

Employees who are at risk of exposure to thermal conditions that will cause cold stress or injury due to unplanned or accidental events will be provided with clothing and equipment sufficient to permit survival from the natural elements until the employee can be removed from the exposure.

As a minimum, an employee will be provided with the following:

Additional clothing selected in accordance with the anticipated overnight low temperatures for the region in which work, or travel is conducted.

A sleeping bag rated for the anticipated overnight low temperatures for the region in which work, or travel is conducted.

Survival equipment that will allow an employee to survive the natural elements until rescued.

Typical items that will be included in a survival kit:

GENERAL:	SIGNAL:
1-backpack with pockets	1-mini-flashlight and batteries
1-10 ft. x 12 ft. plastic tarp	1-compass
1-5 ft. x 6 ft. polar fleece blanket	1-survival whistle
2-tarp straps	1-set of flares
COOKING:	1-handheld flare launcher
2-large stainless-steel cups	OTHER:
2-sets of cutleries	2-toilet tissue packets
1-survival stove	1-50-foot parachute cord
1-500 ml water bottle	1-sheathed knife
FOOD:	1-tube of lip balm and/or sunscreen
4-instant soup mix	1-container of insect repellent
10-tea bags	1-small folding saw
1-food ration	4-garbage bags
10-instant hot chocolate	FIRST AID:
12-food bars	1-basic first aid kit
1-water treatment kit	
FIRE:	
1-fire starting kit	

Heated Shelters

If an employee is exposed to a thermal environment with an equivalent chill temperature less than 19°F (-7°C), as determined using the criteria for the cooling power of wind on exposed flesh in the cold stress section of the ACGIH standard, a nearby heated shelter will be available to the employee.

The intent of a heated shelter is to allow employees the opportunity to come out of the cold and warm themselves.
The outer layer of clothing will be removed, and remaining clothing will be loosened to permit sweat to evaporate.
Employees will be encouraged to use the shelter at regular intervals.

Signs and symptoms indicating that the shelter will be used are:

Onset of heavy shivering
Minor frostbite (frostnip)
Feeling of excessive fatigue
Drowsiness, irritability or euphoria

A heated vehicle may be used as a heated shelter. In cases where employees are in remote or isolated areas without provision of vehicles capable of being heated (such as all-terrain vehicles or snowmobiles) or in cases where employees are on foot, employees will carry adequate equipment and supplies to permit the timely assembly of a heated shelter, if necessary.

Clothing (Whole Body)

An employee who is or may be exposed to cold stress conditions will wear adequate insulating clothing and PPE.

The most widely used approach to dressing for work in cold environments is to use multiple layers of clothing.

Generally, three (3) layers of clothing are used:

An inner moisture wicking layer that absorbs moisture and keeps it away from the skin.
A second insulating layer that helps keep a layer of air trapped around the body.
An outer layer that keeps dust, dirt, wind, and moisture away from the previous layer and that can be easily removed to prevent the build-up of body heat. In wet environments, the outer layer will be waterproof.

The insulative value of clothing selected will be based upon the equivalent chill temperature of the work environment and the anticipated metabolic rate of the work activity.

Wearing too much clothing can lead to sweating, and wet clothing causes greater heat loss and increases the risk of developing hypothermia.
Many manufacturers of insulated garments provide guidance for recommended temperature and metabolic rate ranges for their clothing.
There are also several standards that recommend the insulative value of clothing for use with a given temperature and metabolic rate.
An example of a standard for selecting clothing is the required insulation value or required clothing insulation (IREQ).

For more information on IREQ see the following:

Holmér, Ingvar. "Cold Stress: Part I-Guidelines for the Practitioner." International Journal of Industrial Ergonomics 14:139-149 (1994).

Clothing (Extremities)

Mittens rather than gloves will be worn when the air temperature is less than -1.4°F (17°C). Gloves and mittens will have removable liners so they can be effectively dried.

Footwear for use in cold environments will be insulated and will also have removable insoles for effective drying.

Exposed areas of the head and neck will be protected against heat loss and the danger of frostbite by use of adequate head covering and/or facemasks.

Walkways and Travel ways

It is the policy of Hawk Energy, LLC that regularly used walkways and travel ways will be salted, sanded, or cleared of snow or ice on a regular basis to ensure the safety of all employees.

Buddy System

To ensure that employees are under constant observation a buddy system will be implemented to ensure that no employee is working alone in cold environments.

Cold Weather Supplies

Cold weather supplies will be regularly inspected to ensure that the supplies are always in stock.

Snow and Ice Buildup

Unstable snow and ice buildup are known to be a great threat to the safety on the job, therefore Hawk Energy, LLC will ensure that employees are made aware of the dangers and destructive potential caused by them and how to prevent the accidents caused by them.

Training Record

Trainer:	
Signature:	
Date:	
Content of Training:	
Attendees	
Print Name:	**Signature:**