1 Purpose

Much of the work performed by Silver Eagle Distributors Houston, LLC's (Silver Eagle Houston's) employees takes place outdoors or in other environments where they may be exposed to extremes of heat, cold, rain and other temperature events. This program outlines the requirements to mitigate temperature hazards and protect workers from injuries and illnesses.

2 Responsibilities

2.1 Management will:

- Be trained in prevention and emergency response to temperature-related health hazards (heat, cold, flooding, lightning, etc.) prior to supervising employees;
- Provide training to workers for recognizing the warning signs of temperature-related health hazards; and
- Provide means of preventing temperature-related health hazards in the field.

2.2 Supervisors will:

- Ensure that workers have the means of preventing temperature-related health hazards in the field;
- Lead by example; and
- Monitor employees to ensure that they take proper precautions and take necessary steps if they show warning signs of temperature-related illnesses.

2.3 Employees will:

- Learn and follow the requirements in this standard;
- Monitor themselves for warning signs of temperature-related stress; and
- Take responsibility for the safety and health of themselves and their co-workers.

3 Heat Illness & Injury Prevention

Employees who are exposed to hot environments face hazards associated with heat illness, especially if they are not accustomed to working in heat. This standard outlines steps for protecting employees from hazards of high heat conditions using engineering controls, administrative procedures and personal protective equipment.

3.1 Assessment

Supervisors must understand potential hazards and assess the factors that may lead to heat illness incidents. Physical factors that contribute to heat illness should be taken into consideration before performing a task. The most common physical factors that can contribute to heat illness are type of work, level of physical activity and duration, and clothing color, weight and breathability.

Supervisors must also consider other factors that may apply to the work fitness of individual employees before assigning a task where there is the possibility of a heat illness occurring. The most common personal factors that can contribute to heat related illness are age, weight/fitness, drug/alcohol use, prior heat-related illness, caffeine intake, use of certain prescription or over-the-counter medications, etc.

3.2 Control Measures

There are several control measures to reduce the risk of heat illness, including:

3.2.1 Engineering Controls:

- Ensure adequate ventilation.
- Provide shade for employees working outdoors, with access to shade permitted at all times.
- Provide portable ventilation when possible.

3.2.2 Administrative Controls:

- Provide training to all affected employees.
- Employees shall have access to potable drinking water. Where it is not plumbed or otherwise continuously supplied, it shall be provided in sufficient quantity throughout the work shift.
- Rotate workers during high heat operations.
- Mandatory hydration breaks under high-heat conditions.

3.2.3 Protective Equipment:

- Provide cooling personal protective equipment.

3.3 Heat-Related Illnesses

Excessive exposure to a hot work environment can bring about a variety of heat-induced disorders.

CAUTION: Persons with heart problems or those on a low sodium diet who work in hot environments should consult a physician about what to do under these conditions.

3.3.1 Heat Stroke

Heat stroke is the most serious heat-related illness. It occurs when the body's temperature regulatory system fails and sweating becomes inadequate. The body loses its only effective means of removing excess heat (sweating) and, with little warning, heat stroke occurs.

A heat stroke victim's skin is hot, usually dry, red or spotted. Body temperature is usually 105^0F or higher, and the victim is mentally confused, delirious, perhaps in convulsions, or unconscious. Unless the victim receives quick and appropriate medical treatment, death can occur.

Early recognition and treatment of heat stroke are the only means of preventing permanent brain damage or death. At the scene, first aid must be immediately administered.

- Move the victim to a cool area,
- Thoroughly soak the clothing with water, and
- Vigorously fan the body to increase cooling.

Heat stroke requires hospitalization as soon as possible. The medical facility should continue the cooling process and monitor complications which often accompany the heat stroke.

3.3.2 Heat Exhaustion

Heat exhaustion includes several symptoms which may resemble the early symptoms of heat stroke. Heat exhaustion is caused by the loss of large amounts of fluid by sweating, sometimes with excessive loss of salt.

The victim still sweats but experiences extreme weakness or fatigue, giddiness, nausea, or headache. The victim may vomit or lose consciousness. The skin is clammy and moist. The complexion is pale or flushed. Body temperature is normal or only slightly elevated.

Treatment involves having the victim rest in a cool place and drink plenty of liquids. For mild cases, this treatment should be enough, but, in severe cases, the victim may require extended care for several days. There are no known permanent effects.

3.3.3 Heat Cramps

Heat cramps are painful spasms of the muscles that occur among those who sweat profusely in heat, especially if they are not used to working in heat. They may occur when victims drink large quantities of water, but do not adequately replace the body's salt loss.

Treatment involves rest and rehydrating, especially with sports drinks or other liquids with electrolytes and salt. It is important to recognize that heat cramps may be a warning sign of impeding heat exhaustion or stroke.

3.3.4 Fainting

A worker who is not accustomed to hot environments and who stands erect and immobile in the heat may faint. It is a sign that not enough blood is reaching the brain. Upon lying down, the worker should soon recover. By moving around, and thereby preventing blood from pooling, the patient can prevent further fainting.

3.3.5 Heat Rash

Heat rash, also known as prickly heat, is likely to occur in hot, humid environments. The sweat ducts become plugged, and a skin rash soon appears. Heat rash may spread to large areas of the body or become infected. The worker can prevent this condition by resting in a cool place and by regularly bathing and drying the skin.

3.3.6 Transient Heat Fatigue

Workers who are not accustomed to the heat may suffer discomfort, and mental or psychological strain. That is why it is important for workers to have an opportunity to adjust or acclimatize to working in heat.

3.4 Preparing for the Heat

The body does adapt to changes in climate, either hot or cold. This doesn’t usually take more than a few days. Whenever possible, Silver Eagle Houston will give employees a chance to get used to working in heat. This may involve lighter job tasks initially, taking more frequent breaks or hydrating more frequently. Employees who return to work after extended time off need to recognize the need to re-acclimatize to working in heat. Employees should discuss this with their supervisors if they are concerned.

3.5 Working in Heat

3.5.1 The following guidelines should be followed at Silver Eagle Houston worksites:

- Learn the warning signs and symptoms of heat-induced illnesses and how to respond.
- When possible, perform the heaviest work during the coolest part of the day.
- Drink plenty of cool water, about a cup every 15 to 20 minutes.
- Wear light, loose fitting, breathable clothing.
- Take frequent, short breaks in cool, shaded areas to allow the body to cool down.
- Avoid eating large meals before working in heat.
- Avoid alcohol or beverages with caffeine. These make the body lose water and increase the risk for heat illnesses. Energy drinks should be avoided.

3.5.2 Drinking Fluids

While working in heat, the body may produce as much as 2 to 3 gallons of sweat. It is important to have cool, plentiful fluids on hand. Water is the simplest, most valuable fluid, but sports drinks or other electrolyte-replacement drinks are valuable. Drinks with caffeine should be avoided, including most energy drinks.

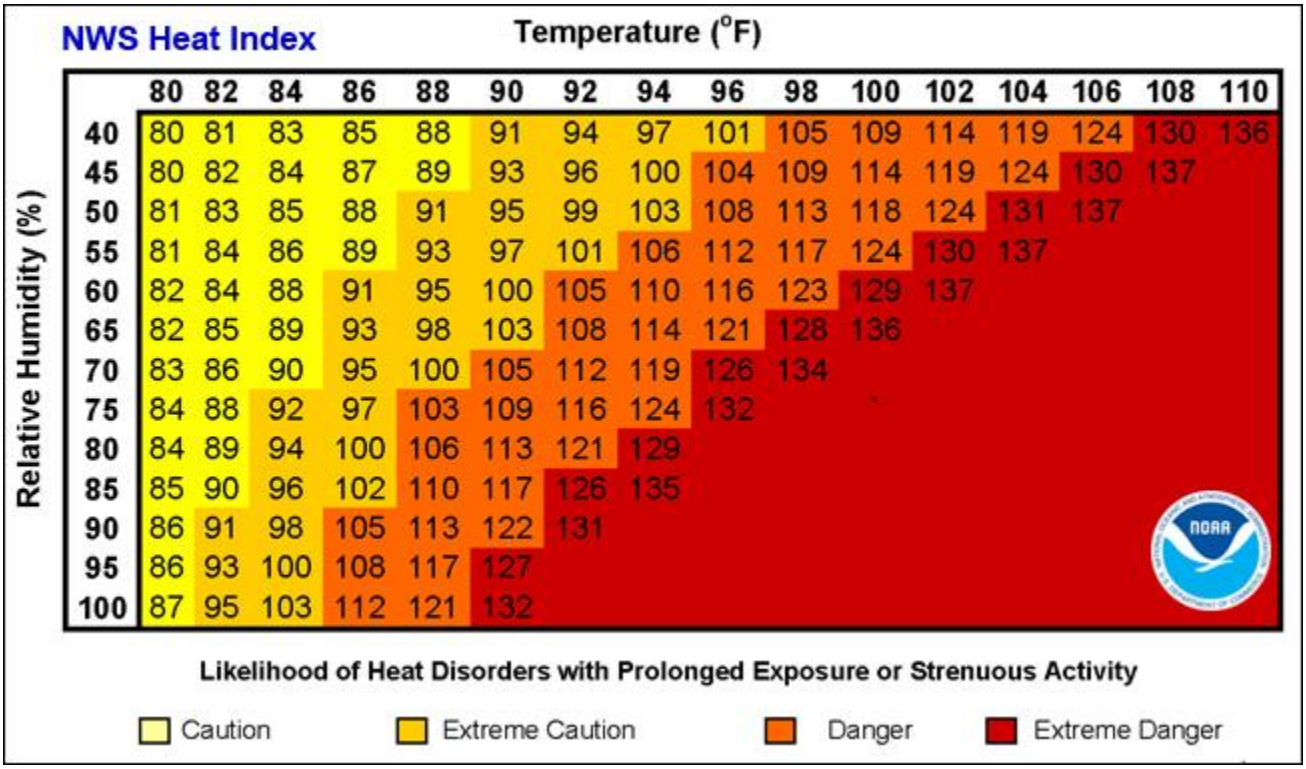
3.5.3 Protective Clothing

Types of clothing can have an effect when working in the heat. Clothes can shield workers from direct sun and keep outside heat from getting to the body. However, it can also interfere with the evaporation of sweat. Generally, clothes that "breathe," that is let heat escape and sweat evaporate on the skin should be worn.

3.6 Supervisor Role

Supervisors must take physical and personal factors into consideration before assigning a task where there is a possibility of a heat related illness occurring:

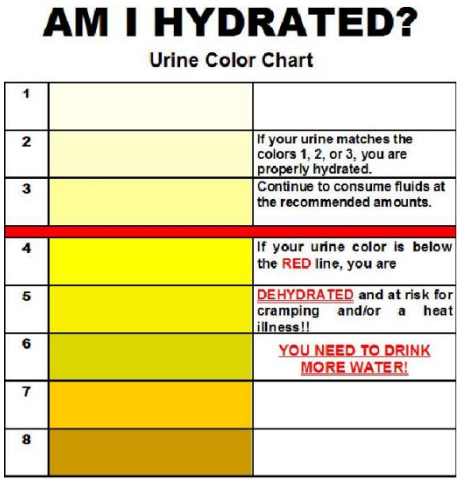
- Factor in humidity and heat to determine the heat index.
- Try to avoid nonessential tasks during periods of high heat danger.
- Set work/rest cycles.
- Identify and use shade or air-conditioning in vehicles for rest periods.
- Monitor workers for warning signs of heat illness.



3.7 Employee Awareness

It is critical that workers monitor their own conditions and keep an eye on each other when working in heat:

- Recognize warning signs of heat illness. By the time more advanced symptoms appear, the worker may already be in trouble.
- Hydrate regularly and recognize that one of the effects of heat illness may be diminished thirst and **not** sweating.
- Monitor urine output. It is one way the body tells us, "drink more liquid."



4 Cold Temperature Safety Program

Each Silver Eagle Houston facility shall implement a site-specific cold temperature/cold stress hazard assessment.

4.1 Responsibilities

4.1.1 Supervisor

- Identify and conduct an assessment of tasks and occupations where there is the potential for cold stress.
- Implement and/or provide controls (engineering, administrative or personal protective equipment) to minimize cold stress.
- Provide training and education regarding cold stress, including early signs and symptoms of cold-related exposure.

4.1.2 Employee

- Adhere to all control measures or work procedures that have been designed and implemented to reduce exposure to conditions that could cause cold stress.
- Leave cold environments if signs or symptoms of cold-related stress appear.
- Wear all required cold temperature clothing and personal protective equipment (PPE).
- Immediately report any signs or symptoms of cold-related stress.

4.2 Cold Temperature Procedures

4.3 Facilities

Regularly used walkways and travel ways shall be sanded, salted or cleared of snow and ice as soon as practicable.

Employees will be informed of the dangers associated with working around unstable snow and ice build-ups. All employees will be informed of the dangers and destructive potential caused by unstable snow build-up, sharp icicles, ice dams and know how to prevent incidents caused by them.

4.4 Clothing, PPE and Supplies

Proper cold temperature protection must be worn by employees when working in cold, wet and windy conditions. Protective clothing is the most important way to avoid cold stress.

The type of fabric also makes a difference. Cotton loses its insulation value when it becomes wet. Wool, silk and most synthetics, on the other hand, retain their insulation even when wet. The following are recommendations for working in cold environments:

- Wear at least three layers of clothing. An inner layer of wool, silk or synthetic to wick moisture away from the body – a middle layer of wool or synthetic to provide Insulation even when hot - an outer wind and rain protection layer that allows some ventilation to prevent overheating.
- Wear a hat or hood. Up to 40% of body heat can be lost when the head is left exposed.

- Keep a change of dry clothing available in case work clothes become wet.
- Except for the wicking layer, do not wear tight clothing. Loose clothing allows bettor ventilation of heat away from the body.
- Do not underestimate the wetting effects of perspiration. Oftentimes wicking and venting of the body's sweat and heat are more important than protecting from rain or snow.
- Wear insulated boots or other footwear. Felt-lined, rubber bottomed, leather-topped boots with removable felt insoles are best suited for heavy work in cold since leather is porous, allowing the boots to "breathe" and let perspiration evaporate.
- Liner socks made from polypropylene will help keep feet dry and warmer by wicking sweat away from the skin. Always wear the right thickness of socks for your boots.
- In extremely cold conditions, where face protection is used, eye protection must be separated from the nose and mouth to prevent exhaled moisture from fogging and frosting eye shields or glasses.
- Clothing must be dry. Moisture should be kept off clothes by removing snow prior to entering heated shelters.

Cold temperature supplies will be regularly inspected and restocked when necessary by Silver Eagle Houston. Regular inspections on cold temperature supplies such as hand warmers, jackets, shovels, etc. will be carried out to ensure that supplies are always in stock.

4.5 Preventative Controls

When possible, workers will be under protective observation by a co-worker or supervisor. Other controls can be implemented to reduce the risk of work in cold temperature:

- Some preventive measures include drinking plenty of liquids, avoiding caffeine and alcohol.
- It is easy to become dehydrated in cold temperature. If possible, heavy work should be scheduled during the warmer parts of the day.
- Take breaks out of the cold.
- Try to work in pairs to keep an eye on each other and watch for signs of cold stress.
- Avoid fatigue, since energy is needed to keep muscles warm.
- Take frequent breaks and consume warm, high calorie food such as pasta to maintain energy reserves.
- If a worker exposed to cold shows signs or reports symptoms of cold stress or injury the worker must be removed from further exposure and treated by an appropriate first aid attendant, if available, or a physician.
- For continuous work in temperatures below the freezing point, heated warming shelters such as tents, cabins or rest rooms should be available. The work should be paced to avoid excessive sweating. If such work is necessary, proper rest periods in a warm area should be allowed and employees should change into dry clothes.

- New employees should be given enough time to get acclimatized to cold and protective clothing before assuming a full workload.
- For work below the freezing point, metal handles and bars should be covered by thermal insulating material. Also, machines and tools should be designed so that they can be operated without having to remove mittens or gloves.

4.6 Health Effects of Cold Temperature

Where employees are exposed to work conditions that may present a hazard because of excessive cold Silver Eagle Houston shall ensure that a competent person provides guidance to ensure the employees are familiar with the signs and symptoms of cold temperature induced health problems such as hypothermia, frostbite and trench foot.

4.6.1 Hypothermia occurs when body heat is lost faster than it can be replaced. When the core body temperature drops below the normal 98.6oF to around 95oF the onset of symptoms normally begins. The person may begin to shiver and stomp their feet to generate heat. Workers may lose coordination, have slurred speech and fumble with items in the hand. The skin will likely be pale and cold.

4.6.2 Frostbite occurs when skin freezes and loses water. In severe cases, amputation of the frostbitten area may be required. While frostbite usually occurs when the temperatures are 30°F or lower, wind chill factors can allow frostbite to occur in above freezing temperatures. Frostbite typically affects the extremities, particularly the feet and hands. The affected body part will be cold, tingling, stinging or aching followed by numbness. Skin color tums red, then purple, then white and is cold to tile touch. There may be blisters in severe cases.

4.6.3 Trench Foot or immersion foot is caused by having feet immersed in cold water at temperatures above freezing for long periods of time. It is like frostbite, but is considered less severe. Symptoms usually consist of tingling, itching or a burning sensation. Blisters may be present.

5 Training

5.1 Silver Eagle Houston employees who are required to work in extreme temperature conditions will receive initial and annual training regarding the health effects of exposure, recognition of temperature-related illnesses and first aid treatment, required protective clothing, vehicle breakdown procedures and proper eating and drinking habits for working in the heat or cold. All training shall be documented.

5.2 **First Aid Training -** Silver Eagle Houston employees who are required to perform work in temperature extremes will be knowledgeable on first aid treatment for these illnesses.

6 References

OSH Act of 1970 – Section 5(a)(1)

7 Document Revision Register

Revision #	Section #	Date	Revision Description
0		09/01/2019	Initial Issue
