



Airswift Holdings Ltd.

HSE Management System

Cold Weather Safety / Cold Stress

Important Notice:

1. This procedure is a Controlled Document and shall not be amended without the authority of the Operations Manager – North America.
2. Any queries or feedback concerning the contents of this Procedure should be addressed to the Operations Manager – North America.

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Airswift Holdings Ltd.

Cold Weather/Cold Stress Safety Program

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1.0 INTRODUCTION

- 1.1** Working in extreme temperatures (hot or cold) can overwhelm the body’s internal temperature control system. When the body is unable to warm or cool itself, heat or cold related stress can result. Heat and cold stress can contribute to adverse health effects which range in severity from discomfort to death.
- 1.2** Airswift has developed this policy to minimize the effects of cold stress on workers. This program contains the procedures and practices for safely working in cold temperatures.
- 1.3** The Occupational Safety and Health Administration (OSHA) does not currently have specific standards for cold stress. However, the Occupational Safety and Health Act of 1970 General Duty Clause (Section 5(a)(1)) states that “Each employer shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees.” In addition, 29 CFR Subpart I relating to personal protective equipment requires employers to provide protection to employees exposed to hazards in the workplace. The OSHA website contains Fact Sheets and Guidance Documents that relate to heat and cold stress that have been incorporated into this program.

2.0 RESPONSIBILITIES

- 2.1** Airswift shall:
 - 2.1.1** Maintain, review and update the policy as needed.
 - 2.1.2** Identify jobs, tasks and workers who are at risk for cold exposure.
 - 2.1.3** Provide monitoring and assist employees with the development of procedures to minimize the adverse effects of cold stress in the workplace.
 - 2.1.4** Provide training to employees affected by cold.
- 2.2** Supervisors shall:
 - 2.2.1** Review and comply with the provisions outlined in this program.
 - 2.2.2** Ensure all employees are properly trained before working in extreme temperature conditions.
 - 2.2.3** Assess the day-to-day heat or cold stresses on employees.
 - 2.2.4** Assess employees workload and assigning work and rest schedules as needed.
 - 2.2.5** Ensure all employees have the appropriate personal protective equipment (PPE) prior to working in extreme temperature conditions.
 - 2.2.6** Ensure employees are familiar with this safety program.
- 2.3** Employees shall:
 - 2.3.1** Review and comply with the provisions outlined in this program.
 - 2.3.2** Complete training before working in extreme temperature conditions and annually thereafter.
 - 2.3.3** Wear the appropriate PPE.
 - 2.3.4** Report heat and cold stress concerns to their supervisor.



3.0 COLD RELATED ILLNESSES AND INJURIES: SIGNS, TREATMENT AND PREVENTION

3.1 During cold weather, an employee's body will use energy to maintain a normal internal body temperature. This will result in a shift of blood flow from employee's extremities (hands, feet and legs) and outer skin to the employee's core (chest and abdomen). If this happens, cold-related illnesses and injuries may occur if exposed to cold conditions for an extended period of time. The most common health problems caused by cold work environments include:

3.1.1 Hypothermia – Hypothermia is a potentially serious health condition. Hypothermia occurs when body heat is lost faster than it can be replaced. When the core body temperature drops to approximately 95°F, the onset of symptoms normally begins. The employee may begin to shiver, lose coordination, have slurred speech, and fumble with items in the hand. The employee's skin will likely be pale and cold. As the body temperature continues to fall these symptoms will worsen and shivering will stop. Once the body temperature falls to around 85°F severe hypothermia will develop and the person may become unconscious, and at 78°F, vital organs may begin to fail.

Treatment depends on the severity of the hypothermia. For cases of mild hypothermia move to warm area and stay active. Remove wet clothes and replace with dry clothes or blankets and cover the head. To promote metabolism and assist in raising internal core temperature drink a warm (not hot) sugary drink. Avoid drinks with caffeine. For more severe cases do all the above, plus contact emergency medical personnel (Call 911 for an ambulance), cover all extremities completely, place very warm objects, such as hot packs or water bottles on the victim's head, neck, chest and groin area. Arms and legs should be warmed last. In cases of severe hypothermia, treat the employee very gently and do not apply external heat to re-warm. Hospital treatment is required.

3.1.2 Frostbite – Frostbite occurs when the 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 turns red, then purple, then white, and is cold to the touch. There may be blisters in severe cases. Do not rub the area to warm it. Wrap the area in a soft cloth, move the employee to a warm area, and contact medical personnel. Do not leave the employee alone. If help is delayed, immerse in warm (maximum 105 °F), not hot, water. Do not pour water directly on affected part. If there is a chance that the affected part will get cold again do not warm. Repeated heating and cooling of the skin may cause severe tissue damage.

3.1.3 Trench Foot – Trench Foot is caused by having feet exposed to damp, unsanitary and cold conditions including water at temperatures above freezing for long periods of time. It is similar to frostbite but considered less severe. Symptoms usually consist of tingling, itching, or burning sensation. Blisters may be present. For treatment, soak feet in warm water, then wrap with dry cloth bandages. Drink a warm, sugary drink. Seek medical attention if necessary.



- 3.1.4** Dehydration – It is easy to become dehydrated during cold weather. Signs of dehydration include increasing thirst, dry mouth, weakness or light-headedness (particularly if worse upon standing), and a darkening of the urine or a decrease in urination. Dehydration can be reversed or put back in balance by drinking fluids that contain electrolytes (i.e. Gatorade) that are lost during work related activities. Avoid caffeinated drinks.
- 3.2** Cold related illnesses and injuries are dangerous and potentially life threatening, however, they can be prevented. Prevention methods include:

 - 3.2.1** Acclimation – Employees exposed to the cold should be physically fit, without any circulatory, metabolic, or neurologic diseases that may place them at increased risk for hypothermia. A new employee should not be required to work in the cold full time during the first days of employment until they become adjusted to the working conditions and required protective clothing. New employees should be introduced to the work schedule slowly and be trained accordingly.
 - 3.2.2** Engineering Controls – For employees working indoors, the best way to prevent cold-related illness is to make the work environment warmer. Where and if possible, use heaters to warm the work area. Alternatively, decrease the general ventilation as much as possible by closing windows or doors.
 - 3.2.3** Safe Work Practices – For employees working outdoors or working indoors without heat, take scheduled breaks in warm areas. If available, use wind barricades to block the wind from the employees. Ensure there is plenty of water to drink and take water breaks as needed. Immediately report any problems to a supervisor. Supervisors should consider scheduling the most work for the warmest part of day, assigning extra employees to high demand tasks that will require longer periods in cold areas. All employees should watch out for the safety of their coworkers, looking out 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.
 - 3.2.4** Personal Protective Equipment (PPE) – PPE is an important factor in preventing cold stress related illnesses and injuries. Employees should adhere to the following recommendations when dressing for work in a cold environment:

 - 3.2.4.1** 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 wet; an outer wind and rain protection layer that allows some ventilation to prevent overheating.
 - 3.2.4.2** Wear a hat or hood; up to 40% of body heat can be lost when the head is left exposed.
 - 3.2.4.3** Wear insulated boots or other footwear.
 - 3.2.4.4** Do not wear tight clothing; loose clothing provides better ventilation.
 - 3.2.4.5** 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.
 - 3.2.4.6** Keep a change of clothing available in case work clothes become wet.



- 3.2.4.7** Regularly inspections on cold weather supplies (e.g. hand warmers, jackets, shovels, etc) should be carried out to ensure that supplies are always in stock.
- 3.2.5** Buddy system - Implement a "Buddy System" to ensure that no employee is working alone in cold work environments.
- 3.2.6** For general safety, regularly used walkways and travel ways shall be sanded, salted, or cleared of snow and ice as soon as practicable.
- 3.2.7** All employees should be informed of the dangers and destructive potential caused by unstable snow buildup, sharp icicles, and ice dams and know how to prevent accidents caused by them.

4.0 TRAINING

- 4.1** Airswift shall ensure all affected employees receive Cold Stress training prior to working in such conditions and on an annual basis. Training shall include the health effects of cold exposure, proper rewarming procedures, recognition and first aid for frostbite, Trench Foot and hypothermia. The required protective clothing, proper use of warming shelters, the buddy system, vehicle breakdown procedures, and proper eating and drinking habits for working in the cold.
- 4.2** All employees who are required to perform work in cold conditions will be knowledgeable on how to administer first aid treatment on cold induced injuries or illnesses as such as those listed below:

Hypothermia:

Treatment depends on the severity of the hypothermia. For cases of mild hypothermia move to warm area and stay active. Remove wet clothes and replace with dry clothes or blankets, cover the head. To promote metabolism and assist in raising internal core temperature drink a warm (not hot) sugary drink. Avoid drinks with caffeine. For more severe cases do all the above, plus contact emergency medical personnel (Call 911 for an ambulance), cover all extremities completely, place very warm objects, such as hot packs or water bottles on the victim's head, neck, chest and groin. Arms and legs should be warmed last. In cases of severe hypothermia, treat the employee very gently and do not apply external heat to re-warm. Hospital treatment is required.

Frostbite:

Do not rub the area to warm it. Wrap the area in a soft cloth, move the employee to a warm area, and contact medical personnel. Do not leave the employee alone. If help is delayed, immerse in warm (maximum 105 °F), not hot, water. Do not pour water directly on affected part. If there is a chance that the affected part will get cold again do not warm. Repeated heating and cooling of the skin may cause severe tissue damage.

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Trench Foot:

For treatment, soak feet in warm water, then wrap with dry cloth bandages. Drink a warm, sugary drink. Seek medical attention if necessary.

Always seek medical attention if necessary.