**<< FARM NAME >> HEAT STRESS POLICY**

**PURPOSE**

<< FARM NAME >> has developed this Policy to minimize the risk of heat-related disorders, including but not limited to heat exhaustion, heat cramps, and heat stroke (which for purposes of this Policy, we will refer to collectively as “heat stress”) faced by workers working outdoors or indoors in extreme heat.

**DEFINITIONS**

For purposes of this Policy:

**ACGIH Standard** means the American Conference of Governmental Industrial Hygienists Publication *Threshold Limit Values and Biological Exposure Limits*;

**Administrative controls** mean the provision, use, and scheduling of work activities and resources in the workplace, including planning, organizing, staffing, and coordinating, for the purpose of controlling risk;

**Competent** means possessing knowledge, experience, and training to perform a specific duty safely and effectively;

**Engineering controls** means the physical arrangement, design, or alteration of workstations, equipment, materials, production facilities, or other aspects of the physical work environment, to controlling hazards;

**Practicable** means possible given current knowledge, technology and invention;

**Reasonably practicable** means practicable unless the person on whom a duty is placed can show that there is a gross disproportion between the benefit of the duty and the cost, in time, trouble and money, of the measures to secure the duty;

**TLV** means Threshold Limit Values®, a standard developed by the ACGIH to measure how much of a dangerous agent, like heat, a worker can be exposed to day after day over a working lifetime without suffering adverse health effects;

**Unacclimated worker** means a worker who is not accustomed to working in a hot environment or who has been out of a hot environment for 7 consecutive days;

**WGBT** means wet bulb globe temperature, an instrument that measures heat according not just to temperature but also humidity, and radiant heat.

**POLICY STATEMENT**

The management of << FARM NAME >> recognizes and is committed to eliminating or, where elimination is not reasonably practicable, minimizing the dangers of heat stress by identifying heat stress hazards and implementing necessary engineering controls, administrative controls, and personal protective equipment to limit workers’ exposure to dangerous heat conditions and provide workers reasonable thermal comfort in accordance with the safety program.

**WORKERS THIS POLICY IS INTENDED TO PROTECT**

The intent of this Policy is to ensure that all workers engaged to work at << FARM NAME >> work sites who are or may be exposed to dangerous thermal conditions, inside or outside, are appropriately protected and, if reasonably practicable, provided reasonable thermal comfort regardless of who pays or employs those workers, including:

• Full- or part-time workers employed by << FARM NAME >>;

• Contract workers engaged to perform work at the site; and

• Workers employed by prime contractors, contractors, and subcontractors to perform work at the site under a contract with << FARM NAME >>.

**ROLES & RESPONSIBILITIES**

**Employer & Managers**

The Owner and managers of << FARM NAME >> are responsible for overall implementation of this Policy, including:

• The resources necessary to implement this Policy effectively are provided;

• The heat stress hazard assessment is carried out and appropriately reviewed and revised;

• Appropriate controls are selected and implemented to protect workers from identified hazards;

• Workers are trained in and required to comply with safe work procedures and use the controls;

• Exposure is kept to the limits determined using the methods set out in this Policy;

• The monitoring and measuring of workers’ exposure is properly carried out and documented;

• Where reasonably practicable, substitution and engineering controls are used to control heat stress hazards;

• All of the emergency equipment, PPE, and protective clothing required is provided and properly used;

• All exposed workers receive adequate instruction and supervision;

* All exposed workers receive the information and training required; and

• This Policy is appropriately reviewed annually.

**Workers**

Workers are responsible for knowing, cooperating, and complying with this policy by:

* Participating in the training and instruction on heat stress;
* Staying properly hydrated when working in the heat;
* Wearing appropriate clothing and head covering;
* Following the recommendations of their managers for becoming acclimatized to the heat;
* Notifying their manager if they have medical or physical conditions that may make them more vulnerable to heat stress;
* Learning to recognize and be on the lookout for the signs and symptoms of heat stress;
* Immediately notifying their manager if they detect such signs either personally or in a co-worker;
* Being familiar with the medical treatment/first aid required for different heat stress conditions and either initiate those treatments or, if they’re not qualified or trained to do so, summoning help from somebody who is; and
* Talking to their manager about any concerns they may have regarding heat stress.

**Health & Safety Representative/ Committee**

<< FARM NAME >> will consult with and secure the participation of the workplace Health & Safety Committee, and the affected workers at the site in developing and implementing this Policy, including:

• Assessment of heat stress hazards;

• Development of training;

• Development of safe work procedures and processes;

• Selection and monitoring of hazard controls;

• Selection and installation of PPE and other protective equipment;

• Investigation of exposure incidents; and

• Review of this Policy annually.

**HEAT STRESS EXPOSURE LIMITS**

No worker may be exposed to levels that exceed those listed in the screening criteria for heat stress exposure in the heat stress and strain section of the ACGIH Standard, as set forth in Table 1 below, which uses WGBT values to measure exposure to heat that are adjusted based on the following factors:

* **Acclimatization:** Whether workers are used to working in the heat;
* **Work demands**: How much metabolic stress the workplaces on the body, including:
	+ Light, Moderate, Heavy, and/or Very heavy;
* **Work/recovery cycle**: The proportion of time in an hour spent on work vs. time spent resting and recovering.

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| --- |
| Table 1 : Screening criteria for heat stress exposure (WBGT values in °C) |
|  | **TLV®** | **Action Limit** |
| Work/Recovery cycle | **Light** | **Moderate** | **Heavy** | **Very heavy** | **Light** | **Moderate** | **Heavy** | **Very heavy** |
| 75 - 100% work | 31 | 28 | - | - | 28 | 25 | - | - |
| 50 - 75% work | 31 | 29 | 27.5 | - | 28.5 | 26 | 24 | - |
| 25 - 50% work | 32 | 30 | 29 | 28 | 29.5 | 27 | 25.5 | 24.5 |
| 0 - 25% work | 32.5 | 31.5 | 30.5 | 30 | 30 | 29 | 28 | 27 |

Because Table 1 measures assume that workers are wearing long sleeved shirts and pants, clothing corrections must be applied in accordance with the heat stress and strain section of the ACGIH Standard for workers wearing different kinds of clothing by increasing WBGT values for the following kinds of clothing:

|  |
| --- |
| Additions to measured WBGT values (°C) for some clothing ensembles |
| **Clothing type** | **WBGT addition\*** |
| Work clothes (long-sleeved shirt and pants) | 0 |
| Cloth (woven material) overalls | 0 |
| Double-layer woven clothing | 3 |
| SMS polypropylene coveralls | 0.5 |
| Polyolefin coveralls | 1 |
| Limited-use vapour-barrier coveralls | 11 |

**HEAT STRESS HAZARD ASSESSMENT**

<< FARM NAME >> will designate competent personnel to conduct a thermal conditions hazard assessment to determine the possibility of for exposure to heat stress taking into account:

* **Temperature:** Including not just ambient temperature shown on the thermometer but how the air actually feels to the worker;
* **Humidity:** Including not just humid outdoor air but other sources, e.g., steam from indoor equipment;
* **Heat Radiation:** Including direct sunlight and other nearby generators of light or heat, e.g., soldering and hot surfaces, that increase heat stress dangers;
* **Air Movement:** Stagnant air tends to be hotter; but circulating air that’s already hot, e.g., air near steam pipes, can also heighten heat stress risks;
* **Workload:** Strenuous work like carrying heavy objects long distances intensify heat stress dangers;
* **Workers’ Physical Condition:** Including workers’ age, weight, fitness, and acclimatization, i.e., whether they’re used to working in hot conditions;
* **Clothing:** Thick clothing and heavy equipment like respirators and face hoods aggravate heat stress risks; lighter clothing of natural fibers alleviates them.

**HEAT STRESS PROTECTIONS FOR INDOOR WORK**

In an indoor workplace, << FARM NAME >> will take measures to provide and maintain thermal conditions, including air temperature, radiant temperature, humidity, and air movement, that:

* Are appropriate for the nature of the work performed;
* Provide effective protection against exposure to heat stress and other thermal hazards; and
* Provide workers reasonable thermal comfort.

Measures taken to control indoor thermal conditions may include, where reasonably practicable, the use of engineering controls such as:

* **General ventilation** to dilute hot air with cooler air (generally from the outside) which may include permanently installing ventilation systems for large areas or entire buildings and/or portable or local exhaust systems for smaller areas;
* **Air treatment/air cooling** to not just ventilate but reduce air temperature by removing heat and, in some cases, humidity;
* **Air conditioning** to cool the air or use of chillers to circulate cool water through heat exchangers over which air from the ventilation system is then passed;
* **Local air cooling** to reduce air temperatures in specific areas;
* **Convection**, or use of fans to increase air flow where air temperature is less than the workers’ skin temperature and/or change the air speed to help workers stay cool by increasing both the convective heat exchange;
* **Heat conduction** methods like insulating the hot surface that generates the heat and changing the surface itself.

If the thermal conditions are likely to pose a hazard to workers in the indoor workplace, << FARM NAME >> will provide and maintain an appropriate and suitably located instrument for measuring thermal conditions.

**PROTECTIONS WHERE THERMAL CONDITIONS CANNOT BE CONTROLLED**

If it is not reasonably practicable to control thermal conditions, << FARM NAME >> will take measures to provide effective protection against heat stress and other thermal hazards and provide workers a reasonable thermal comfort, including but not limited to the specific measures set out below.

**Monitoring of Thermal Conditions**

During the conducting of indoor or outdoor work that exposes workers to heat stress risks, competent personnel will frequently monitor thermal conditions, including temperature, humidity, heat radiation, and air movement. Monitors will also consider the workers’ workload, age, physical characteristics, and clothing or PPE worn, in determining if the thermal conditions pose a danger.

**Personal Monitoring**

In addition to thermal conditions, monitoring may include personal monitoring of workers carrying out the work including:

* Persons trained to recognize signs and symptoms of heat stress will monitor workers frequently throughout the day;
* Taking personal measurements of workers’:
	+ Heart rate by counting the radial pulse for 30 seconds at the start of the rest period and shortening the next work period of any worker whose heart rate is over110 beats per minute; and
	+ Recovery heart rate, i.e., heart rate measured at a fixed, reference period over one minute after activity stops, by comparing pulse rate taken at 30 seconds (P1) with pulse rate taken at 2.5 minutes (P3) after the rest break starts.

If monitoring reveals that heat stress exposure is dangerous and is not being adequately controlled, monitors will stop or make modifications to the work as necessary to address the danger.

**Cooling Devices to Make the Air Less Hot**

If reasonably practicable, << FARM NAME >> will provide temporary equipment such as screens, shields, fans, and other cooling devices, to protect workers from heat stress and provide a greater level of thermal comfort.

**Administrative & Work Controls**

Administrative and work controls to protect workers and provide greater thermal comfort will include some or all of the following:

* Short work shifts and frequent water breaks;
* Scheduling practices, such as scheduling the most strenuous tasks during the coolest part of the day;
* Constant cycling of fresh workers to relieve workers who’ve been in the heat after a designated amount of time;
* Use of buddy systems requiring co-workers to keep an eye on each other and raise the alarm if they detect signs or symptoms of heat stress;
* Providing cool temperature recovery areas, such as air-conditioned trailers and rooms that workers can use to cool off during breaks.

**PPE & Proper Clothing for Working in the Heat**

In lieu of, or in addition to the above controls, << FARM NAME >> will provide and require workers exposed to heat stress to use appropriate PPE, which may include:

* Wetted clothing like terry cloth coveralls that cool the body especially when worn underneath reflective and other impermeable protective clothing;
* Water cooled garments like hoods that cool the head and/or vests and long johns that cover more of the body;
* Clothing and equipment that circulate air from a supplied air system around the body;

<< FARM NAME >> will also require workers to dress appropriately for working in the heat, which may include wearing:

* Light weight, loose fitting clothing made of natural fibers like cotton;
* Light colors, sunglasses and protective skin lotions and creams if they work in the sun; and
* Reflective clothing that keeps the skin from absorbing radiant heat (and which should be worn as loosely as possible to make up for its tendency to reduce the body’s evaporative cooling by blocking air exchange through the garment).

**Cool Drinking Water**

<< FARM NAME >> will ensure workers have access to an adequate supply of cool, clean, drinkable water at or close to the work area that is easily accessible to any worker exposed to dangerous heat.

**Removal & Treatment for Heat Exposure**

Workers who shows signs or reports symptoms of heat stress will be removed from the hot environment and treated by an appropriate first aider.

**Acclimatization to Working in the Heat**

Where reasonably practicable, << FARM NAME >> will implement acclimatization measures exposing workers to work in a hot environment for progressively longer periods so that their bodies adapt and become accustomed to working in the heat.

**Heat Stress Contingency Plan Procedure**

The above heat stress controls may be implemented on a contingency plan basis as the weather dictates in accordance with the following principles:

* Heat stress contingency plan measures will go into effect when an Environment Canada Humidex issues a heat advisory (air temperature exceeding 30°C and Humidex exceeding 40°C);
* The heat stress contingency plan will be created in consultation with the Safety Committee and follow these general guidelines:

|  |  |
| --- | --- |
| Humidex  | Action  |
| 30-33  | Alert & information & water to workers |
| 34-37  | Warning, education & double water to workers |
| 38-39  | Restrict activity 25% & actively monitor for signs of heat strain  |
| 40-42  | Restrict activity 50% & actively monitor for signs of heat strain  |
| 43-44  | Restrict activity 75% & actively monitor for signs of heat strain  |
| 45+  | Stop work  |

**HEAT STRESS TRAINING & EDUCATION**

Workers who perform work operations involving heat stress hazards will receive appropriate safety training and instruction before they are exposed, including:

• Knowledge of heat stress hazards;

• Recognition of predisposing factors, danger signs and symptoms;

• Awareness of first-aid procedures for, and the potential health effects of, different forms of heat stress;

• The importance of proper hydration and what not eat/drink when working in extreme heat;

• The roles and responsibilities of themselves and others for avoiding heat stress;

• Dangers of using drugs, including therapeutic ones, and alcohol in hot work environments;

• Appropriate dress for work involving exposure to heat; and

• The measures in place to protect them from heat stress and how to properly use them.

**HEAT STRESS RESPONSE & FIRST AID**

Workers must immediately report to their manager and call for the appropriate medical help and first aid if they experience or notice their co-workers are experiencing any of the following signs and symptoms of heat stress:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Heat Rash | Hot humid environment; plugged sweat glands. | Red bumpy rash with severe itching. | Change into dry clothes and avoid hot environments. Rinse skin with cool water. | Wash regularly to keep skin clean and dry. |
| Sunburn | Too much exposure to the sun. | Red, painful, or blistering and peeling skin. | If the skin blisters, seek medical aid. Use skin lotions (avoid topical anaesthetics) and work in the shade. | Work in the shade; cover skin with clothing; apply skin lotions with a sun protection factor of at least 15.  |
| Heat Cramps | Heavy sweating drains a person's body of salt, which cannot be replaced just by drinking water. | Painful cramps in arms, legs or stomach, which occur suddenly at work or later at home.Heat cramps be a warning of other more dangerous heat-induced illnesses. | Move to a cool area; loosen clothing and drink cool salted water (1 tsp. salt per gallon of water) or commercial fluid replacement beverage. If the cramps are severe or don't go away, seek medical aid. | Reduce activity levels and/or heat exposure. Drink fluids regularly. Workers should check on each other to help spot the symptoms that often precede heat stroke. |
| Fainting | Fluid loss and inadequate water intake. | Sudden fainting after at least two hours of work; cool moist skin; weak pulse. | GET MEDICAL ATTENTION. Assess need for CPR. Move to a cool area; loosen clothing; make person lie down; and if the person is conscious, offer sips of cool water.  | Reduce activity levels and/or heat exposure. Drink fluids regularly. Workers should check on each other to help spot the symptoms that often precede heat stroke. |
| Heat Exhaustion | Fluid loss and inadequate salt and water intake causes a person's body's cooling system to start to break down. | Heavy sweating; cool moist skin; body temperature over 38°C; weak pulse; person is tired and weak, and has nausea and vomiting; is very thirsty; or is panting or breathing rapidly; vision may be blurred. | GET MEDICAL AID. This condition can lead to heat stroke, which can kill. Move the person to a cool shaded area; loosen or remove excess clothing; provide cool water to drink; fan and spray with cool water. | Reduce activity levels and/or heat exposure. Drink fluids regularly. Workers should check on each other to help spot the symptoms that often precede heat stroke. |
| Heat Stroke | If a person's body has used up all its water and salt reserves, it will stop sweating. This can cause body temperature to rise. Heat stroke may develop suddenly or may follow from heat exhaustion. | High body temperature (over 41°C) and any one of the following: the person is weak, confused, upset or acting strangely; has hot, dry, red skin; a fast pulse; headache or dizziness. In later stages, a person may pass out and have convulsions | CALL AMBULANCE. This condition can kill a person quickly. Remove excess clothing; fan and spray the person with cool water; offer sips of cool water if the person is conscious.  | Reduce activity levels and/or heat exposure. Drink fluids regularly. Workers should check on each other to help spot the symptoms that often precede heat stroke. |

**CONTRACTORS**

Prime contractors, contractors, and subcontractors hired to perform work involving exposure to heat stress hazards at an << FARM NAME >> work site will be:

* Notified of the heat stress hazards posed to their workers;
* Notified of the terms of this Policy and the measures in place to protect workers from heat stress;
* Required to notify their own workers of such hazards and control measures, including but not limited to any safe work procedures that apply;
* Required to ensure their workers comply with such safe work procedures and the terms of this Policy;

Prime contractors, contractors, and subcontractors in charge of work at << FARM NAME >> work sites that involves exposure to heat stress hazards covered by this Policy will protect the workers performing the work from heat stress and provide them a reasonable level of thermal comfort by:

* Directly applying this Policy to the work; or
* Applying their own safe work procedures and heat stress control measures that meets the requirements of the Regulations, are suitable for the workplace and work performed, and that are coordinated with and provide at least the same degree of protection as this Policy to workers performing the contract work.

**EVALUATION**

This Policy and will be reviewed, in consultation with the Health & Safety Representative/Committee at least once a year or on a more frequent basis in response to changes affecting workers’ health and safety.

Signed: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\*The safety information in this policy is to be used in conjunction with all applicable Federal, Provincial, & Municipal Legislation.