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North American Operations Heat and Cold Stress Prevention Plan and Procedure Issued: 06/19/2020		

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1.0 **Purpose**

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, cold or heat-related stress can result. This stress can contribute to adverse health effects which range in severity from discomfort to death. Constellis, LLC’s North American Operations (“the Company”) has developed this Heat and Cold Stress Prevention Plan and Procedure (“the Procedure”) to minimize the effects of heat and cold stress on Company employees.

2.0 **Scope**

This Procedure applies to all personnel working at any Company North American Operations locations including all personnel who work for Constellis, LLC; Triple Canopy, Inc.; Centerra Group, LLC and OMNIPLEX World Services Corporation, and any of their affiliates or subsidiaries.

3.0 **Weather Monitoring and Real Time Communication**

The Company will utilize its Global Security Operations Center (“GSOC”) which will monitor weather, to include severe heat and cold advisories or other similar severe weather events at or near Federal Protective Services (FPS) Program locations. The GSOC will notify Program Managers when a potential or actual weather-related event may or will impact the specific program location. Notification to Program Managers and North American Operations (“NAO”) leadership is meant to ensure that any modifications to normal working conditions can occur, if necessary, based on any weather event to safeguard the health and safety of personnel. Program Managers and Site Supervisors are also responsible for staying weather alert and monitoring weather conditions throughout the work day. Program Managers and Site Supervisors are charged with implementing real time communication to make proper adjustment to program work practices based on heat or cold weather, including changing air temperatures and other environmental factors. Program Managers who have sites where a permanent supervisor post does not exist, must designate a Post at the worksite to have the authority to communicate and implement any measures necessary to address heat or cold stress.

3.1 Extra Measures For Extreme Weather Events

Because extreme weather events create environmental conditions that can impact employee and safety, all personnel must take additional actions. During heat waves or extreme cold weather events, employees’ physical and mental condition can change rapidly into a serious medical condition. The onset of heat illness or cold stress may be confused with other problems and may not always be obvious before it becomes life-threatening. Therefore, extra measures may be required to prevent and/or respond to heat illness or impacts on personnel due to extreme cold temperatures. All personnel, including officers and supervisors, should ensure real-time communication is employed, and that all “buddy system” measures are activated in addition to any site-specific resources that are available.

4.0 Heat Stress Prevention Plan and Procedure

4.1 Heat Stress

Heat stress occurs when the body's means of controlling its internal temperature starts to fail. As well as air temperature, factors such as work rate, humidity and clothing worn while working may lead to heat stress. The body's natural way to keep the core body temperature from rising to unhealthy levels is through an increase in heart rate and sweating. When these are not enough to keep the core body temperature from rising, the result is heat-related illness or death. Elevated core body temperatures may cause the following illnesses:

- Heat Stroke
- Heat Exhaustion
- Heat Cramps
- Heat Syncope
- Heat Rash
- Rhabdomyolysis

Signs and symptoms of the above include: High body temperature (103°F or higher); hot, red, dry, or damp skin; fast, strong pulse, headache, dizziness, nausea, confusion, and losing consciousness (passing out). The Company follows the Wet Bulb, Globe Temperature (WBGT) standard to determine when to implement the Buddy System and other available advanced measures to reduce the likelihood of a heat stress related event.

WBGT Index	Flag Color	Mitigation Actions
82 - 84.9 Degrees Fahrenheit	Green	Implement standard heat stress mitigation actions stated below.
84 – 87.9 Degree Fahrenheit	Yellow	Mitigation steps above plus employees should be trained on increased risk of heat stress event in this temperature range. Personnel should ensure proper water consumption and personal awareness for signs or symptoms of heat stress event.
88 Degrees Fahrenheit or Higher	Red	Mitigation steps above plus implementation of Buddy System and real time communication at all levels of operations. Managers to communicate need for additional breaks in tolerance of post orders to permit additional cooling off for employees on exterior posts.

4.2 Heat Stress Mitigation Actions

4.2.1 Personnel Actions

Planning for work in hot weather is the most important defense in preventing heat illness. Personnel working in hot conditions should follow recognized procedures for controlling heat stress.

4.2.1.1 Clothing

Personnel on the FPS Programs are allowed, if they so elect, to wear an exterior carrier that has been approved by the customer. In addition, the Company has issued summer wear hats and employees are encouraged to select moisture wicking undergarments to help decrease overall body temperature.

4.2.1.2 Sunscreen

Personnel should also wear sunscreen whenever possible to assist with decreasing the chance of sunburn, which can also increase the likelihood of a heat stress related event.

4.2.1.3 Diet

Personnel should avoid alcohol, certain medications, and smoking to help minimize the risk with heat stress. In addition, it is important for all personnel to eat a well-balanced diet. Energy bars and dried fruits are good sources of quick energy. Nuts, seeds, and other proteins provide longer-lasting energy.

4.2.1.4 Hydration

Water is a key preventive measure to minimize the risk of heat related illnesses. Employees have access to potable drinking water at all FPS Program locations. Employees at FPS Program locations, including Protective Security Officers, may carry with them a water bottle up to 20 ounces, that they may drink during any shift and that they may replenish during shifts as needed to allow them to drink one quart or more per hour. The frequent drinking of water is encouraged.

4.2.2 Work Practices

4.2.2.1 Buddy System

When outside temperature are above 88 degrees Fahrenheit or a Red Flag on the WBGT Index, all personnel should implement the buddy system. The buddy system requires individuals to utilize all available and permissible communication means to communicate between interior and exterior posts, and adjacent posts, to inquire about any heat related signs or symptoms of heat stress. Victims of heat illness may not recognize symptoms.

4.2.2.2 Provisioning of Water

Supervisors, rovers, and/or breaker positions will monitor water supply of personnel, and employees are encouraged to report to his or her supervisor and/or the breaker or rover positions if they have low levels or warm water. Supervisors will provide frequent reminders to employees to drink frequently, and during extreme heat, additional water breaks will be provided, when practicable. During supervisor visits to all posts, supervisors will remind affected workers about the importance of frequent consumption of water throughout the shift.

Employees may drink from available water fountains or other water sources as needed during shifts unless doing so violates an applicable site security plan. However, employees can carry a water bottle to drink from as needed if they are not able to access water fountains or other drinking sources due to their post assignment.

4.2.2.3 Access to Shade

Access to rest and shade or other cooling measures are important preventive steps to minimize the risk of heat related illnesses. Employees suffering from heat illness or believing a preventative recovery period is needed, shall be provided access to an area with shade that is either open to the air or provided with ventilation or cooling for a period of no less than five minutes. Such access to shade shall be permitted at all times during normal operational levels.

The Company will also request that permanent shade structures be made available to exterior post locations where heat illness is a heightened risk because of their geographical location, and review all exterior post locations annually to ensure that all reasonably available shade structures have been put into place. **Attachment A** to the Procedure provides guidance for all Program Managers to conduct this annual review at each NAO location that has exterior posts.

4.2.2.4 Use of Rover and Breaker Posts

Supervisors will structure schedules and the use of rovers and breakers to allow personnel to have regular access to shaded and/or air conditioned posts. Supervisors will schedule the use of breakers to allow personnel to have regular access to shade and/or air conditioned break locations. Supervisors will provide frequent reminders to employees about the importance of rest breaks and the location of shade.

Whenever possible, the Company will provide areas for employees to take their breaks which are:

- Readily accessible
- In the shade and open to the air, and ventilated or cooled
- In close proximity to supplies of drinking water

4.3 Responding to Symptoms of Possible Heat Illness

Supervisors and co-workers are encouraged never to discount any signs or symptoms they are experiencing, and will immediately report them. To reduce the risk of heat-related illness, respond to possible symptoms of heat illness, and to ensure that emergency medical services are provided without delay, the following steps will be taken:

- Employees will hydrate frequently.
- Employees will be trained to report immediately the signs of heat stress to their co-workers and supervisor to receive immediate attention.
- Employees exhibiting signs of heat illness will be taken to urgent care and to the hospital if needed. (Refer to the specific Site Safety Binder EAP/FPP Forms and the **Constellis Emergency Response Procedure**)
- Management will be notified immediately of any heat stress or illness to assure fast response.

Each Program must have an Emergency Heat Injury First Aid Kit and Instructions Sheet at each location, detailing how employees can call emergency responders in the event of a heat related illness.

5.0 Cold Stress Prevention Plan and Procedure

5.1 Cold Stress

Cold stress occurs by driving down the skin temperature and eventually the internal body temperature. When the body is unable to warm itself, serious cold-related illnesses and injuries may occur, and permanent tissue damage and death may result.

Four factors contribute to cold stress: cold temperatures, high or cold wind, dampness, and cold water. A cold environment forces the body to work harder to maintain its core temperature. Cold air, water, and snow all draw heat from the body. So, while it is obvious that below freezing conditions combined with inadequate clothing could bring about cold stress, it is important to understand that it can also be brought about by temperatures in the 50's coupled with rain and/or wind. Cold stress may cause result in hypothermia, frostbite, and trench foot.

- **Hypothermia:** Body temperature below 95 degrees Fahrenheit. Symptoms include change in mental status, uncontrollable shivering, cool abdomen and low core body temperature. Severe hypothermia may produce rigid muscles, dark and puffy skin, irregular heart and respiratory rates, and unconsciousness.
- **Frostbite:** White, waxy, or grayish-yellow patches on the affected skin areas. The skin feels cold and numb.
- **Trench Foot:** Trench foot, or immersion foot syndrome, is a serious condition that results from your feet being wet for too long. Symptoms include blisters, blotchy skin, redness, tissue that dies and falls off, coldness, heaviness, numbness, pain when exposed to heat, persistent itching, prickliness, tingling.

5.2 Cold Stress Mitigation Procedures

5.2.1 Personnel Actions

Planning for work in cold weather is the most important defense in preventing cold stress. Personnel working in cold conditions should follow recognized procedures for controlling cold stress.

5.2.1.1 Layering Protective Clothing

Wearing appropriate clothing and being aware of how your body is reacting to the cold are important to preventing cold stress. Wearing the right 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, on the other hand, retains its insulative qualities even when wet. Personnel should wear clothes that are snug but not tight. This allows insulating air between the clothes and skin. Layers can be adjusted to changing conditions. Additionally, personnel can wear underwear that wicks moisture away from the skin and insulated boots and socks with insulating properties. Personnel should change out of wet clothing as soon as possible. Cover as much of the head, face, and neck as possible without restricting vision using customer approved head coverings. If working in rain, snow, or extreme wind, personnel should wear their Company issued gear, to include winter jacket, gloves and hats. In addition, personnel also have available waterproof rain gear. Personnel can also utilize hand and foot warmers that can be placed in shoes or pockets.

5.2.1.2 Diet

Avoiding alcohol, certain medications, and smoking can also help to minimize the risk. In addition, it is important for all personnel to eat a well-balanced diet. Energy bars and dried fruits are good sources of quick energy. Nuts, seeds, and other proteins provide longer-lasting energy. Caffeine which can restrict circulation or accelerate heat loss should be avoided.

5.2.1.3 Hydration

Working in cold, dry air can cause significant water loss through the skin and lungs. Increased fluid intake prevents dehydration, which puts the extremities at greater risk of damage due to decreased blood flow. Employees on the FPS Program locations, including Protective Security Officers, may carry a water bottle up to 20 ounces in size, that they may drink during any shift and that they may replenish during shifts as needed to allow them to drink one quart or more per hour

5.2.2 Work Practices

5.2.2.1 Buddy System

Wind Chill is the term used to describe the rate of heat loss from the human body, resulting from the combined effect of low air temperature, and wind speed. The

Wind Chill Temperature is a single value that takes both air temperature, and wind speed into account. When outside wind chill temperatures are below 34 degrees Fahrenheit, all personnel should implement the buddy system. The buddy system relies on individuals to utilize all available and permissible communication means to communicate between interior and exterior posts, and adjacent posts, to inquire about signs or symptoms of cold stress. Victims of cold stress, including hypothermia, may not recognize symptoms.

5.2.2.2 Use of Rover and Breaker Posts

Supervisors will structure schedules and the use of rovers and breakers to allow personnel to have regular access to heated and/or weather-protected posts. Supervisors will schedule the use of breakers to allow personnel to have regular access to heated and/or weather-protected break locations. Supervisors will provide frequent reminders to employees about the importance of rest breaks and the location of heated rest locations.

Whenever possible, provide areas for employees to take their breaks which are in a heated location and protected from cold-weather effects

5.2.3 **Responding to Symptoms of Possible Cold Stress**

Supervisors and co-workers are encouraged never to discount any signs or symptoms they are experiencing, and will immediately report them.

To reduce the risk of cold-related illness, respond to possible symptoms of cold stress, and to ensure that emergency medical services are provided without delay, the following steps will be taken:

- Employees will hydrate frequently.
- Employees will be trained to report immediately the signs of cold stress to their co-workers and supervisor so that they receive immediate attention.
- Employees exhibiting signs of cold stress, including hypothermia or frostbite, will be taken to urgent care and to the hospital if needed. (Refer to the **Constellis Emergency Response Procedure**)
- Management will be notified immediately of any cold stress or illness to assure fast response.

6.0 **Training**

Training consists of on-the-job training, informational notices, and other informal and formal communications about the symptoms and signs of heat illness and cold stress, including how to prevent its occurrence in the work place.

6.1 **Employee Training**

Training in the following topics shall be provided to all supervisory and non-supervisory employees:

1. The environmental and personal risk factors for heat illness and cold stress;
2. The employer's procedures preventing heat illness and cold stress;

3. The importance of frequent consumption of small quantities of water, up to 4 cups per hour, when the work environment is hot and employees are likely to be sweating more than usual in the performance of their duties;
4. The importance of acclimatization or the process for adapting to an environment or climate;
5. The different types of heat illness and cold stress, and the common signs and their symptoms;
6. The importance to employees of immediately reporting to the employer, directly or through the employee’s supervisor, symptoms or signs of heat illness or cold stress in themselves, or in co-workers;
7. The Company’s procedures for responding to symptoms of possible heat illness or cold stress, including how emergency medical services will be provided should they become necessary;
8. The Company’s procedures for contacting emergency medical services, and if necessary, for transporting employees to a point where they can be reached by an emergency medical service provider; and
9. The Company’s procedures for ensuring that, in the event of an emergency, clear and precise directions to the work site can and will be provided as needed to emergency responders.

6.2 Supervisor Training

In addition to the Employee Training above, supervisors of employees working in the heat or cold, shall receive training on the following topics:

1. The procedures the supervisor is to follow to implement the applicable provisions in this Procedure.
2. The procedures the supervisor is to follow when an employee exhibits symptoms consistent with possible heat illness or cold stress, including emergency response procedures.
3. Reporting requirements. (These may be in the emergency response procedures.)

RELATED DOCUMENTS

- Constellis Emergency Response Procedure
- Program Safety Binder

VERSION HISTORY

	Version	Version Date	Author	Description
1	1.0	06/19/2020	M. Taylormoore	Initial Version

Attachment A: Program Heat and Cold Stress Prevention Annual Review

Program Name: _____
 Number of Site Locations on Program: _____
 Number of Total Exterior Posts: _____

Average Summer Temperatures in Locality:

- June: _____
- July: _____
- August: _____

Average Winter Temperatures in Locality:

- December: _____
- January: _____
- February: _____

Shade Provisioning Review

Site Location Name	No. Exterior Posts	No. Exterior Posts with Shade Structure	Reason shade not at a specific exterior post.	Request made to government customer for shade structure (Y/N) and date	If not permitted, other abatements provided for unshaded exterior locations.

Annual Health & Safety Training Topic Schedule

Month	Topic
January	Hearing Conservation Program
February	Bloodborne Pathogen Program
March	Chemical Safety / SDS Sheets
April	Emergency Action Plans
May	Slips, Trips, Falls
June	Heat Illness Prevention / Signs, Symptoms, First Aid
July	Heat Illness Prevention
August	Overexertion Prevention - Sprains, Strains, Tears
September	Firearms Safety
October	Lead Exposure Control
November	Personal Protective Equipment
December	Cold Weather Safety

Other Annual Areas of Inquiry:

Does each location with exterior posts have a posted Emergency Heat Injury First Aid Instructions: _____
 Does each location with exterior posts have a Heat Injury First Aid Kit: _____