SOMERSET COUNTY JOINT INSURANCE FUND

# OSHA Heat Standard Update

Heat Stress Training

Mar2025

# NJ Heat Regulation

- If enacted, the bill (A-3521/S-2422) would immediately require New Jersey employers to offer additional protections for workers who face extreme heat, a threshold that would be set at a heat index of 90 degrees
- Must be as stringent as Federal standard. A federal standard is currently being developed by the Occupational Safety and Health Administration. That process started in October 2021
- The bill would then direct the state Department of Labor and Workforce Development to create a new heat stress standard and create more specific regulations for employers to follow. The DOL would be required to have the regulations in place by June 1.

# NJ Heat Regulation

- Every NJ employer would be required to create heat-illness and injury-prevention plans, which at a minimum would need to include the provisions put in place when the bill is first enacted.
- Employers would be required to take additional measures on days the National Weather Service has declared a heat wave. Those extra protections include:
  - Postponing noncritical work until after the heat wave ends
  - Increasing the number of workers, to decrease the total heat exposure for individuals
  - Increasing the number of rest breaks each day

# NJ Heat Regulation

Threshold would be set at a heat index of 90 degrees Fahrenheit for outdoor workers and generally at a temperature of 87 degrees for indoor workers. In certain cases where indoor workers must use hot equipment or wear gear that restricts cooling off, protections would kick in at 82 degrees. In such cases, employers would have to take steps including:

- Providing cold water
- Providing paid rest breaks with access to shade or climate-controlled spaces
- Limiting the amount of time employees are exposed to extreme heat during the day
- Providing emergency response for any employees suffering from a heat illness

# NJ Heat Regulation

- State regulators would be given the power to investigate reported problems, issue stop-work orders and fine employers up to $5,000 for each violation.

# Heat Facts

- You are more likely to suffer from a heat related illness on humid days.
- If you are not used to working in the heat, you are more likely to suffer from a heat related illness. It can take your body anywhere from 5 days to 2 weeks to be acclimated to working in the heat. It is recommended that you start out by working half of the normal time and workload on the first day and then build up to a complete day by the end of the week.
- You are more vulnerable to heat illness if you have suffered in the past.
- During the course of the day, you can produce as much as 2 or 3 gallons of sweat. Replenish this fluid by drinking liquids so that you do not suffer from a heat related illness.

# Employer Responsibility to Protect Workers

- Under OSHA law, employers are responsible for providing workplaces free of known safety hazards. This includes protecting workers from extreme heat. An employer with workers exposed to high temperatures should establish a complete heat illness prevention program.
- Provide workers with water, rest and shade.
- Allow new or returning workers to gradually increase workloads and take more frequent breaks as they acclimatize or build a tolerance for working in the heat.
- Plan for emergencies and train workers on prevention.
- Monitor workers for signs of illness.

# YOU NEED A Heat Plan (HP)

- Provide a safe and healthy workplace in compliance with applicable regulations, OSHA strategic plans and recommended practices for safety and health.
- The Heat Plan (HP) should be developed to provide the structure and basic requirements which apply to help prevent illness caused by high heat exposure to employees.
- The HP should apply to all employees whose work may include exposure to high heat and provides employees with information and guidelines that will assist them when working in such conditions. Employees are responsible for knowing the contents of their HP and follow the provisions contained in the document.

# Heat Sources

Two heat sources contribute to the risk of heat-related illness:

- Environmental heat is produced by warm or hot surroundings.
- Metabolic heat, generated by the body, is related to workload (physical activity). This is a combination of many factors. Body heat results from the equilibrium of heat gain, from internal work and outside addition, and heat loss, primarily from evaporative cooling, i.e., sweat evaporation.

# Responsibilities

- Members will be responsible for the dissemination review and amendment of the HP, as necessary.
- Member Supervisors will be learning the contents of the HP and ensure employees have been trained on the signs and symptoms of heat stress exposure and illness and learn primary HP contents including prevention measures and emergency reporting. Supervisors will utilize HP means and methods to prevent the potential for heat related illness.

# Responsibilities

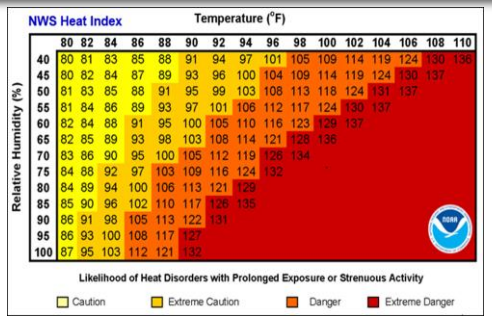
- Members employees will digest their HP and be familiar with heat hazards and preventative measures.
- Employees will follow safe work procedures established to prevent heat-induced illness.
- Employees will report to their Supervisor heat-related symptoms in themselves or their co-workers.
- Employees will follow recommended schedule of water & rest breaks, as advised by Supervisors, to avoid heat related illness.

# Heat Assessment

There are many factors which have a role in creating an occupational heat stress risk to employees. These factors include:

- Environmental conditions (such as air temperature, humidity, sunlight, and air speed), especially on sequential days.
- Presence of heat sources (e.g., hot tar ovens or furnaces) in the work area.
- Level of physical activity, i.e., the workload leading to body heat production.
- Use of clothing or protective gear that can reduce the body's ability to lose excess heat.
- Individual/personal risk factors & acclimation to heat.

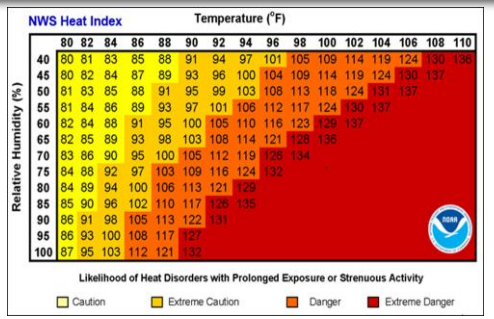
# Heat Assessment




- When assessments and work tasks or areas are identified with unacceptable heat exposure risk, the work tasks and/or areas identified with exposure controls implemented will be communicated and integrated with heat illness prevention training as applicable.
- The heat risk assessment methodology to be applied will be a combination of reviewing National Weather Service and review of the OSHA heat index.
- Based on historical seasonal high temperatures, Members will actively monitor for the period May 1 through September 30. The balance of the year will be monitored for hot weather anomalies.

# Heat Assessment

- OSHA has developed Phone APP for Apple-Android.
- Gives local heat assessment in real time & hourly.
- Has reference for heat related symptoms and First Aid
- Its free!




# Personal Risk Factors for Heat Stress

- Obesity (body mass index ≥ 30 kg/m2)
- Diabetes
- High blood pressure
- Heart disease
- Lower level of physical fitness
- Use of certain medications such as diuretics (water pills) and some psychiatric or blood pressure medicines
- Some medications can result in a worker's inability to feel heat conditions and/or the inability to sweat, so symptoms of heat stress may not be evident.
- Alcohol use
- Use of illicit drugs such as opioids, methamphetamine, or cocaine

# Symptoms of Heat Related Illness

# Heat-Related Illnesses

- Heat stroke
- Heat exhaustion
- Heat cramps
- Heat rash
- Rhabdomyolysis

# Heat Stroke Symptoms

- Confusion or slurred speech
- Loss of consciousness
- Hot, dry, red skin (not sweaty)
- Disorientation
- Body temperature greater than 103º F
- Convulsions or Seizures

Heat stroke is a medical emergency that can become fatal. If anyone experiences the following symptoms of heat stroke, call 911 immediately

# Heat Stroke First Aid


- Call 911 and Notify Supervisor
- Move worker to shade
- Remove outer clothing
- Cool with cold water by wetting skin and placing towels on skin or soaking remaining clothes in cold water
- Place wet towels or ice on workers head, neck armpits and groin
- Fan air around the worker
- Stay with worker until help arrives

# Heat Exhaustion Symptoms

Heat exhaustion is a serious illness and needs to be treated immediately before a heat stroke occurs. If you or a coworker experience any of the following symptoms, cool off immediately and drink plenty of water.

- Thirst
- Dizziness
- Lightheadedness
- Headache
- Nausea or Vomiting
- Feeling weak, fatigued or irritable
- Easily Irritated
- Clammy and moist skin
- Pale or flushed skin

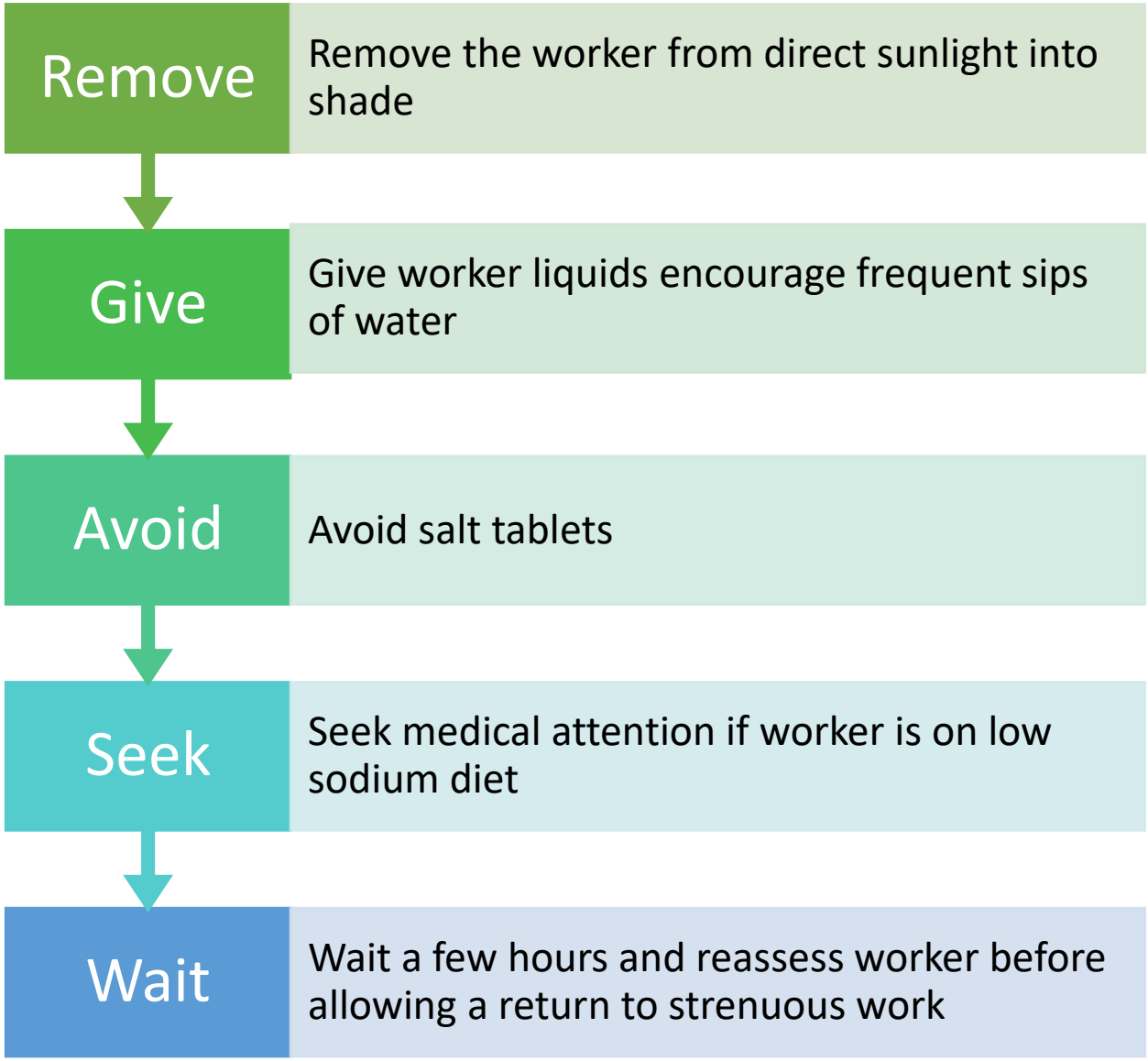
# Heat Exhaustion First Aid

- Call 911
- Remove the worker from direct sunlight into shade
- Give worker liquids encourage frequent sips of water
- Remove unnecessary clothing including shoes and socks
- Cold compresses to head, neck and face
- Stay with worker until help arrives
- Do not let worker return to work that day

# Heat Cramp Symptoms

- Muscle cramps, pain or spasms
- Usually in abdomen, arms or legs

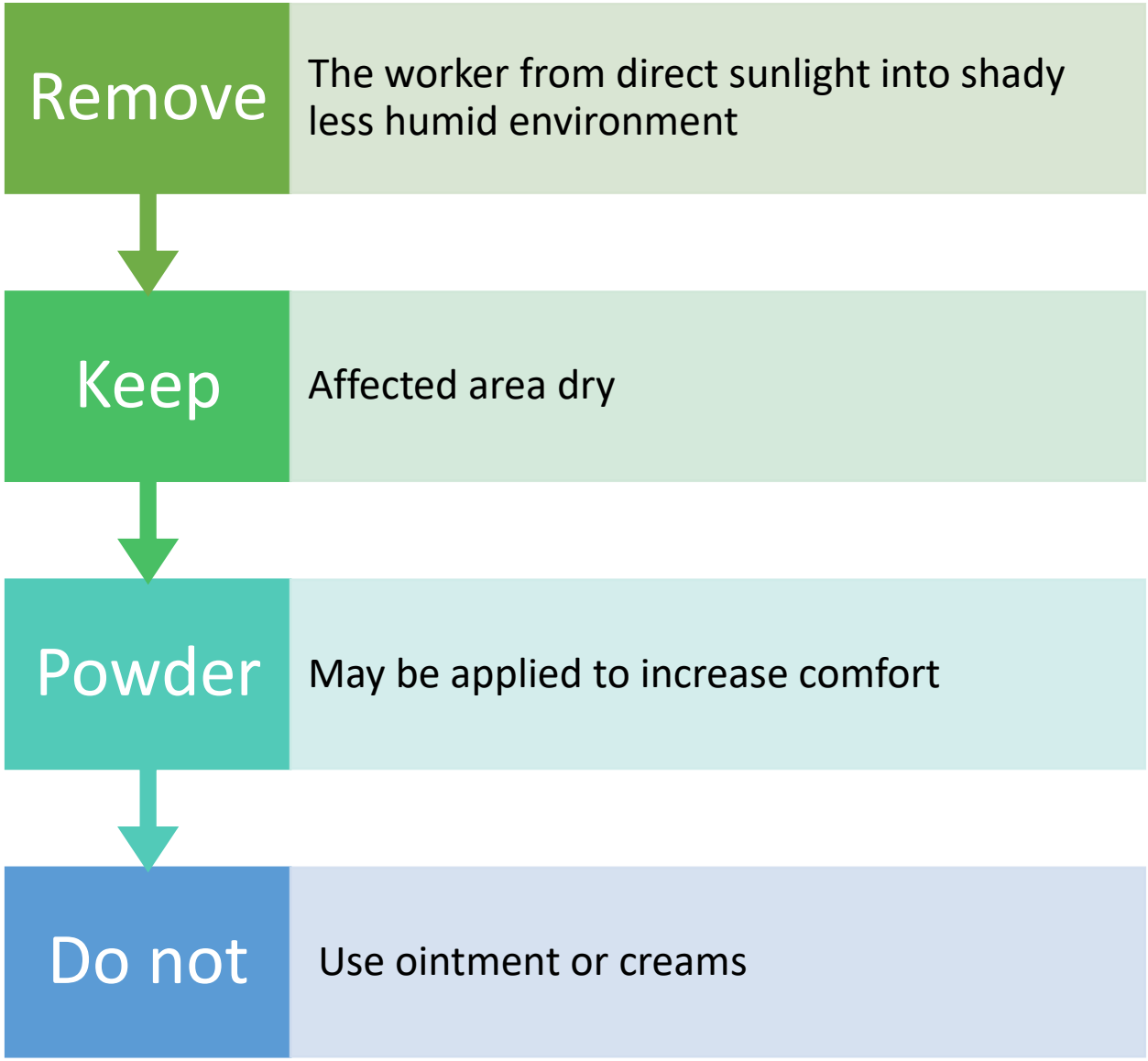
# Heat Cramp First Aid



# Heat Rash Symptoms

- Clusters of red bumps on skin
- Often appear on neck, upper chest, groin and elbow creases

# Heat Rash First Aid



# Rhabdomyolysis Symptoms

- Muscle cramps or pain
- Abnormally dark (tea or cola colored) urine
- Weakness

# Rhabdomyolysis First Aid

| | |
|---|---|
| Stop | Activity |
| Call 911 | Call 911 |
| Increase | Water intake |
| Stay | With worker until help arrives |
| Asked | To be checked for Rhabdomyolysis<br>(blood sample analyzed for creatine Kinase) |

# Heat Illness Prevention

OSHA has a hierarchy of controls which when used will ensure employee safety. They begin with engineering controls, followed by administrative controls and finally personal protective equipment (PPE). The best engineering controls used to prevent heat-related illness make the work environment cooler and reduce manual workload with mechanization. A variety of engineering controls can reduce workers' exposure to heat:

- Air conditioning (such as air-conditioned crane or construction equipment cabs, air conditioning in break rooms).
- Increased general ventilation for indoor heat.
- Local exhaust ventilation at points of high heat production or moisture (such as exhaust hoods in laundry rooms).
- Use of mechanical equipment to reduce manual work (such as conveyors and forklifts).

# Heat Illness Prevention

- Outside worksites cannot be cooled by engineering controls. Outside worksites should modify work practices when heat stress is too high to work safely.
- The primary administrative control is to monitor the weather and plan accordingly. Supervisors, along with reminders from the safety office will monitor outdoor weather conditions for high heat exposure days.

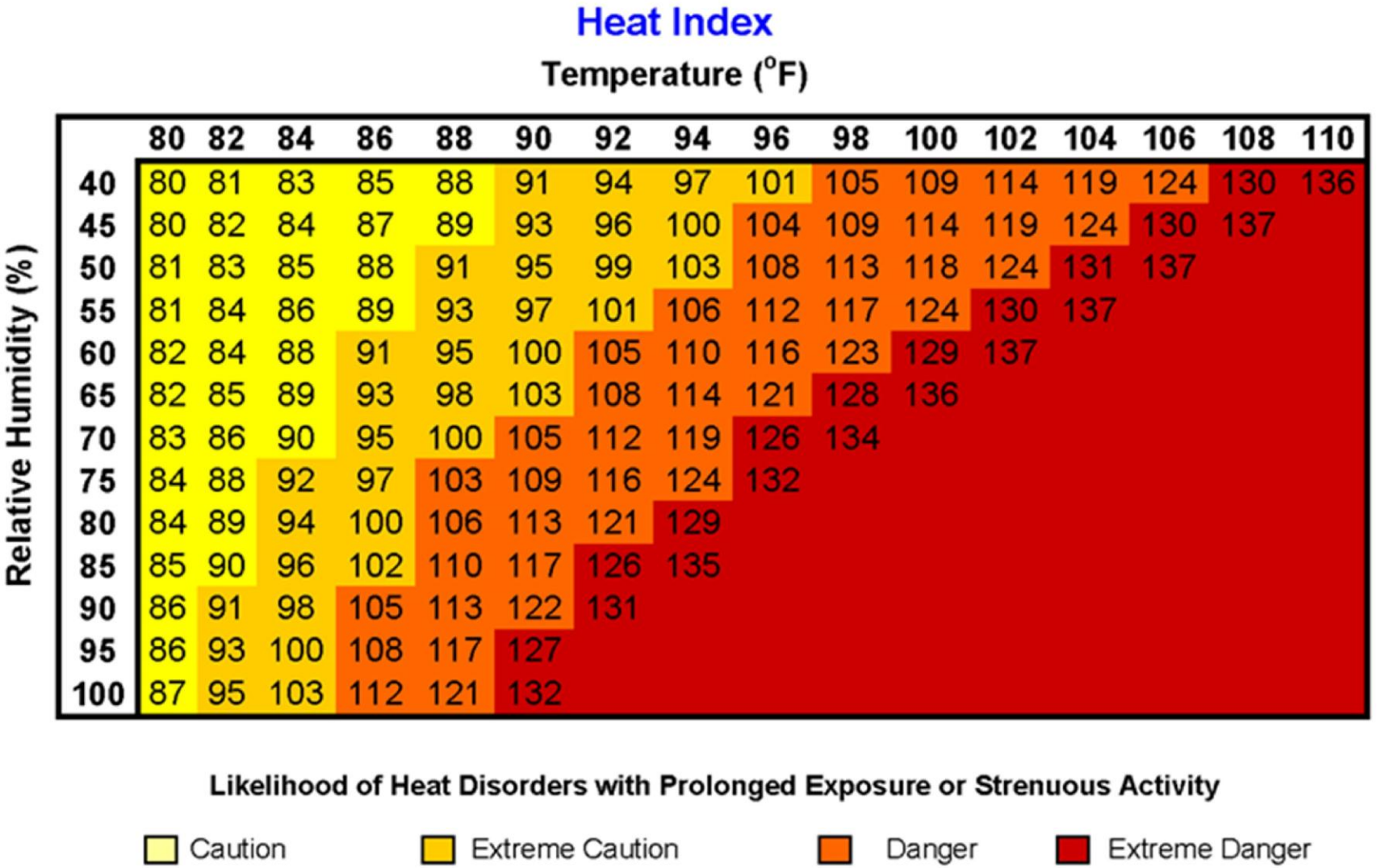
# Heat Illness Prevention

- When the daily heat index is monitored, for potential high heat workdays, Members supervisors should maintain vigilance for potential high heat days and implement HP.
- The primary administrative control will be utilizing the National Weather Service page  and use the NOAA (National Oceanic and Atmospheric Administration) National Weather Service Heat Index Chart as a guide (posted in all workplaces engaging in outside work).
- The Heat Index  factors relative humidity and temperature to determine the overall likelihood of developing a heat related illness. The values in this table and the level of caution increase if an employee is exposed to direct sunlight. Working in full sunlight can increase heat index values by 15 degrees Fahrenheit.
- Encourage Member Supervisors to utilize the OSHA/NIOSH heat index mobile device application which allows the user to pick specific location. This application has the ability to provide real time heat index levels.

# Heat Index (HI)

- The heat index (HI) is an index that combines air temperature and relative humidity, in shaded areas, to posit a human-perceived equivalent temperature, as how hot it would feel if the humidity were some other value in the shade. The result is also known as the "felt air temperature", "apparent temperature", "real feel" or "feels like".
- For example, when the temperature is 82 with 85% relative humidity, the heat index is 90°F).

# Heat Index (HI)




| Relative Humidity (%) | 80 | 82 | 84 | 86 | 88 | 90 | 92 | 94 | 96 | 98 | 100 | 102 | 104 | 106 | 108 | 110 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 40 | 80 | 81 | 83 | 85 | 88 | 91 | 94 | 97 | 101 | 105 | 109 | 114 | 119 | 124 | 130 | 136 |
| 45 | 80 | 82 | 84 | 87 | 89 | 93 | 96 | 100 | 104 | 109 | 114 | 119 | 124 | 130 | 137 | |
| 50 | 81 | 83 | 85 | 88 | 91 | 95 | 99 | 103 | 108 | 113 | 118 | 124 | 131 | 137 | | |
| 55 | 81 | 84 | 86 | 89 | 93 | 97 | 101 | 106 | 112 | 117 | 124 | 130 | 137 | | | |
| 60 | 82 | 84 | 88 | 91 | 95 | 100 | 105 | 110 | 116 | 123 | 129 | 137 | | | | |
| 65 | 82 | 85 | 89 | 93 | 98 | 103 | 108 | 114 | 121 | 128 | 136 | | | | | |
| 70 | 83 | 86 | 90 | 95 | 100 | 105 | 112 | 119 | 126 | 134 | | | | | | |
| 75 | 84 | 88 | 92 | 97 | 103 | 109 | 116 | 124 | 132 | | | | | | | |
| 80 | 84 | 89 | 94 | 100 | 106 | 113 | 121 | 129 | | | | | | | | |
| 85 | 85 | 90 | 96 | 102 | 110 | 117 | 126 | 135 | | | | | | | | |
| 90 | 86 | 91 | 98 | 105 | 113 | 122 | 131 | | | | | | | | | |
| 95 | 86 | 93 | 100 | 108 | 117 | 127 | | | | | | | | | | |
| 100 | 87 | 95 | 103 | 112 | 121 | 132 | | | | | | | | | | |

# Heat Illness Prevention – Members Supervisors

For days in which it is determined the HP should be implemented based on review of data, Members supervisors should plan and implement as required the following administrative controls:

- Members supervisors will consider environmental, physical, and personal factors for tasks where there is a possibility of a heat-related illness occurring and implement measures to control the effects of the environmental factors.
- Members supervisors will give attention to and counsel new or returning employees will be provided gradually increasing workloads and more breaks as they acclimatize to working in the heat.

# Heat Illness Prevention – Members Supervisors

- Members Supervisors will communicate the potential for extreme weather/temperature exposure to the work crew and reviews controls with employees prior to performing work, this is best accomplished through a meeting at shift start.
- For long duration work where heat hazards remain the same such as during the summer months, discuss weather/ temperature hazards during the pre-shift meeting at a frequency to continue employee awareness. In both scenarios above, this would include:
  - Identification tips for signs of exposure to extreme weather or temperature.
  - Controls for temperature elements at the worksite;
  - Response measures an employee must follow if faced with extreme weather and signs of potential heat related illness.

# Heat Illness Prevention – Members Supervisors

- Require mandatory water breaks in a cooler environment (Consider purchase of shade tents and water coolers and cooling towels for employees).
- Consider scheduling strenuous work at a cooler time of day, such as early morning or late afternoon.
- Reduce physical demands as much as possible by planning the work to minimize manual effort (such as delivering material to the point of use so that manual handling is minimized).
- Rotate job functions among workers to help minimize exertion and heat exposure.

# Heat Illness Prevention – Members Supervisors

- Once a HP is created, follow the plan that specifies what to do if a worker has signs of heat-related illness, including contacting the Supervisor and emergency services if required.
- Remind employees to watch out for each other for symptoms of heat-related illness and notify Supervisor.
- Implement a buddy system for new workers and in heat stress environments.

# Heat Illness Prevention – Members Employees

Employees should also be vigilant on days where the HP is implemented, and should undertake these personal measures:

- Take water breaks and seek shade or cooling areas as encouraged by the Supervisor or designee.
- Consume small amounts of water throughout the day – up to four cups per hour depending on heat conditions.
- Consider avoiding caffeinated beverages between the hours of 10AM and 2PM which could increase the likelihood of heat related illness.
- To protect against sunburn, consider using sunscreen of at least 15 SPF that blocks both UVA and UVB rays. Wear a hat to protect the face, ears, and neck. Use UV absorbent sunglasses for outdoor work.

# Heat Illness Prevention – Members Employees

- Employees should ensure at least one cell phone is charged on site in the event Supervisor or assistance is required.
- Once HP is created, Employees should review the heat plan and ask questions prior to working outdoors in the heat.
- Be knowledgeable to recognize the symptoms of heat illness for yourself and others safety.

# Heat Index in excess of 95°F

When there are days or work locations where the heat index is in excess of 95°F, they will be assigned as extreme heat days or areas. In these conditions the following administrative controls will be implemented in addition to those controls summarized above:

- The Supervisor considers if work can be rescheduled to a cooler day.
- Avoid working alone, use a buddy system if at all possible. If not, regular communication with an employee working alone through cell telephone.
- Members Employees and their Supervisors must maintain effective communication through voice, visual, or electronic means so that contact can be made if necessary

# Heat Index in excess of 95°F

Increased observation/monitoring of employees for signs of heat illness by:

- Looking out for one another, if possible, designate an individual the crew to actively monitor crewmates for signs or symptoms of heat stress or illness or other productive observation means.
- Any new or returning employees shall be observed for the first 14 days of employment to ensure acclimatization to the high heat.
- Hold daily pre work start meetings prior to work to discuss the high-heat procedures in place.
- Ensure there is a way to make emergency notifications in a timely manner for the location and type of work being conducted (e.g., confined space entry, maintenance on equipment in buildings etc.)

# Heat Index in excess of 95°F

- An accessible cooling (e.g., truck or building air conditioning) or shade source (e.g., portable structures) is required near the work area.
- Consistent reminders throughout the shift for employees to drink water.
- Increase breaks for more strenuous tasks or if heavy or non-breathable work clothes are being worn to perform the task.
- As needed, rotate crew members between strenuous and less strenuous tasks to help provide periods of time for the employee's body to moderate.
- In terms of personal protective equipment, Members uniforms should include short sleeved shirts for the warmer season.

# Avoid Heat Related Illnesses

**It is important to drink plenty of fluids and keep cool while working outside.**

- Drink water often throughout the day; don't wait until you're thirsty to get a drink. At least a quart of water per hour is recommended.
- Stay away from soda, coffee, tea and alcoholic drinks that dehydrate the body.
- Avoid large meals before working in the heat.
- Some prescriptions can make you more susceptible to heat illnesses. Check with your doctor or pharmacist to see if any medicine you are taking could affect you while working in the heat.
- Plan to do the heaviest work at the coolest part of the day. This is usually between 6 a.m. and 10 a.m.
- Take frequent, short breaks in shaded areas to cool down.
- Do not take salt tablets, unless recommended by your doctor. Most people receive enough salt in their diet to account for the salt that is lost through sweating.

# Sun Exposure

Prolonged exposure to sunlight causes skin cancer, cataracts and other serious illnesses.

- Choose a sunscreen that is marked broad-spectrum. This will protect you from both UVA and UVB rays. Ensure the Sun Protection Factor (SPF) is at least 15.
- Wear a hat or sun visor, sunglasses, and lightweight long-sleeve shirts and pants on sunny days to help control body temperature and block the sun.

# The End

- Question?