

**North Carolina Department of Labor
Occupational Safety and Health Division**

Raleigh, NC

Field Information System

Operational Procedure Notice 141C

Subject: Enforcement Guidance for Conducting Heat-Related Illness Inspections and Issuing Citations

A. **Purpose.**

This Operational Procedure Notice (OPN) provides the North Carolina Department of Labor (NCDOL) Occupational Safety and Health (OSH) Division guidance for conducting inspections and issuing citations associated with heat-related illness and potential heat-related illness in the workplace.

B. **Scope.**

This OPN applies to all workplaces where there is the potential for employee exposure to conditions which could cause serious physical harm or death due to heat-related illness in employees.

C. **Background.**

Heat-related illnesses occur when the core body temperature rises beyond normal core temperature (typically 98.6°F). As core temperature rises, the individual may experience the following heat-related symptoms and illnesses: heat stroke, heat collapse (fainting), heat exhaustion, heat rashes, heat cramps and heat fatigue.

Dozens of heat-related workplace deaths occur in the US yearly. In NC, there were eight occupational fatalities due to heat from 2008-2018. Heat above 80°F has caused serious injury or death and could be likely to cause serious injury or death dependent on an individual's level of exertion, hydration, and ability to maintain homeostasis. Researchers in NC have found that when outdoor temperatures are above 97°F, emergency department visits for heat-related illness increase rapidly in comparison to rates of visits for other conditions. The North Carolina Department of Health and Human Services reported a total of 489 emergency department visits for occupational heat-related illnesses in NC from 2014 to 2015. The majority of work-related emergency department visits for heat-related illness in NC are among 19-45 year old males, with 75% of overall heat-related illnesses among males between 25-64 years of age. On occasion, the temperature was below 85°F.

Typical indoor worksites where heat-related illnesses may occur include foundries, brick-firing and ceramic plants, glass production facilities, rubber products factories, paper mills, electrical utilities (particularly boiler rooms), bakeries, confectioneries, commercial kitchens, laundries, food canneries, chemical plants, mining sites, and smelters. Outdoor operations conducted in hot weather, such as agriculture,

landscaping, construction operations, asbestos removal, and hazardous waste site activities, especially those that require wearing protective clothing, also may cause heat-related illnesses among exposed workers.

D. **Complaint Evaluation.**

Compliance Safety and Health Officers (CSHOs) will follow procedures in the NC Field Operations Manual (FOM) Chapter IX – Complaints, Referrals and Accidents, Appendix IX-A: Questions for Complaint Evaluation. For complaints classified as non-formal, CSHOs will refer to the FOM Chapter IX, A.8. – Responding to Non-formal Complaints and Appendix IX-E – Heat Complaints for instruction on responding to the complainant and the employer.

E. **Inspection Guidance.**

Because there is no specific NCDOL OSH or OSHA standard which requires employers to establish a heat stress program, the CSHO must carefully document and describe the work environment and conditions to determine whether a General Duty Clause (GDC) citation for heat stress should be issued. The CSHO must consider many factors to determine whether the employer has provided the employees with a place of employment and working conditions that are free of recognized hazards capable of causing death, serious illness or serious physical harm.

During inspection activity, CSHOs should address heat-related illnesses at both indoor and outdoor worksites where potential heat-related hazards may exist, and inspections should include a review of the employers' plans to prevent heat-related illness. The following information has been consolidated into an inspection worksheet and employee questionnaire in Appendices A and B of this OPN.

Factors the CSHO will evaluate and document in the case file include:

1. **Opening Conference.**

During the opening conference, the CSHO will review the OSHA Log of Work-Related Injuries and Illnesses (Form 300) for the most recent three years plus the current year for indications of heat stress conditions or heat-related illness such as heat stroke, fainting, and heat rash. If necessary, the CSHO will review the corresponding OSHA Injuries and Illnesses Incident Report (Form 301) or Workers Compensation Form 19 – Employer's Report of Employee's Injury or Occupational Disease to the Industrial Commission. Additionally, the CSHO will request copies of first-aid logs and/or ask the employer about employee reported heat-related conditions such as cramps, headache, nausea, dizziness, weakness, irritability, confusion, thirst, heavy sweating or an increased body temperature.

2. **Walk Around Inspection.**

During the walk around, the CSHO will cover all the affected areas and document the following:

- a. Building and operation characteristics.
 - b. All potential sources of heat stress (i.e., furnaces, ovens).
 - c. All engineering controls (i.e., fans, air conditioning), administrative controls (i.e., work-rest schedules, acclimatization programs) and/or personal protective equipment (PPE) (i.e., cooling vests).
 - d. Measurements (wet-bulb globe temperature (WBGT), air flow, and humidity).
 - e. Information obtained from the employer and employee interviews.
3. Case File Documentation.

The following additional information will be evaluated during the walk around and documented in the case file:

a. Site Description.

CSHOs will document: the presence of heat producing equipment and processes, the presence and adequacy of ventilation systems such as air conditioning and the presence and use of mechanical fans; the availability of and access to potable water or other liquids; the availability of and access to shade; whether employees work outside in direct sun or inside without air conditioning and/or near heat producing equipment or processes.

b. Process Description.

The process description is a primary source of information related to a specific job that is being performed. The CSHO will document the process description to determine the tasks the employee performs and the work rate. The CSHO will also document whether the employer has established an acclimatization program and/or a work/rest program. Refer to the guidance in Section III, Chapter 4 - Heat Stress of the OSHA Technical Manual for information on work-load assessments, acclimatization programs, work/rest regimens and metabolic work rate.

c. Environmental Factors.

The CSHO will document environmental risk factors and conditions that could affect working conditions and the worker's ability to perform work when heat is a factor. The CSHO will document the heat index and any National Weather Service heat advisory or alert for the day of the inspection and/or the days employees became ill.

The CSHO will perform temperature measurements, including WBGT, air flow and humidity. The CSHO will document any PPE and the personal clothing worn by employees. When appropriate, such as

under conditions of high temperature and heavy workload, the CSHO should determine the metabolic work rate. Consult Section III, Chapter 4 - Heat Stress of the OSHA Technical Manual (OTM) for information on conducting WBGT sampling and determining the metabolic work rate.

d. Physiological (Metabolic) Factors.

The impact of heat stress and the resulting heat strain is influenced by individual physiological factors. These factors include: type of clothing; age; weight; gender; body fat; physical conditioning; cardiopulmonary function; drugs (to include alcohol and caffeine); acclimatization; and habituation to air conditioning. The CSHO will document any other physiological conditions/items above that may add to the heat burden.

e. Employee Interviews.

The CSHO will conduct employee interviews and document any incidents of employees experiencing heat-related illness, information regarding heat stress training provided by the employer, first aid training program, access to prompt medical treatment, access to water, shade and/or cooler areas, the ability to rest when needed or on a pre-determined work/rest schedule, work during cooler times of day, type of clothing allowed, personal controls such as cooling vests, acclimatization program (e.g., less intense work, fewer hours, until employees get used to working in the heat), and actions already taken by the employer to correct heat stress problems when employees exhibit signs of heat stress.

f. Fatality/Incident.

The CSHO will describe the events leading up to the heat illness episode or fatality. Interviews will be conducted with other employees at the scene to determine how long the affected employee was working at the site prior to the episode. The CSHO will document the medical history of the affected employee along with the engineering controls in use, the work practices and PPE used by the affected employee.

4. Closing Conference.

For work environments where a heat-related illness or the potential for a heat-related illness can be documented and for which a GDC citation is recommended, the CSHO will discuss the results of the inspection and recommend that the employer develop a heat stress prevention program or what improvements are needed within their heat stress prevention program. In cases where heat-related illness or the potential for a heat-related illness can be documented but a GDC citation is not recommended, the CSHO will document the reasons why within the narrative. The CSHO should also review the following examples of acceptable heat stress prevention program elements with the employer.

Recommended Heat Stress Prevention Program Elements.

- a. The development of a heat stress training program to inform the employer and employees about the effects of heat stress including how to recognize heat-related signs and symptoms in themselves and others and how to prevent heat-related illnesses.
- b. The utilization of an acclimatization program for new employees when they begin working or return to work in hot environments.
- c. The monitoring of weather conditions and establishment of work schedules and break periods to minimize heat exposure.
- d. Providing shaded areas and/or other cool areas for breaks.
- e. Implementation of a screening program to determine any causal factors that may affect the employee's heat illness susceptibility.
- f. Ensuring an adequate supply of drinking water is available and train employees on the importance of adequate fluid intake and hydration.
- g. Establishing and implementing a reporting process when employees are exhibiting signs and symptoms of heat-related illness.
- h. Establishing and implementing first-aid procedures for employees exhibiting signs and symptoms of heat-related illnesses.
- i. Establishing and implementing emergency response procedures for employees exhibiting signs and symptoms of heat-related illnesses.

F. **Citation Guidance.**

Any proposed citations for heat-related illnesses will be addressed by the GDC, North Carolina General Statute (NCGS) 95-129(1). GDC violations are limited to hazards that could cause death or serious physical harm or serious illness when there is no specific standard that applies, such as heat exposure. Heat-related illness violations can be issued for both indoor and outdoor work activities but may only be issued when all the required elements of a GDC violation (FOM Chapter 4 - Violations, B. - General Duty Requirements) are documented **and** CSHOs can establish a link between the workplace exposure and the potential for heat-related illness. The violation must clearly describe a heat-related hazardous condition or practice to which employee(s) are exposed, such as combinations of heat, humidity and physical effort, working in direct sun on a hot day, or working near hot equipment.

When evaluating an employer's existing heat stress prevention program, the CSHO will use the program elements of a heat stress prevention program listed in paragraph E.4. above. Since these elements are not mandated by a specific NCDOL OSH or OSHA standard, the CSHO may determine that an employer's program is adequate even when some of the elements above are absent. Violations should not be based on the employer's failure to implement specific control measures, such as acclimatizing

workers to heat; providing drinking water, shade and air conditioning; or training workers on heat stress. If the employer's existing heat stress program is found to be ineffective toward preventing heat-related illness and the elements for a GDC violation can be established, the CSHO will recommend issuing a citation and will list the specific program elements from E.4. as potential abatements to assist the employer in creating an adequate heat stress prevention program. When an employer has no existing heat stress prevention program, all the program elements in E.4. that apply to the working conditions will be listed on the GDC citation as potential abatements.

The CSHO must evaluate the employee(s) working conditions and the employer's implemented heat stress prevention program. Following this evaluation, the CSHO must determine if the working conditions noted, considering implemented control measures of the employer's heat stress prevention program, pose a hazard to employees that is causing or likely to cause death, serious physical injury or serious physical harm. Documentation should include the following elements if available and applicable to the inspection: wind speed/direction, radiant heat, cloud cover, length of time the work was performed, other sources of heat in the workplace, and whether any of the exposed employees were temporary workers, new hires, or employees returning from prolonged leave who were not acclimatized. CSHOs will document actions the employer took or failed to take that contributed to the risk of heat-related illness, such as the provision of water, rest, and cooling areas, and access to first aid/prompt medical attention. Water or other fluids provided by the employer must not only be cool, but must also be provided in a location that is familiar to the employees, near the work, easy to access, and in sufficient quantity for the duration of the work. The CSHO should also document if the National Weather Service has issued excessive heat outlooks, watches, warnings or advisories.

If the CSHO is unable to obtain a direct reading of the outdoor WBGT for conditions similar to an incident, it is recommended that the CSHO estimate the conditions, providing that sufficient information is available to do so and include the estimate in the case file documentation. Information needed to estimate the outdoor WBGT include date and time, air temperature, solar irradiance, wind speed, relative humidity, barometric pressure, longitude and latitude. For cases involving an actual incident, the OTM Heat Stress Chapter provides a way to approximate the outdoor WBGT temperature at the time of the incident.

The CSHO shall also document whether any employees have experienced signs or symptoms of a heat-related illness, such as heat cramps, heat exhaustion, or heat stroke. This should be done through direct observation, employee interviews, and the review of accident reports, EMS reports, and/or medical records. The CSHO should specifically interview new employees that may not be acclimatized to the conditions, as they are the ones most at risk for a heat-related illness. Signs to look for include: heavy sweating, cold, pale, and clammy skin, or, in the event of heat stroke, hot, red and dry skin. Symptoms to ask about during interviews include: headaches, dizziness, nausea/vomiting, and muscle cramps.

For inspections where heat stressors are present, but all the GDC elements cannot be established, the CSHO will send Form OS0005 - Heat Stress Letter to the employer.

The letter can be found in OSHA Express and must be adapted to the specific circumstances noted in each inspection. If the employer has implemented or is in the process of implementing efforts to address hazardous conditions, those efforts should be recognized and encouraged, if appropriate. The CSHO should tailor the recommended controls found within the letter to the specific needs of the employer.

Other OSH Division standards that may be applicable to work in hot environments include, but are not limited to, the following.

1. The PPE Standard at 29 CFR 1910.132(d) requires every employer in general industry to conduct a hazard assessment to determine the appropriate PPE to be used to protect employees from the hazards identified in the assessment. See also 29 CFR 1915.152 (shipyards), 29 CFR 1917.95 (maritime) and 13 NCAC 7F .0202 (construction).
2. The Recordkeeping Standard at 29 CFR 1904.7(b)(5) requires that employers record certain work-related injuries and illnesses. If a worker requires medical treatment beyond first aid, the worker's illness or injury must be recorded. However, if a worker merely requires first aid for the worker's condition, the employer is not required to record the condition. For example, if a worker requires intravenous fluids, the worker's condition must be recorded. But if a worker is only instructed to drink fluids for relief of heat stress, the worker's condition is not recordable. Refer to 29 CFR 1904.7(b)(5) for an explanation of the difference between medical treatment and first aid.
3. The Recordkeeping Standard at 29 CFR 1904.39 requires employers to report all work-related fatalities within eight (8) hours and to report all in-patient hospitalization of one or more employees within twenty-four (24) hours.
4. The Sanitation Standards at 29 CFR 1910.141, 29 CFR 1915.88, 29 CFR 1917.127, 29 CFR 1926.51 and 29 CFR 1928.110 require employers to provide potable water. 1928.110(c)(1)(ii) specifically requires that water provided by the employer be suitably cool and in sufficient amounts, taking into account the air temperature, humidity and nature of work performed, to meet the needs of all employees.
5. The Medical Services and First Aid Standards at 29 CFR 1910.151, 29 CFR 1915.87, 29 CFR 1917.26 and 29 CFR 1926.50 require that persons adequately trained to render first aid be available onsite in the absence of medical facilities within close proximity.
6. The Safety Training and Education standard for construction, 29 CFR 1926.21, requires the employer to instruct each employee in the recognition and avoidance of unsafe conditions and the regulations applicable to the work environment to control or eliminate hazards or other exposure to illness and injury.

G. **Recording and Tracking.**


To facilitate tracking heat-related illness inspections and citations, the following codes will be used for any inspection or intervention where heat stress situations are addressed.

The optional information codes for heat-related inspections will appear in the inspection report, the complaint form, the accident/event form, the intervention form and the referral form. In the choice lists, the optional information codes will appear as follows:

Information Code	Industry Group
N-02-HEATAG	Agriculture
N-02-HEATCON	Construction
N-02-HEATGI	General Industry
N-02-HEATMI	Maritime

H. **Effective Date.**

OPN 141B is canceled. This OPN is effective on the date of signature. It will remain in effect until revised or canceled by the director.


Jacopo Wiggins
Health Standards Officer

Signed on original

Scott Mabry
Director

6-12-2026

Date

Appendix A - Inspection Worksheet (additional questions appear in the OSHA Technical Manual)

Establishment Name: _____ Inspection Number: _____

Related Activity: _____ Indoor: Outdoor:

Date: _____ Time: _____

Weather Conditions - Heat Index, National Oceanic and Atmospheric Administration Advisory (NOAAA), National Weather Service:

Opening Conference / Employer Questionnaire:

1. Are there any recorded heat-related incidents on the OSHA 300 log? If yes, please list.

2. Have employees complained of the heat? _____

3. Is there a heat stress prevention program in place? If yes, describe.

4. Is there a heat acclimatization program? If yes, describe.

5. Are employees acclimatized to the work environment? If so, how?

6. Have employees received training for working in hot environments? _____

- If yes, what instruction or information was provided?

- Are OSHA publications or other materials on heat-related illness posted in the workplace?

7. Are employees informed that certain health condition(s) and medication(s) may increase their risk of heat-related illness and/or inquired if they have any health condition(s) or take any medication(s) that may increase their risk of heat-related illness before they are exposed to potentially hot workplace conditions?

8. Are work areas monitored routinely for work conditions related to heat stress? _____
- Describe any measures of hazard recognition (e.g., buddy system, thermometers) _____

9. What actions are implemented to prevent heat-related illnesses? _____
- Were these actions regularly conducted or enforced? _____

10. Are any of the employees temporary workers, new hires, newly transferred employees, or employees just returning from prolonged leave? _____
- Are these employees acclimated to the work environment? _____
 - Do these employees receive training on heat stress? _____

11. What is the protocol should employees suffer heat-related illnesses? _____
- Who is notified in an emergency? _____
 - Who provides first aid? _____
 - Are there procedures for rapid cool down? _____

Site and Process Description:

12. Describe the building and operation characteristics. _____

13. What are the potential sources of heat? _____
- Are there heat reducing engineering controls? If yes, please list. _____
 - Are the engineering controls functioning properly? _____

14. Air conditioning? _____ If yes, does it appear to be operating properly? _____

15. Other ventilation sources? _____ If yes, do they appear to be operating properly? _____

16. Outdoor work: Direct sun? _____

17. How long have employees worked at this task or work assignment? _____
- How long have employees performed this task or work assignment during elevated ambient temperatures? _____

18. What are the employees' work rate? _____

19. What is the workload classification from American Conference of Governmental Industrial Hygienists (ACGIH) (very heavy, heavy, moderate, light)? _____

20. Describe availability and access to potable water. _____

- Are workers required to drink water or any other beverages when working under hot conditions? If yes, is it enforced? Describe.

21. Describe availability and access to shade. _____

22. Has the employer bought equipment with air-conditioned cabs? _____

23. Is there an established work/rest strategy? Describe. _____

24. Are steps taken to reschedule strenuous tasks for cooler parts of the day or days with reduced temperatures? _____

25. Are employees required to wear protective clothing or equipment? If so, please describe.

- Are there additional requirements for employees working in PPE (e.g., impervious clothing) such as ice/water cooled garments, reflective clothing, etc.?

Temperature Measurements:

Temperature (dry bulb): _____

WBGT Reading: _____

Temperature (wet bulb): _____

Relative Humidity: _____

Instrument Manufacturer: _____

Instrument Serial #: _____

Wind Conditions: _____

Wind Speed: _____

Wind Direction: _____

Appendix B - Employee Questionnaire (additional questions appear in the OSHA Technical Manual)

Employee Name: _____ Age: _____

Job Description: _____

General:

1. What are the potential sources of heat? _____
2. Describe the type of work you are performing? _____
 - How long have you worked at this task or work assignment? _____
 - How long have you worked at this task or work assignment in elevated temperatures? _____
 - Is your work being done in the direct sun? _____
3. What types of PPE are you required to wear? _____
4. Are you informed about heat advisories by your employer? _____
5. Have you experienced any health effects (e.g., dizziness, nausea, not sweating) related to working in elevated temperatures? If yes, describe: _____
6. Are other workers experiencing similar symptoms? _____
7. Does the employer have a heat stress prevention program in place? _____
8. Are you taking any medication(s) or have any health condition(s) that put you at increased risk of heat-related illness? _____

Water:

9. Is drinking water available? _____ If yes, describe drinking water source and proximity to workers: _____
10. Are you required to drink water or any other beverages when working under hot conditions? _____
 - If so, is there a specific amount? _____ Is it enforced? _____
11. Are water coolers refilled throughout the day? _____ Is the water cool and clean? _____

Shade, Access to Air Conditioning, Rest:

12. Is a shaded or climate-controlled area available for rest periods? Describe:

13. Are you allowed to work during cooler times of day? _____

14. Is there a work/rest cycle in place? _____ If yes, describe the work/rest cycle (e.g., how many breaks do you take, when and/or where do you take breaks, how long is a typical break, etc.): _____

15. Does the employer acclimate you to the heat (e.g., less intense work, fewer hours, until you get used to working in the heat)? _____

Training:

16. Have you received any training on the effects of heat and heat-related illnesses? _____

- If yes, what information was provided? _____

17. Do you know the:

- Common signs and symptoms of heat illness? _____
- Proper precautions to prevent heat illness? _____
- Importance of acclimatization? _____
- Risks with medications and health conditions? _____
- Importance of drinking water frequently (even when they are not thirsty)? _____
- Importance of taking breaks in shade or air conditioning? _____
- Steps to take if someone is having symptoms? _____

First-Aid / Emergencies:

18. What is done if you or a fellow employee suffer heat-related symptoms? _____

- Do you know who to notify if there is an emergency? _____
- Do you know who will provide first-aid? _____

Appendix C - Example SAVEs and AVDs

Example 1

North Carolina General Statute §95-129(1) of the Occupational Safety and Health Act of North Carolina: The employer did not furnish each of his employees conditions of employment and a place of employment free from recognized hazards that were causing or likely to cause death or serious physical harm to employees in that employees were exposed to heat-related hazards associated with working in a hot environment:

- a) On or about and at times prior to *[the date of the incident]*, employees were exposed to conditions of high ambient heat from *[list sources of ambient heat]* during the performance of their job duties, including *[describe task]*. *[Describe temperature, relative humidity, clothing, and level of workload. Include any NOAA heat advisory or alert that supports a hazardous heat condition]*. Such exposures may lead to the development of serious heat-related illnesses such as, but not limited to, heat cramps, heat exhaustion, and heat stroke *[describe any heat-related incidents/illnesses that occurred]*.

One feasible and acceptable abatement method, among others, to correct this hazard is to develop a heat stress prevention program to include elements such as the following:

- 1) The development of a heat stress training program to inform employer and employees about the effects of heat stress and how to recognize heat-related symptoms and prevent heat-related illnesses.
- 2) The utilization of an acclimatization program for new employees when they begin working or return to work in hot environments.
- 3) The monitoring of weather conditions and establishment of work schedules and break periods to minimize heat exposure.
- 4) Providing shaded areas and/or other cool areas for breaks.
- 5) Implementation of a screening program to determine any causal factors that may affect the employee's heat illness susceptibility.
- 6) Ensuring an adequate supply of drinking water is available and train employees on the importance of adequate fluid intake and hydration.
- 7) Establishing and implementing a reporting process when employees are exhibiting signs and symptoms of heat-related illness or are observed.
- 8) Establishing and implementing first-aid procedures for employees exhibiting signs and symptoms of heat-related illnesses.
- 9) Establishing and implementing emergency response procedures for employees exhibiting signs and symptoms of heat-related illnesses.

Note: Some of the elements listed above in this example may not be applicable in all instances of exposures to heat stress observed by CSHOs. Include only the applicable items in the potential abatement list for the employer.

Appendix D - Heat-related References and Resources

References.

1. United States Centers for Disease Control and Prevention Morbidity and Mortality Weekly Report - Heat-Related Deaths Among Crop Workers - United States, 1992-2006
2. North Carolina Department of Health and Human Services, Division of Public Health - Occupational Heat-Related Illness in North Carolina, 2007-2011 - published October 2015
3. North Carolina Disease Event Tracking and Epidemiologic Collection Tool, June 11-17, 2017
4. OSHA Technical Manual, Section III Chapter 4 - Heat Stress
5. National Institute for Occupational Safety and Health Criteria Document, 1986
6. North Carolina Field Operations Manual
7. American Red Cross - Heat Wave Preparedness
8. American Conference of Governmental Industrial Hygienists - Thermal Stress Guidance
9. OSHA Memo on Heat-Related Illness Inspections, August 19, 2011
10. Rhea, Sarah et.al. Journal of Community Health, Using Near Real-Time Morbidity Data to Identify Heat-Related Illness Prevention Strategies in North Carolina

Resources.

1. OSHA, Using the Heat Index: www.osha.gov/SLTC/heatillness/heat_index/pdfs/all_in_one.pdf
2. NCDOL Occupational Safety and Health Topic Page on Heat Stress: <https://www.labor.nc.gov/safety-and-health/occupational-safety-and-health/occupational-safety-and-health-topic-pages/heat-stress>
3. OSHA Technical Manual, Section III: Health Hazards, Chapter 4, Heat Stress: https://www.osha.gov/dts/osta/otm/otm_iii/otm_iii_4.html#iii:4_1
4. The National Oceanic and Atmospheric Administration (NOAA), National Weather Service: <https://www.weather.gov/safety/heat>
5. Request past weather conditions from NOAA (including certified copies): <https://www.ncei.noaa.gov/>
6. The NOAA current weather conditions, including previous weather conditions: <http://www.weather.gov/>
7. NIOSH Heat Stress: <http://www.cdc.gov/niosh/topics/heatstress/>
8. California OSHA Heat Illness Prevention: <http://www.dir.ca.gov/DOSH/HeatIllnessInfo.html>
9. OSHA Memo on Heat-Related Inspections (Summer 2019), May 6, 2019: https://extranet.osha.gov/compliance/memos/05062019_heat-related-inspections.html

Note: This memo includes an additional list of resources. Must log into the OSHA Extranet for access.

Appendix E - Heat Stress Letter to Employer

[TODAY]

[ESTMBLOCK]

RE: Complaint # [CMPNUM]

Dear [CMPREP]:

The North Carolina Department of Labor Occupational Safety and Health Division has received a complaint against your company concerning conditions which are contributing to employees experiencing heat-related illnesses. The specific complaint is described in detail on the attached page.

We have not determined whether the hazards, as alleged, exist at your workplace; and we are not conducting an inspection at this time. However, since allegations of violations have been made, you should investigate the alleged conditions and make any necessary corrections or modifications. Within 7 working days of receipt of this letter, please advise us, in writing, of your findings and of the action you have taken. Your response should be detailed stating specifically what action you have taken to correct each hazard. You should enclose any supporting documentation, such as monitoring results, ordering of equipment, photographs, etc.

The North Carolina Department of Labor Occupational Safety and Health Division does not have a standard for heat stress. However, when there are no standards the General Duty Clause of the Occupational Safety and Health Act of North Carolina [NCGS 95-129(1)] can be used to cite recognized hazards. The General Duty Clause can only be used if all of the following conditions are met:

1. The employer failed to keep the workplace free of a hazard to which employees of that employer were exposed.
2. The hazard was recognized in the industry.
3. The hazard was causing or was likely to cause death or serious physical harm.
4. There was a feasible and useful method to correct the hazard.

In a workplace, the General Duty Clause would require the employer to take feasible steps to minimize any recognized risk. In the interest of workplace safety and health, we recommend that you voluntarily take the necessary steps to materially reduce or eliminate your worker's exposure to heat stress conditions, including, but not limited to, the following:

General Controls. General controls include training, personal protective equipment (PPE), engineering practice controls, administrative controls, health screening and heat alert programs.

1. **Training:** Inform workers of the following:
 - a. Hazards of heat stress.

- b. How to avoid heat stress by recognizing and avoiding situations that can lead to heat-related illnesses.
- c. Recognition of signs and symptoms of heat-related illnesses.
- d. First-aid procedures.
- e. Employer's program to address heat-related illnesses.
- f. Advise workers that certain medications and medical conditions can increase risk of heat stress. These may include, but are not limited to:
 - i. Amphetamines - sometimes prescribed for narcolepsy or attention deficit hyperactivity disorder (ADHD);
 - ii. Diuretics - water pills;
 - iii. Antihypertensives - blood pressure medication;
 - iv. Anticholinergics - for treatment of chronic obstructive pulmonary disease (COPD); and
 - v. Antihistamines - allergy medications.
- g. In addition, alert workers to the dangers of using illegal drugs and alcohol in hot work environments. Illegal amphetamines, such as methamphetamine, are particularly hazardous when heat stress is present.
- h. Some conditions, such as pregnancy, fever, gastrointestinal illness, heart disease, and obesity, may increase the risk of heat-related illness. Advise workers to check with their doctors if they have any questions. (Please note: the employer is NOT entitled to know whether workers have these conditions, but only whether workers have any health conditions that limit their ability to perform their job duties. In some instances, workers with chronic conditions may need extra time to become acclimatized or may need other accommodations, such as more frequent breaks or restricted work.)
- i. Encourage workers to consult a doctor or pharmacist if they have questions about whether they are at increased risk for heat-related illness because of health conditions they have and/or medications they take.

2. **Personal Protective Clothing and Equipment:**

- a. Hats for work outdoors in the sun.
- b. For indoor work, loosely worn reflective clothing to deflect radiant heat, such as vests, aprons or jackets.
- c. Cooling vests and water-cooled/dampened garments may be effective under high temperatures and low humidity conditions. However, be aware that cooling vests can become insulators when they reach the body's temperature.
- d. In environments where respirator usage is necessary, consult with an industrial hygienist to determine the appropriate clothing to prevent heat stress while still protecting the workers.

3. **Engineering Practice Controls:**

- a. Use air conditioning.
- b. Increase general ventilation.
- c. Provide cooling fans.
- d. Run local exhaust ventilation where heat is produced (e.g., laundry vents).
- e. Use reflective shields to block radiant heat.
- f. Insulate hot surfaces (e.g., furnace walls).
- g. Stop leaking steam.
- h. Provide shade for outdoor work sites.

4. **Administrative Controls:**

- a. Schedule hot jobs for cooler parts of the workday, and routine maintenance and repair work should be scheduled for the cooler seasons of the year when possible.
- b. Provide adequate drinking water on the worksite and permit employees to take frequent rest and water breaks.
- c. Use relief workers and reduce physical demands of the job.
- d. Have air-conditioned or shaded areas available for water breaks and rest periods.
- e. Allow new workers and workers returning from extended absences to get used to hot working environments by gradually increasing their workload.

Your interest in providing a safe and healthy workplace for your employees is appreciated. I look forward to reviewing your response to the allegations. If you have any questions, please do not hesitate to contact me at [AREAPHONE]. Your response may also be submitted electronically to [supervisor]@labor.nc.gov.

Sincerely,

[OSHASUPERVISOR]
District Supervisor

Enclosure