

## HEAT STRESS

### 1.0 Objective

The objective of this surveillance is to evaluate the effectiveness of actions taken by the laboratory to protect workers from the effects of heat stress. The Facility Representative or Environmental, Safety, and Health Support Specialist will observe work where heat stress is a risk and examine implementation of applicable administrative controls. The surveillance provides a basis for evaluating compliance with applicable DOE requirements and implementation of best industry practices.

### 2.0 References

- 2.1 DOE O 440.1A, *Worker Protection Management for DOE Federal and Contractor Employees*
- 2.2 DOE 5480.4, *Environmental Protection, Safety and health Protection Standards*
- 2.3 U.S. Environmental Protection Agency, Publication 9285.1-03, *Standard Operating Safety Guides*, June 1992

### 3.0 Surveillance Activities

In performing this surveillance, the Facility Representative or Environmental, Safety, and Health Support Specialist should recognize that mitigating the potential for heat stress is not governed by rigorous standards or requirements. Accordingly, wide latitude should be afforded to Industrial Hygienists monitoring worker health and safety. In performing this surveillance, the Facility Representative or Environmental, Safety, and Health Support Specialist completes the following activities:

Activity 1 - Review health and safety plan, work package, or other governing documents for work that involves potential for exposure to heat stress.

Activity 2 - Attend pre-job briefing

Activity 3 - Observe ongoing work activities at the work site for the administrative documents reviewed in Item 1.

**Surveillance Guideline**  
**HEAT STRESS**

Surveillance No.: \_\_\_\_\_

Facility: \_\_\_\_\_

Date Completed: \_\_\_\_\_

**Activity 1 - Review Work Planning Documents**

The Facility Representative or Environmental, Safety, and Health Support Specialist selects a work activity that exposes workers to the risk of heat stress. Such activities include hazardous waste operations that require workers to wear impermeable encapsulating personal protective equipment, work in radiological control areas that necessitates work in anti-contamination clothing, work that involves highly strenuous activities at elevated temperatures, and work that is performed in confined spaces with elevated temperatures. For the selected work activity, the Facility Representative or Environmental, Safety, and Health Support Specialist reviews pertinent documents governing the work.

	<u>YES</u>	<u>NO</u>	<u>N/A</u>
1. Do the work documents explicitly identify heat stress as a hazard that workers will encounter?	_____	_____	_____
2. Do the work documents define work and rest periods during the work activities based on anticipated work rate, ambient temperature and other factors?	_____	_____	_____
3. Do the work documents require the presence of technicians to monitor worker physiological symptoms to detect indications of heat stress?	_____	_____	_____
4. Do the work documents include provisions for equipment or additional provisions to mitigate the potential for heat stress such as use of ice vests, forced cooling, field showers, or hose-down areas?	_____	_____	_____
5. Do the work documents include provisions for shelter or shaded areas to protect workers during rest periods and for availability of fluids to replace body fluid losses due to sweat?	_____	_____	_____

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YES      NO      N/A

**Activity 2 - Attend Pre-job Briefing**

- |    |                                                                                                                                                  |       |       |       |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------|-------|
| 6. | Are risks associated with heat stress discussed at the briefing?                                                                                 | _____ | _____ | _____ |
| 7. | Are workers cautioned regarding symptoms of the onset of heat stress?                                                                            | _____ | _____ | _____ |
| 8. | If additional personal protective equipment has been mandated to mitigate the potential for heat stress, is the use of this equipment discussed? | _____ | _____ | _____ |
| 9. | Are work and rest period requirements discussed during the briefing?                                                                             | _____ | _____ | _____ |

**Activity 3 - Observe Work Activities**

- |     |                                                                                                                       |       |       |       |
|-----|-----------------------------------------------------------------------------------------------------------------------|-------|-------|-------|
| 10. | Are work and rest cycles implemented in accordance with requirements in the work package documents?                   | _____ | _____ | _____ |
| 11. | Are industrial hygiene technicians present to monitor environmental and physiological conditions?                     | _____ | _____ | _____ |
| 12. | Do industrial hygiene technicians promptly monitor heart rate and body temperatures at the beginning of rest periods? | _____ | _____ | _____ |
| 13. | If heart rates exceed 110 beats per minute, are work cycles shortened by at least one-third?                          | _____ | _____ | _____ |
| 14. | If oral temperatures exceed 99.6°F, are work periods shortened by one-third?                                          | _____ | _____ | _____ |
| 15. | Are fluids available for consumption by workers to make up for fluids lost during work periods?                       | _____ | _____ | _____ |
| 16. | Are shelter or shaded areas available to protect personnel during rest periods?                                       | _____ | _____ | _____ |

17. Are workers using additional provisions to mitigate exposure to heat stress as specified in the work documents? \_\_\_\_\_

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**CAUTION**

**Facility Representatives or Environmental, Safety, and Health Support**

**Specialists should avoid interrupting operators or maintenance personnel in their work. The Facility Representative or Environmental, Safety, and Health Support Specialist should wait for opportune times to transact business.**

	<u>YES</u>	<u>NO</u>	<u>N/A</u>
18. Can workers who are at risk to heat exposure describe symptoms that might indicate onset of heat stress?	_____	_____	_____
19. Can industrial hygiene technicians describe the circumstances under which work periods would be restricted or work suspended?	_____	_____	_____

OTHER:

_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

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**Surveillance Guideline  
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NOTES/COMMENTS:

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PERSONNEL CONTACTED: \_\_\_\_\_

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**IF MORE SPACE IS NEEDED FOR FINDINGS, OBSERVATIONS, AND FOLLOWUP  
ITEMS - USE ADDITIONAL SHEETS**

FINDINGS:

Finding No.: \_\_\_\_\_

Description: \_\_\_\_\_

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Finding No.: \_\_\_\_\_

Description: \_\_\_\_\_

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Finding No.: \_\_\_\_\_

Description: \_\_\_\_\_

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**OBSERVATIONS:**

Observation No.: \_\_\_\_\_

Description: \_\_\_\_\_

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\_\_\_\_\_

\_\_\_\_\_

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Observation No.: \_\_\_\_\_

Description: \_\_\_\_\_

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Observation No.: \_\_\_\_\_

Description: \_\_\_\_\_

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**FOLLOWUP ITEMS:**

Followup Item No.: \_\_\_\_\_

Description: \_\_\_\_\_

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\_\_\_\_\_

\_\_\_\_\_

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Followup Item No.: \_\_\_\_\_

Description: \_\_\_\_\_

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\_\_\_\_\_  
\_\_\_\_\_

Followup Item No.: \_\_\_\_\_

Description: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

LABORATORY MANAGEMENT DEBRIEFED AND RESULTS: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Facility Representative or  
Environmental, Safety, and Health Support Specialist