

REMEDIATION MANAGEMENT HSSE COMMUNICATION Lessons Learned One-Pager



Type of Incident: Illness from heat
Business Unit: Remediation Management
Location of Incident: Well site north of Grande Prairie, Alberta
Date/Time: July 3, 2008 15:30

Brief Account of Incident: Worker (IP) engaged in heavy work (picking up rocks for regulatory required reclamation) in 90 deg F weather and became ill after about three hours.

The IP, a former cross-country runner was young and fit and motivated to work hard in presence of the subcontractor company's owner. The only shelters at the site were company vehicles. Supervision recognized heat as a risk for the day and specified drinking more water and taking breaks as needed as mitigations. Failure to eat a lunch upon arrival at the site mid-day, and subsequently eating after heat symptoms had developed are judged to be contributing factors.

IP was driven to the hospital by the company owner. IP significantly recovered during the drive. IP was monitored in the hospital and released after an hour with instruction to take it easy for a couple days. Symptoms indicate potential heat exhaustion. Medical report could not be obtained from the hospital.

Actual Outcome: Recordable illness due to restriction

What Went Well:

- Heat stress was recognized as a potential hazard and reviewed during tailgate meeting
- IP drank plenty of water
- First aid, once symptoms were recognized, was prompt and effective
- Reporting was prompt

What Went Wrong:

- IP overexerted while working in 90 deg F weather
- Mitigations for the recognized heat hazard were inadequate
- Personal factors such as diet, smoking, energy drink may have contributed to the illness

Possible Immediate Causes:

- 4-7 Judgement Error: Heat stress compromised the IP's ability to judge appropriately and inappropriate eating.
- 7-5 Temperature Extremes: Weather condition of 90 deg F only occurs 1-3 days per year on average in Grande Prairie area.
- 4-9 Inadequate Supervision: Supervision did not provide adequate mitigation for the heat and monitoring failed to detect symptoms

Possible System Causes:

- 15-1 No training provided: Tailgate meeting did not educate workers on the warning symptoms of heat stress or use of cotton underclothes with FRC.
- 15-4 Training material not recalled: IP had first aid training but did not recognize that he was at risk for heat stress.
- 17-6 Job oversight ineffective: Supervisor was monitoring from a distance and did not know that IP was having heat stress symptoms
- 19-2 Risk Assessment not effective: The JSA inadequate to mitigate the potential for heat stress

Corrective actions:

- Develop guideline for work in warm temperatures including use of minimum mitigations such as breaks and monitoring.
- Provide training to supervisors to increase awareness of necessary mitigations and oversight when working in heat.

Lessons Learned:

1. Risk of heat related illness can be increased in certain temperate zones due to the perception that it is not hot enough to be a concern.
2. Acclimation to working in heat, a significant heat risk factor, is unlikely to occur in some temperate zones due to the short duration of the daily warm temperatures.
3. Personal factors such as diet, drinks, illness, fitness, medications, and others may make standard heat stress mitigations insufficient for some individuals.
4. Supervision needs to be close and frequent to allow timely intervention when heat stress symptoms arise.
5. Attire such as FRC needs to be correctly worn. Non-permeable chemical protection wear would require an additional safety factor