MANAGING YOUR OHS PROGRAM: 5 Reasons You Should Protect Workers from Heat Stress



In many industries, the summer weather brings a new safety hazard: the risk of workers' exposure to heat stress. (Exposure to excessive heat and humidity may also be a year-round hazard in some workplaces, such as bakeries and foundries.) Canadian OHS laws, either specifically or implicitly, require employers to protect workers from becoming sick due to hot and/or humid conditions. Failing to adequately protect workers' from developing heat stress-related illnesses can result in:

1. **Injuries/Deaths**

When workers are exposed to hot and/or humid weather, their core temperatures and heart rates increase and they may experience headaches, nausea, cramps, dehydration and other symptoms of heat stress. If these symptoms aren't addressed quickly and properly, they may develop a heat stress-related illness, such as heat stroke and heat exhaustion'or even die.

Example: A 36-year-old roofer was part of a crew replacing a roof on a canning plant on a hot and humid day. The Humidex, which is based on the air temperature and humidity, during work hours was between 34-43. Members of the crew had felt ill; workers took frequent breaks and drank significant amounts of water. But sometime in the afternoon, while working

on the roof, this roofer was seen staggering and unsteady on his feet. His foreman told him to rest in a shaded area. After an hour's rest, he still didn't seem to answer appropriately and was ordered to rest for the remainder of the day. The roofer rested on the ground while his co-workers continued the roofing work. Later, he was seen stumbling and staggering, and he fell to the ground. A co-worker began first aid, while the foreman called 911. The roofer was taken to the hospital, where his core temperature was 42.2ø C. Despite aggressive treatment, he died the next morning.

A coroner's inquest into the fatality found that the workers on this crew had never been given any information on heat stress safety. In addition, although first aid training was provided to the foreman and other employees, they couldn't specifically remember if heat stress was covered in such training. And the roofer exhibited signs and symptoms of heat stress before his collapse that may have resulted in a different outcome if they'd been identified and treated earlier [*Boyle Inquest*, [2008] CanLII 89711 (ON OCCO), Nov. 19, 2008].

2. **Violations**

Failing to protect workers from heat stress can result in not only injuries and fatalities but also safety violations related to those failures.

Example: A bakery worker died of heat stress on the job. The outdoor temperature was 34ø C; inside the bakery, the temperatures topped 49ø C near the ovens. The worker's body temperature was measured at 42.5ø C. And he'd vomited twice before he died. The MOL charged the bakery with violating the OHS law's general duty clause because it didn't have a heat stress policy as required by MOL guidelines. The bakery pleaded guilty and was fined $215,000 [*Weston Bakeries Limited*, Ontario Govt. News Release, Feb. 18, 2004].

3. **Worker's Comp Claims**

If a worker gets sick or injured due to exposure to excessive heat on the job, he may have a valid workers' comp claim.

Example: A construction worker had been working in the sun, in hot conditions, for three weeks. One day, he felt nauseated and dizzy, and broke out in a cold sweat. After a short rest, he finished his shift. But on his way home, he felt nauseated again and developed leg cramps. He got out of his car for fresh air and fainted, hitting his head on the cement. He was diagnosed with a concussion. His workers' comp claim for that injury was denied, so he appealed.

The Tribunal checked the weather for the relevant three weeks and confirmed that the temperatures varied between 20-28ø C. On the day in question, the high temperature was 25ø C. The work on that day was arduous, involving the worker and his co-worker lifting and securing heavy roof trusses. The onset of the worker's initial symptoms of cold sweat and nausea was at the peak of the day's heat. A doctor testified that even if the worker was hydrating normally, it might not have been sufficient in these circumstances, especially as the worker was over age 40 and so at greater overall risk. In addition, the doctor noted that leg cramping is a symptom of heat stress. The doctor concluded that, based on all the circumstances, the worker did, in fact, suffer a heat-related illness, which caused his fainting and subsequent concussion. The Tribunal agreed, finding that the worker's heat-related illness arose out of and in the course of his employment. That illness led to the incident when he fainted and suffered a concussion. Thus, the Tribunal ruled that his injury was compensable [*WCAT-2013-00991*, [2013] CanLII 37521 (BC WCAT), April 15, 2013].

4. **Work Refusals**

Under the OHS laws, workers have the right to refuse unsafe

work. If a worker believes that the temperature and/or humidity levels in the work environment make it unsafe to work, he may refuse to do so. And depending on the circumstances, a court, tribunal or arbitrator may agree.

Example: A cook refused to work in the dining car kitchen of a train because of extreme heat. The railway company claimed the refusal wasn't justified because high temperatures are an inherent part of the job. But its safety officer didn't even bother to check how hot the kitchen really was. The arbitrator wasn't persuaded and upheld the refusal. The extreme heat in the dining cars 'constitutes a danger within the meaning of' the refusal law, the arbitrator ruled, noting that the kitchen wasn't air-conditioned and was poorly ventilated [*LeBlanc & VIA Rail Canada Inc.*, CLRB Decision No. 714, Board File: 950-93, Nov. 18, 1988].

5. **Compliance Orders**

When OHS officials conduct workplace inspections, one element they may assess is the environment in which work is being performed, including its temperature. If the inspector doesn't believe the employer is doing anything or enough to protect workers from the risk of developing heat stress-related illnesses, he may issue a compliance order, requiring the employer to implement appropriate safety measures to address heat stress.

Example: After an OHS officer inspected a manufacturing facility, he issued an order, requiring the manufacturer to conduct a heat stress assessment in two areas of the facility. The order required the assessment to include recommendations for control of worker exposure to heat stress, fluid intake and a work-rest regimen. The manufacturer challenged the order, arguing that, in 24 years of operation, it had never had a heat-related illness or a complaint of such illness among its workers. It also claimed that the nature of the work performed in the facility didn't expose workers to high

temperatures'and inspectors only have authority to issue orders when there are extreme temperatures.

The Labour Relations Board ruled that the officer had jurisdiction to order the heat stress assessment. It rejected the argument that 'temperature' isn't a physical agent under the OHS laws but 'extremes in temperature' are. The OHS laws don't contain a threshold that indicates what constitutes temperature 'extremes.' So such an interpretation would result in significant uncertainty as to at what point the inspector's authority to request a heat stress assessment is triggered. And 'uncertainty in a health and safety context is to be avoided,' explained the Board [*Cancoil Thermal Corp. v. United Food and Commercial Workers International Union, Local 175*, [2007] CanLII 15121 (ON LRB), April 26, 2007].

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Heat Stress Resources

At OHSInsider.com, you can find numerous resources, including articles, videos and tools, to help you protect workers from heat stress, including:

- Information on employers' obligations under the OHS laws to protect workers from heat stress
- Answers to frequently asked questions about heat stress
- A supervisor daily heat stress checklist
- A heat stress self-audit checklist
- A heat stress awareness tool
- A discussion of the role of heat stress monitors
- Information on a phone app that helps calculate the heat index
- A Spot the Safety Violation on the importance of hydration
- A handout for workers on the danger signs of heat-related illnesses
- An infographic on summer health and safety hazards to

post in the workplace
- A recorded webinar on the importance of acclimatization and protecting workers from heat stress.[/box]