International Association
of Drilling Contractors
3657 Briarpark Drive, Suite 200
Houston, Texas 77042

P +1.713.292.1945
F +1.713.292.1946
www.iadc.org

Managing Heat Stress in the Drilling Industry

The drilling industry often operates in demanding environments where high temperatures, intense physical labour, and prolonged exposure to the elements put workers at significant risk of heat stress. Effects are exacerbated by climate change. If not properly managed, heat stress can lead to severe health conditions such as dehydration, heat exhaustion, and life-threatening heat stroke. Additionally, reduced cognitive function and physical fatigue caused by excessive heat can increase the likelihood of accidents, posing a serious threat to workplace safety.

A proactive approach to managing heat stress begins with a comprehensive risk assessment. Employers and safety officers must evaluate environmental conditions, work intensity, and individual susceptibility to heat-related illnesses.

Key factors such as temperature, humidity, radiant heat, air movement, and personal protective equipment (PPE) should be assessed to determine appropriate control measures. Health monitoring of workers, particularly those who are new to the job or not yet acclimatized to extreme heat, should also be considered to prevent heat-related illnesses.

Mitigating heat stress requires a combination of administrative and engineering controls. Employers should implement:
- work-rest cycles based on environmental conditions,
- provide shaded or air-conditioned rest areas, and
- ensure easy access to cool drinking water.

Training programs should be conducted to educate workers on recognizing early symptoms of heat-related illnesses and the importance of hydration, proper nutrition, and self-care. A period for acclimatization to the environment should be factored into the work cycle. Personal protective strategies, such as wearing lightweight, breathable clothing and using cooling vests where feasible, can also help minimize heat strain. Finally, it's important to consider individual health factors such as obesity, poor health (particularly relating to cardiac and kidney disease) and alcohol and substance abuse as they increase the risk of heat stroke and serious outcomes.

By prioritizing risk assessments and worker health, the drilling industry can foster a safer and more resilient workforce, ultimately improving productivity while reducing heat-related incidents. A well-structured heat stress management plan not only protects workers but also enhances operational

efficiency and regulatory compliance in high-temperature drilling environments.

Further information on heat stress management is available through internationally recognized sources like the US National Institute for Occupational Safety and Health (NIOSH), US Centers for Disease Control and Prevention (CDC), US Occupational Safety and Health Administration (OSHA) and International Labour Organization (ILO)

Resources recommended by IADC's Health Subcommittee:
Heat Stress: Acclimatization (NIOSH)
Heat Stress Guide | OSHA.gov | Occupational Safety and Health Administration (OSHA)
Heat Stress: Hydration (NIOSH)
Heat Stress: Work/Rest Schedules (NIOSH)
Criteria for a Recommended Standard: Occupational Exposure to Heat and Hot Environments (CDC)
Working on a warmer planet: The impact of heat stress on labour productivity and decent work (ILO)
Climate change and workplace heat stress: technical report and guidance (WHO)
heatindex_chart_rh.pdf (National Oceanic and Atmospheric Administration)
Health aspects of work in extreme climates | Ipieca. (IPIECA_IOGP report)

Jarand Hindenes, Chair IADC Health Subcommittee
Chief Medical Director Nordic Health Partner, Specialist in Occupational Medicine
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