HEAT STRESS PREVENTION AT MEGA CONSTRUCTION WORK SITE IN DESERT AREA OF INDIA

Shah, Dr. Divyang A. Hari Kumar, MacIntyre Colin
Cairn India Pty. Ltd., Gurgaon, India  Divyang.Shah@cairnindia.com

Introduction

Rajasthan, situated in the western part of India is known for the largest desert in Indian subcontinent. A largest discovery of oil in Indian soil was made in 2006.

Problem Statement

The death toll is expected to rise with experts forecasting temperatures approaching 50°C (122°F) in coming weeks. More than 100 people are reported to have died in the state of Gujarat where the mercury topped at 48.5°C last week. At least 90 died in Maharashtra, 35 in Rajasthan and 21 in Madhya Pradesh.

2009-10 The peak of construction activities

• More than 18000 workforce were involved in construction and commissioning activities

• The temperature in this area usually reaches up to 48°C (120°F) in summer,

• Being a mega construction project, all personnel were pressed against tight project execution schedule.

Table of Contents

1. Purpose
2. Scope
3. Definitions
4. Basics of Body Temperature
5. Evaluation
6. Control
7. Acclimatisation
8. Monitoring Regime
9. Training and Support
10. Responsibilities
11. References
Appendix-A: Fitness for work in Heat Stress Environment
Appendix-B: Heat Stress Indices
Appendix-C: Flag Signs
Appendix-D: WBGT and Recommended Work Rest Regime
Appendix-E: Self Evaluation
Appendix-F: Guidelines for acclimatisation and re-acclimatisation
Appendix-G: Effects of heat stress

Interventions

• Management commitment

Heat stress prevention Guidelines

• Awareness campaign

• Administrative control

> 700 earthen pots at worksite

• Rest shelters

• All workforce provided with insulated water bottle before entering the site

• Hourly monitoring and broadcasting of heat index

Flag signs at work locations

Major Activities

• Work at Height
• Excavation
• Manual Material Handling
• Civil / Earthen work
• Travel

Success: Zero Incident of Heat Related Illness throughout the Project Period