

The Physiologic Responses of Foundry Workers to High Temperature Environments

Research Paper No. 2001-02



Department of Labor and Employment
Occupational Safety and Health Center
North Avenue corner Agham Road,
Diliman, Quezon City, Philippines



The Physiologic Responses of Foundry Workers to High Temperature Environments

Abstract

This study aimed to 1) determine the working conditions prevalent in the foundries 2) determine worker perception and subjective judgment of the thermal conditions in his workplace 3) document the physiologic responses to heat stress and 4) determine the health complaints of workers. Three foundries in Metro Manila participated in the study. The furnace and casting areas were identified to be sources of heat in the establishments. Workers exposed to the heat in these areas were selected as respondents to the study. Data gathered included sociodemographic data, occupational and personal histories and their perception of work and thermal environment including medical examination of exposed workers.

Acclimatization or the process of slowly introducing the workers to hot environmental was reported by 23% of the respondents. Thirty-three percent reported that they were given training on acclimatization, 69% of the workers claimed that they were provided with drinking facility near their work area, 33% of the respondents claimed that they were encouraged to drink fluids, 98% reported that they were not allowed or encouraged to rest in air-conditioned rooms. While working, 55% perceived their workplace as hot. As to climate preference, all respondents reported that their present workplace climate was tolerable. Subjective symptom survey revealed the following complaints: sweating, thirst, and tiredness. Results also showed that insufficient evidence to conclude that prevalence of symptoms in the pre-shift differs from the

symptoms during and after their work shift. It is recommended that because workers in high thermal environment are constantly at risk of developing adverse health problems, corrective actions should always be taken to prevent heat related injury or illness