

NIOSH Health Hazard Evaluation Abstracts

IJOEH and NIOSH Work Together to Publish Information on Federal Health Hazard Evaluations

With this issue *IJOEH* enters into a partnership with the U.S. National Institute for Occupational Safety and Health (NIOSH) to publish a set of abstracts of important Health Hazard Evaluations (HHEs). While these abstracts of NIOSH investigations have been available on the NIOSH web site, our publication will make them available to the National Library of Medicine search service.

As Fleming et al. have shown, case reports and clusters have often functioned as windows to the discovery of new occupational and environmental diseases.¹ This is certainly the case with the NIOSH HHE program (<http://www.cdc.gov/niosh/programs/hhe/>). The HHE Program, which was established under the Occupational Safety and Health (OSH) act, gives employers, employees, and authorized employee representatives the right to request an investigation of potentially hazardous conditions in workplaces in the U.S. NIOSH has the right to enter a workplace and evaluate potential health hazards under this program when it receives a request that is consistent with the legislative mandate and regulatory requirements. The HHE request form can be found at <http://www.cdc.gov/niosh/docs/2000-132/>.

While NIOSH is a U.S. agency, these abstracts have international relevance. In addition, the HHE program can serve as a model for other countries. As the result of a successful collaboration with NIOSH, the Korea Occupational Safety and Health Agency developed a new Workplace Health Partners Program ([\[or.kr/english/business/business06.jsp?menuId=6\]\(http://www.kosha.or.kr/english/business/business06.jsp?menuId=6\)\). We encourage NIOSH and its counterparts in other countries to work together towards developing similar programs. Agencies interested in learning more can contact the NIOSH HHE Program Manager or Coordinator \(<http://www.cdc.gov/niosh/programs/hhe/contacts.html>\).](http://www.kosha.</p></div><div data-bbox=)

References

1. Fleming LE, Ducatman AM, Shalat SL. Disease clusters: a central and ongoing role in occupational health. *J Occup Med*. 1991 Jul;33(7):818-25.

Nonionizing Radiation Exposure to Technicians at a Satellite Communications Facility

Eisenberg J, Sylvain D, Durgam S

The HHE Program responded to a union request at a weather station. The request concerned potential radio frequency (RF) radiation exposure to electronic technicians repairing equipment. HHE Program investigators reviewed incident and maintenance logs and conducted confidential medical interviews with employees. The investigators found that a RF health and safety program did not exist. The investigators found that employees were doing repairs and using equipment that they had not been trained for. Investigators recommended that managers ensure that employees are properly trained and enforce proper documentation of repairs and maintenance in their logs. Investigators also recommended that managers implement an effective RF health and safety program and enforce training and safety protocols. HHE

Program investigators also recommended that managers restrict access to areas where spatial average electric field strength may exceed recommended guidelines and post signs marking these areas. Additionally, investigators recommended that employees immediately inform managers of any workplace exposure and then seek medical evaluation. The final report is available at <http://www.cdc.gov/niosh/hhe/reports/pdfs/2007-0095-3063.pdf>.

Evaluation of Potential Noise Hazards to Mechanics and 911 Dispatchers at a Fire Department

Achnutan C, Kardous CA

The HHE Program responded to a management request at a fire department. The request concerned potential exposure to noise among 911 dispatchers and mechanics in the fire station. HHE Program investigators monitored mechanics' and dispatchers' noise exposures and looked at hearing test results. Investigators also interviewed workers and looked at injury and illness records for trauma to the ears. The investigators found that mechanics' exposure to noise was above the NIOSH recommended exposure limit, and that their exposures occurred over short periods of time. Investigators also found that the potential for harm to 911 dispatchers' hearing was low. Investigators recommended that managers enroll mechanics in a hearing conservation program and require that mechanics wear ear plugs or ear muffs when working with loud equipment. HHE Program investi-

gators also recommended that a communications center be built for 911 dispatchers, or that the existing center be modified to meet recommended indoor noise criteria for buildings. The final report is available at <http://www.cdc.gov/niosh/hhe/reports/pdfs/2007-0235-3064.pdf>.

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Investigation of Employee

Symptoms at an Indoor Waterpark

Chen L, Dang B, Mueller C, Dunn KH, Almaguer D, Ernst JL, Otto III CS

The HHE Program responded to a request for assistance at an indoor water park. The request concerned the cause of symptoms involving irritation to the eyes, nose, skin, and respiratory system. HHE Program investigators tested the air for trichloramines, soluble chlorine compounds, and endotoxins. Investigators tested the water for fecal contamination, *Legionella*, mycobacteria, endotoxin, sulfites, and sulfates. Additionally, investigators reviewed the ventilation system and water system designs. HHE Program investigators found that some trichloramine concentrations were at levels previously reported to cause mucous membrane irritation and that air endotoxin concentrations were at levels that have been associated with cough and fever. Investigators recommended that managers assess the ventilation system to ensure adequate air movement and proper removal of contaminants. Investigators also recommended that managers consider reducing water attraction cycle times and use larger droplet discharge nozzles to reduce aerosolization of contaminants. Investigators recommended that managers consider redesigning the spray feature piping system to make sure that water used in the pools is taken directly after the filtration and treatment cycles. Additionally, investigators recommended that employees report any work-related symptoms to their supervisors. The final report is available at <http://www.cdc.gov/niosh/hhe/reports/pdfs/2007-0163-3062.pdf>.

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Ergonomic Evaluation of Frank Hangers at a Turkey Processing Plant

Ramsey J, Gibbins J

The HHE Program responded to a union request at a poultry processing plant. The request concerned potential ergonomic hazards resulting from job tasks in the deli division. HHE Program investigators observed frank hanging and frank removing tasks and interviewed workers about both their work and medical history. The investigators found that workers use awkward postures and perform heavy lifting, which increase their risk of developing musculoskeletal disorders. Investigators found that workers reported musculoskeletal pain and discomfort in their back and shoulders when hanging and removing franks. HHE Program investigators recommended that managers provide workers with taller platforms in both the raw and cooked production areas to reduce awkward postures. Investigators also recommended that managers rotate workers from lifting to non-lifting jobs to limit lifting tasks to less than two hours per rotation. HHE Program investigators recommended that employees take specific measures to minimize horizontal reach distance while working. Investigators also recommended that employees take the time to work safely and lift properly. The final report is available at <http://www.cdc.gov/niosh/hhe/reports/pdfs/2007-0098-3061.pdf>.

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Ergonomic Evaluation of Workers at a Piston and Cylinder Liner Manufacturing Plant

Ramsey J, Eisenberg J

The HHE Program responded to a union request at a piston and cylinder liner plant. The request concerned potential ergonomic

hazards resulting from job tasks. HHE Program investigators observed work tasks and interviewed workers about both their work and medical history. The investigators found that workers use high force, awkward postures, and repetitive motions which increase their risk of developing musculoskeletal disorders. The most common complaints were pain or discomfort in the low back and shoulders resulting from heavy lifting and awkward postures. HHE Program investigators recommended that managers add adjustable lifts and tables to reduce bending and reaching and that they train workers to be aware of unsafe work practices. Investigators recommended that employees take the time to work safely and lift properly, as well as promptly report any injuries or unsafe work conditions to their supervisors. The final report is available at <http://www.cdc.gov/niosh/hhe/reports/pdfs/2007-0124-3060.pdf>.

20035656

Ergonomic Evaluation of Workers at a Cabinet Mill and Assembly Plant

Ramsey J, Dang B, Habes DJ

The HHE program responded to a management request at a cabinet mill and assembly plant. The request concerned potential ergonomic hazards resulting from job tasks. HHE program investigators performed walk-through surveys at both facilities and interviewed workers about their work and medical history. The investigators found that workers use high force, awkward postures, and repetitive motions, all of which increase their risk for developing musculoskeletal disorders. Investigators also reviewed OSHA injury logs and workers' compensation data and determined that most injuries were musculoskeletal disorders involving the upper extremities. HHE program investigators recommended that managers provide adjustable tables and carts to

reduce the physical stresses that employees endure during work activities. Investigators also recommended that the facility consider improving tool design to reduce vibration and to decrease the force required to handle and operate tools effectively. The final report is available at <http://www.cdc.gov/niosh/hhe/reports/pdfs/2007-0038-3057.pdf>.

Evaluation of Dust and Noise Exposures at Three Roofing Companies

Hall RM, Eisenberg J, Dowell C, McCleery R, Mueller C, Achutan C, Sollberger R, Hall RM, Tubbs R

The HHE program responded to a union request concerning workers' exposure to dust and noise during saw cutting of cement roofing tiles. HHE program investigators observed work practices, and evaluated workers' exposure to dust and noise at three roofing companies. They also screened employees for silicosis using a medical questionnaire, lung function testing, and chest x-rays. Testing showed that workers were overexposed to silica and noise during saw cutting of cement roofing tiles. Results also showed that most roofers had normal lung function, but that lung function decreased with increased years of performing dry-cutting of cement roofing tiles. HHE program investigators recommended that managers implement engineering controls and work practice controls to reduce airborne silica levels. Recommendations were also made regarding implementing mandatory respiratory protection programs and hearing conservation programs. The

final reports are available at <http://www.cdc.gov/niosh/hhe/reports/pdfs/2005-0030-2968.pdf>; <http://www.cdc.gov/niosh/hhe/reports/pdfs/2005-0031-3055.pdf>; and <http://www.cdc.gov/niosh/hhe/reports/pdfs/2005-0032-2985.pdf>.

Evaluation of Histoplasmosis Concerns at a United States Post Office

Chen L, Adebayo A

The HHE Program responded to a union request at a post office. The request concerned possible exposure to *H. capsulatum*, a fungus that causes histoplasmosis, through exposure to pigeon droppings. HHE investigators held confidential medical interviews with employees, took indoor environmental quality measurements, and inspected and reviewed the building's ventilation system. HHE investigators found no specific occupational or environmental exposures that explained the workers' symptoms. At the time of the investigation there was no evidence of birds or other animals in the ventilation system. Bird netting was currently in place around the rooftop ventilation system to prevent bird entry. Investigators determined that the potential for employees to contract histoplasmosis was low. Therefore, HHE investigators did not recommend that employees undergo general testing for histoplasmosis. Investigators recommended that managers continue to ensure that measures are in place to prevent animals from entering the ventilation system and that regular housecleaning activities are performed to reduce particulate matter in the building. Investigators also recom-

mended that employees report any concerns they have to management. The final report is available at <http://www.cdc.gov/niosh/hhe/reports/pdfs/2007-0216-3056.pdf>.

Evaluation of Heat Stress at a Glass Bottle Manufacturer

Dowell CH, Tapp LC

The HHE program responded to a confidential employee request at a glass bottle manufacturer concerning heat-related illnesses among employees in the forming department. HHE program investigators performed a survey of the forming department, interviewed department employees, reviewed OSHA 300 logs, and took heat measurements. Investigators found that employees were not exposed to excessive heat at the time of the NIOSH investigation, but may be exposed to higher heat levels during the summer months. HHE program investigators recommended that facility managers develop and implement educational and surveillance programs regarding hot work environments, and allow employees to take unscheduled breaks if they feel ill due to the hot conditions. Investigators also recommended that a preventative maintenance schedule be set up for facility coolers. HHE program investigators recommended that employees alert their supervisors if they begin to feel ill due to the heat, drink plenty of fluids, and create a buddy system to watch for signs of heat-related conditions in coworkers. The final report is available at <http://www.cdc.gov/niosh/hhe/reports/pdfs/2003-0311-3052.pdf>.