



NATIONAL ENERGY MANAGEMENT INSTITUTE

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## INDOOR AIR QUALITY STANDARDS IN JEOPARDY WORKERS' HEALTH AT RISK Smoking Ban Controversy Overshadows Building Safety

Washington--The issue of indoor air quality in the workplace has a monkey on its back -- environmental tobacco smoke -- and it's threatening to derail important new rules that would make the workplace healthier and more productive.

The Occupational Safety and Health Administration (OSHA) is hearing testimony on its proposed rule to establish a comprehensive indoor air quality compliance program. Provisions that would require building owners to properly maintain their heating, ventilating and air conditioning (HVAC) systems are aimed at reducing the risk of illnesses associated with Sick Building Syndrome and Building Related Illnesses -- health effects caused by poor indoor air quality (IAQ). Alex Willman, Director of Engineering and Indoor Air Quality at the National Energy Management Institute (NEMI), says the issue has been hijacked. "The controversy surrounding one element of the issue of IAQ -- environmental tobacco smoke (ETS) -- threatens to run the whole proposal aground," said Willman, "killing the other provisions that could positively affect the health and productivity of over six million American workers."

Building related illnesses -- such as eyes, nose and throat irritation, erythema, mental fatigue and headaches, microbial allergies, respiratory afflictions and others -- are often the result of poor or contaminated ventilation in the workplace. But, according to OSHA, diligent maintenance and correct operation of ventilation systems can effectively prevent such illnesses.

The proposed rule would address these illnesses by: 1) Assuring the proper operation and maintenance of non-industrial workplace HVAC systems by requiring all commercial and institutional building owners or operators to establish a written compliance program and designate a properly trained person to be responsible for its implementation; 2) Requiring that ventilation systems be inspected periodically and operated and maintained according to their original design specifications and actual building occupancy; and 3) Mandating employee training so workers could better recognize potential hazards. Employers would be responsible for maintaining a log of employee complaints and taking actions to resolve them. Also, employers would be required to notify employees of activities that could release airborne contaminants into the workplace.

However, the heated controversy surrounding the rule's fourth provision about ETS is threatening the whole rule's adoption. This provision requires employers to either ban smoking entirely or confine it to rooms exhausted directly outside and negatively pressurized so that smoke cannot escape into adjacent areas. Also, no work could be performed in these areas. Opposition to this provision is robust and comes from many constituencies, not just the tobacco companies. "Restaurant owners and employees oppose the smoking area provision, believing it will reduce patronage," Willman said.

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“Building owners and managers are resistant to changes in their properties due to a perception of high cost and no benefit.” Emotions run so high on this provision that OSHA has been inundated by more mail than they have ever received about a proposal -- over 100,000 letters, some of a threatening nature. The FBI had to be called in to investigate some of the letters, and OSHA workers are being trained to spot potentially explosive mail.

Ironically, the ETS provision may not be necessary. A recent study of ETS in office buildings was conducted jointly by the Occupational Health Foundation and NEMI. Results indicate that properly operating ventilation systems substantially reduce exposure to airborne nicotine in non-smoking areas to levels below detection. “Since the other provisions of the rule should assure that HVAC systems operate sufficiently to mitigate smoke migration to non-smoking areas,” Willman said, “there may be no need to require specially exhausted, designated smoking areas.” But the outcry over the ETS provision may be drowning out logic in this debate.

However, some important constituencies have seen through the haze in this debate. According to labor leaders, signs of sick building syndrome are well documented and widely recognized as a common health effect of poor indoor air quality, and while ETS is a hazard, there are other serious IAQ problems that must be addressed. But the ballyhoo over ETS has eclipsed media attention to the broader issue of IAQ.

Broad public interest and data from studies and surveys show that poor IAQ is a serious and common problem in the American workplace. In a survey of 42 commercial, retail and public sector buildings done from 1992 to 1993 by the National Institute of Occupational Safety and Health, 60 percent were found to have unbalanced HVAC systems, and over half needed more outside air to comply with the latest engineering standards. Furthermore, over a third of the buildings needed to improve their air filtration systems or replace water damaged carpets and ceiling tiles due to microbial growth.

Even the Environmental Protection Agency has an IAQ problem. At their non-smoking headquarters in Washington, D.C., a class action employee lawsuit over poor indoor air quality has resulted in a \$3.5 million preliminary ruling. And in a response to the fatal 1991 outbreak of Legionnaires' disease in a California Social Security Administration building, one of the largest IAQ surveys in history was jointly commissioned by the American Federation of Government Employees and NEMI. The findings were alarming. Of the 5,420 respondents from predominantly non-smoking office buildings around the nation, 63 percent reported symptoms associated with sick building syndrome while at work. Of those, 77 percent said the symptoms disappear when they are away from work. “For these and millions of other American workers the issues are simple: Is the HVAC system in their building a breeding ground for microbial contaminants and mold spores,” Willman asked. “Is their system designed for the way the building is currently utilized and is it properly maintained? And are their complaints about poor IAQ going ignored by the building owners? The proposed rule would address each of these concerns.”

Poor indoor air quality in the workplace affects not just the health of American workers, but their productivity is compromised as well, due to excessive sick days, increased health costs, time off to go to the doctor, hiring of temporary workers and workers' compensation costs. According to a study commissioned by NEMI often referenced by OSHA in their proposed rule, employers nationwide could realize a \$55 billion annual gain in worker productivity if IAQ problems are resolved. The study concluded that building owners could see a payback on the costs of improving their HVAC systems to currently accepted standards in only 1.6 years.