



**DEPARTMENT OF HEALTH & HUMAN SERVICES**

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**Public Health Service**

Centers for Disease Control  
and Prevention (CDC)  
National Institute for Occupational  
Safety and Health (NIOSH)  
1095 Willowdale Road  
Morgantown, WV 26505-2888

January 16, 2007  
HETA 2006-0179

Sandra Sutton, Advocate  
Northwest Illinois Area Local  
American Postal Workers Union  
2037 South 7<sup>th</sup> Avenue  
Maywood, Illinois 60153

Dear Ms. Sutton,

I am writing in regard to the March 2006 request by American Postal Workers Union (APWU), Northwest Illinois Area Local, for a National Institute for Occupational Safety and Health (NIOSH) health hazard evaluation of 12 United States Postal Service (USPS) facilities located in Illinois, Missouri, Wisconsin, and North Carolina (see Table 1, facility information). You indicated that eight of these facilities were processing and distribution centers, one did “mail sorting”, and the other three were post offices. In your written request you indicated that distribution clerks, mail handlers, CFS clerks, maintenance personnel, motor vehicle personnel, and management were experiencing upper respiratory infections from exposure to airborne paper dust. You also indicated concern that deaths among postal workers who had worked at these facilities could be due to work-related paper dust exposures. You submitted additional materials with your request for a NIOSH evaluation. These included a list of the names of 434 workers who indicated to the Union that they were experiencing health problems that they believed were work-related. Also included were many testimonials from workers or relatives of deceased workers. The list indicated that most workers had reported upper respiratory and eye problems. Some reported asthma or bronchitis. A few reported sarcoidosis or other lung problems. You also submitted bulk materials for testing that you indicated were from two of the 12 postal facilities.

In communications with your earlier this year, I informed you that in the late 1990s staff from the NIOSH Division of Respiratory Disease Studies had conducted several health hazard evaluations at USPS mail sorting facilities where workers had reported respiratory symptoms or problems. These evaluations generally involved a walkthrough of the facility, air sampling, and a review of information provided by a small percentage of the workforce. There were no conclusive findings from these evaluations regarding the role of paper dust in the workers' reported health problems. The use of compressed air to remove dust from mail sorting machinery (“blowouts”) was associated with some reported symptoms. This practice was prohibited by USPS management in November 2001. I indicated to you that additional similar evaluations by NIOSH at the 12 facilities on your request were not likely to yield additional useful information. I mentioned that a more informative approach might be the development by NIOSH of a protocol for a

detailed employee health and exposure survey at postal facilities, the information from which could subsequently be analyzed to look for possible associations between various health outcomes and workplace exposures. Before proceeding with the development of such a protocol it would be important to know that USPS and APWU management were interested in cooperating with NIOSH in carrying out the survey (e.g., encouraging and facilitating employee participation). To see if USPS and APWU were interested in a NIOSH survey to evaluate the possibility of worker health problems from workplace exposures to paper dust, I communicated with Corey Thompson, head of health and safety at APWU, and Samuel Pulcrano, head of health and safety at USPS.

On a conference call on June 30, 2006, Mr. Pulcrano and Robert Creadeur (USPS area manager for safety in the great lakes region) reported that their records review indicated that few workers had reported concern over possible work-related exposures and health problems in the 12 facilities. They also indicated that several air sampling studies performed by outside contractors had revealed that levels of airborne dust were far below Occupational Safety and Health Administration (OSHA) permissible exposure limits (PELs). Mr. Pulcrano provided copies of reports of air sampling studies performed at the Carol Stream, Illinois, processing and distribution center in September 1994 and April 2000, at the Chicago Metro Surface (Busse) Hub in February 2006, and at the Palatine, Illinois, processing and distribution center in November 1994, March 1997, and August and September 1998 which indicated air concentrations for dust that were below the OSHA PELs for particulates not otherwise regulated (15 milligrams per cubic meter of air ( $\text{mg}/\text{m}^3$ ) for total dust and  $5 \text{ mg}/\text{m}^3$  for respirable dust). Most measured levels were less than 2% of the PEL. Mr. Pulcrano indicated that he did not believe that a NIOSH study was justified given the available information. (In an e-mail to you on September 23, 2006, I briefly summarized what I had learned from my conversation with Mr. Pulcrano.) In a phone conversation I had with Mr. Thompson on July 7, 2006, he indicated that, while he thought that a NIOSH study could yield useful information, he also did not think a study was currently justified based on the information available on worker health concerns at the 12 facilities.

## **Discussion and Recommendations**

While health surveys at paper mills and paper recycling plants have shown associations between high paper dust exposures (i.e., higher than  $5 \text{ mg}/\text{m}^3$ ) and respiratory symptoms and health effects,<sup>1</sup> the potential for illness related to paper dust exposures at USPS facilities is currently unknown. Although air sampling at some of the 12 postal facilities showed that dust levels were well below the OSHA PEL for dust, this does not rule out possible respiratory effects in workers. Research is available that supports the occurrence of upper respiratory symptoms at paper dust levels less than  $5 \text{ mg}/\text{m}^3$ .<sup>2</sup> In a study at a soft paper mill with concentrations between  $5 \text{ mg}/\text{m}^3$  and  $10 \text{ mg}/\text{m}^3$  there was an increased risk for respiratory symptoms of cough, phlegm, wheeze, and breathlessness in relation to paper dust exposures.<sup>3</sup> In addition, in the presence of moisture, the cellulose content of paper dust potentially could support mold growth, which is well documented in the scientific literature to cause respiratory problems similar to those mentioned by requesters.

*Work-related respiratory illness development or exacerbation:* Asthma is a form of lung disease in which the airways develop inflammation and bronchospasm (reversible airways obstruction) in response to a variety of specific and non-specific triggering agents.<sup>4</sup> The prevalence of asthma in adults in the U.S. is approximately 7%. Work-related asthma (WRA) includes physician-diagnosed new-onset asthma due to an agent (irritant or allergen) encountered in the workplace, as well as exacerbation of stable pre-existing asthma from exposure to irritants in the workplace.<sup>4</sup> WRA has been estimated to make up 15% of all asthma among adults.<sup>5</sup> In some workers, mild WRA can progress to severe persistent asthma if exposures are not controlled or eliminated. New-onset asthma due to a workplace allergen typically requires complete exposure elimination to prevent disease progression. In workers with exacerbation of asthma due to irritants, decreased exposure levels combined with close medical monitoring and management may result in clinical improvement and may allow the worker to remain safely at the same job.<sup>4</sup>

Inflammation can affect the upper respiratory tract as well as the lungs. Like asthma, rhinitis (inflammation of the nasal mucosa) can result from irritants or allergens found in the workplace.<sup>5,6</sup> An estimated 20% of the population has allergic rhinitis and an additional 5% has non-allergic rhinitis.<sup>5</sup> Asthma and rhinitis often coexist. The swelling of nasal tissues that occurs with rhinitis can obstruct the openings that allow normal drainage of fluids from sinuses, leading to secondary infections (sinusitis).<sup>5,6</sup>

Postal workers who develop respiratory symptoms or worsening of a previously stable respiratory problem should see their personal physician for evaluation and treatment recommendations. Respiratory conditions that persist or worsen despite appropriate medical treatment and where a workplace exposure is felt to be a contributing factor should be reported to management and union health and safety personnel. Health and safety personnel should perform an assessment of the work area to look for exposure situations that may be aggravating or causing the worker's condition. For example, existing exposure controls and/or ventilation systems may not be functioning adequately; improper work practices may be causing excess airborne dust or other unnecessary exposures. Such situations should be corrected. If exposure to dust or other particulate is felt to be contributing to respiratory problems but additional exposure controls or improvements are not feasible, use of a NIOSH-approved N95 filtering face piece respirator (disposable dust mask) may provide sufficient protection. USPS management should make a selection of NIOSH-certified N95 respirators available for such workers and provide instruction on how to wear them correctly. A worker with a respiratory condition that persists despite appropriate exposure controls may require removal from continued exposure. Labor and management should maintain data on work-related respiratory illnesses and regularly review these data to identify trends that indicate work areas and exposure conditions that should be improved to prevent risk to additional workers.

Since we have no information on how the bulk materials you submitted were collected and prepared for transport, we did not conduct any tests or analyses on them. Please let me know if you would like for me to return these materials to you. I will dispose of these

materials if I do not receive a request from you for their return within 30 days after mailing this letter.

This letter will serve to close out your request for a NIOSH health hazard evaluation. Please feel free to contact me at (304) 285-5932 if you have any questions.

Sincerely,

Richard Kanwal, M.D., M.P.H.  
Medical Officer  
Respiratory Disease Hazard Evaluation and  
Technical Assistance Program  
Field Studies Branch  
Division of Respiratory Disease Studies

cc:

Miriam Jackson, Northwest Illinois Area Local  
Odell Harper, Northwest Illinois Area Local  
Samuel Pulcrano, USPS  
Corey Thompson, APWU

## References

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2. Hellgren J, Eriksson C, Karlsson G, Magberg S, Olin A, and Toren K. (2001). Nasal symptoms among workers exposed to soft paper dust. *Int Arch Occup Environ Health* 74:129-32.
3. Toren K, Jarvholm B, Sallren G, Thiringer G. (1994). Respiratory symptoms and asthma among workers exposed to paper dust: a cohort study. *Am J Ind Med* 26(4):489-496.
4. Friedman-Jiménez G, Beckett WS, Szeinuk J, Petsonk EL [2000]. Clinical evaluation, management, and prevention of work-related asthma. *Am J. Ind. Med* 37:121-141.
5. Balmes JR, Scannell CH [1997]. Occupational lung diseases. In LaDou J ed. *Occupational and environmental medicine*, 2<sup>nd</sup> ed. Stamford, CT: Appleton & Lange. pp 305-327.

6. Christiani DC, Malo J-L [1999]. Upper airways involvement. In Bernstein IL, Chan-Yeung M, Malo JL, Bernstein DI, eds. Asthma in the workplace. New York: Marcel Dekker, pp 331-338.

Table 1. Postal facilities listed on HHE request.

Facility	Number of workers who reported symptoms or illnesses	Total number of workers at facility (reported by management)
Arlington Heights Post Office 909 W Euclid Ave Arlington Heights, IL 60004	1	167
Carol Stream Processing and Distribution Center 500 East Fullerton Carol Stream, IL 60188	111	1414
Chicago Main Processing and Distribution Center 433 West Harrison Chicago, IL 60607	2	2501
Chicago Metro Surface Hub 2591 Busse Rd Elk Grove Village, IL 60007	2	487
Palatine Processing and Distribution Center 1300 E Northwest Highway Palatine, IL 60095	63	1655
Rockford Processing and Distribution Center 5225 Harrison Ave Rockford, IL 61125	73	275
Westchester Post Office 10240 West Roosevelt Rd Westchester, IL 60154	2	45
Kansas City Processing and Distribution Center PO Box 410661 Kansas City, MO 64141	86	1586
St. Louis Processing and Distribution Center 1720 Market Street St. Louis, MO 63155	20	2542

Table 1. (Continued)

Facility	Number of workers who reported symptoms or illnesses	Total number of workers at facility (reported by management)
Raleigh Processing and Distribution Center 1129 Corporation Parkway Suite 171 Raleigh, NC 27610	13	1079
Eau Claire Processing and Distribution Center PO Box 1222 Eau Claire, WI 54702-1222	43	48
Maywood Post Office 415 South 5th Ave Maywood, IL 60153	18	72