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Australia - 2002

Studying the Link between Health and Work Environment

What is the relationship between the workplace and employee health? That is the question being asked more frequently by companies, employees, unions, academics, communities, and other interested stakeholders who are increasingly recognizing the need to know more about this critical relationship. Objective, scientific data is a significant enabler for answering this question and guiding companies toward a workplace free from work-related illnesses.

Since 1994, Alcoa has been involved in one of the largest and most comprehensive occupational health studies carried out in Australia. Called *Healthwise*, the long-term study is designed to assess the overall health status of people who have worked in the aluminum industry compared to people who have not.

"This is an open exploration of the major health risks of the aluminum industry," said Mark Cullen, M.D., medical director for Alcoa and professor of medicine and public health at Yale University. "The study focuses on the industry's two largest health concerns, which are respiratory disease and cancer. The thought behind the study is that very careful tracking of employee health over time would lead to a clear understanding of the risks that workers in different job categories and different parts of the industry were prone to experience."

Healthwise actually consists of three separate studies by health researchers at Monash University and the University of Western Australia. The first study is on the respiratory health of existing employees. More than 90% of Alcoa's Australian employees volunteered to participate in the study, and early results show that employee respiratory health was highly favorable when compared to a cross-section of the general population.

The second study is on the respiratory health of new hires. This is the more scientifically valid of the two respiratory studies because it measures the lung function of an employee when the individual begins his or her career with Alcoa and monitors lung function through time.

The third and final study compares the rates of cancer and causes of death among people who have worked in the aluminum industry against rates and causes in the general population. The study involves more than 11,000 existing employees, new hires, and ex-employees of Alcoa, including retirees.

Interim results released in 2002 show that Alcoa employees have

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lower rates of death than the general population, meaning that on average they live longer than the general population. This result is commonly seen in healthy working populations from all industries.

The early results also show that the total number of cancers in the Alcoa workforce does not exceed the rate seen in the general community. Increases of lung cancer, melanoma (a skin cancer), and pleural cancer (cancer of the lung's lining usually associated with asbestos exposure) were noted, but these results were based on relatively small numbers.

"These should be considered preliminary results, which may or may not be consistent within the study population," said Dr. Cullen. "For example, we can't yet exclude cigarette smoking as the reason for the increased lung cancer. In addition, the potential for exposure to asbestos at an Alcoa facility is low given the extremely stringent requirements for management and removal of asbestos from within Alcoa operations."

Another study conducted at Alcoa's Portovesme facility in Italy by the University of Cagliari looked at cancer and respiratory disease among the plant's employees. The study yielded no unusual results with the exception of a higher incidence of pancreatic cancer among people who had been working with coal tar pitch. The researchers are currently exploring this result further.

"How we use the results from these studies depends entirely upon the findings," said Dr. Cullen. "The melanoma result in Australia gave us a strategy for prevention at the workplace by developing a better policy on the use of protective clothing or sunscreen. The pleural cancer finding tells us we need to identify the source of asbestos so we can deal with it if it occurred within our workplace, or help the employees if some other activity in their lives is the source. Future findings may lead to such things as new protective equipment, new standards for exposure, or changes in processes and products. We are entirely prepared to act on the evidence these studies may uncover."