

Peter F. Infante Consulting, L.L.C.
200 S. Oak Street
Falls Church, Virginia 22046-3904

Phone: (571) 641-3047
e-mail: pinfante@starpower.net

October 14, 2003

Dave D. Lauriski
Assistant Secretary of Labor
Mine Safety and Health Administration
U.S. Department of Labor
Fax #: 202-693-9441

Dear Assistant Secretary Lauriski:

I am writing in response to the notice published by the Mine Safety and Health Administration in the *Federal Register* on August 14, 2003, proposing to revise the health standard to protect workers involved in underground metal and nonmetal mining operations from exposure and disease related to diesel particulate matter (DPM), **Federal Register, Vol. 68, No. 157, 48668-48721.**

I am a former federal employee who worked for three years as an epidemiologist, including one year as Director of the Biometry Section of the Industry-Wide Studies Branch for the National Institute for Occupational Safety and Health (1975 - 1978) and worked for 24 years as Director of the Office of Carcinogen Identification and Classification, and Director of the Office of Standards Review in the Directorate of Health Standards Programs of the Occupational Safety and Health Administration (1978 - 2002). I copy of my *Curriculum Vitae* is attached. I have devoted much of my career to government standard setting, and to addressing health hazards and quantitative risks of disease from exposure to substances found in the workplace such as arsenic, asbestos, benzene, beryllium, 1, 3-butadiene, chromium, cadmium, MDA, vinyl chloride, etc.

Health standards are necessary to protect workers from disease and death in the workplace. I submit these comments as someone who has decades of experience in assessing and demonstrating significant risk of adverse health from exposure to toxic substances on the job. My experience indicates that even after the promulgation of the most protective standards that government can develop, the remaining risk in the occupational setting is still at a level that is considered significant by the Department of Labor, e.g., an elevated risk level of 1 excess case per 1000 over an occupational lifetime. Therefore, it is imperative that government set the most protective standards possible to protect workers from occupational hazards, particularly when the toxic exposure causes cancer.

MSHA's final rules to protect underground miners from diesel particulate matter are notable accomplishments in the history of occupational health standards. As I know first-hand from OSHA's experience, the challenges involved in regulating health hazards are unique, especially when trying to regulate carcinogens or other compounds with long-latency periods before health effects are identified or diagnosed. I was disappointed, but not surprised to learn, that some in the metal and nonmetal mining industry are using substantial financial resources to challenge MSHA's 2001 Final Rule. My comments will address the following issues:

- (1) The allegations that MSHA has "jumped the gun" by issuing a rule on diesel particulate matter.
- (2) The allegations that MSHA's assessment of the risk is scientifically and legally flawed.
- (3) The allegations that MSHA's rule is not feasible.
- (4) The allegations stating that written control plans and written respiratory protection programs are unnecessary.

Allegation 1: "Silence by OSHA demonstrates MSHA's error in regulating diesel particulate matter."

At a recent public hearing on this proposed rule, industry representatives claim that MSHA is out-of-step with the regulatory community in its efforts to regulate diesel particulate matter. One speaker stated:

"No other federal agency has proposed much less adopted, an occupational DPM exposure limit for diesel particulate matter—diesel engines in construction, tunneling, rail, truck, marine or bus depots, repair facilities, agriculture or aviation. The silence demonstrates MSHA's unique and isolated error in its approach in diesel regulation. ...Even though OSHA regulates far more workplace diesel engines and potentially-exposed personnel than MSHA, including tunneling with potentially high exposures, MSHA stands alone in its experimental regulation of diesel particulate matter ..."¹

The fact that OSHA has not regulated diesel particulate matter does not mean there is no significant risk from exposure to DPM. To the contrary, OSHA's inaction in addressing this health hazard is simply a reflection of OSHA not having the resources to regulate DPM. OSHA is still working on a regulation for beryllium (first proposed in 1975), chromium (first proposed in 1978) and silica (first proposed in 1974).

¹ David Graham, General Chemical and the MARG Diesel Coalition, testifying on September 16, 2003 in Salt Lake City, Utah at MSHA's public hearing.

Allegation 2: "MSHA's assessment of miners' health risk from diesel particulate matter is scientifically and legally flawed."

The health effects of diesel exhaust have been studied extensively for decades, and MSHA presents much of this evidence in its 2001 risk assessment. MSHA relies on the findings from 47 epidemiological studies, including 41 studies showing some degree of association between occupational exposure to DPM and lung cancer. The risk estimates for excess lung cancer deaths at current exposure levels are staggering, ranging from 15 excess deaths per 1,000 workers, up to 830 excess lung cancer deaths per 1,000 workers. With exposure levels reduced to 200 ug/m³ DPM, the excess lung cancer deaths for exposure over a working lifetime still range from 15 to 513 excess lung cancer deaths per 1,000 workers.² Well above the 1 in 1000 excess risk level that OSHA and the Department of Labor consider a significant risk.

Moreover, the evidence linking exposure to particulate air pollution and/or diesel particulate matter with lung cancer, cardiovascular and cardiopulmonary and other adverse health effects continues to mount. As MSHA notes in its August 2003 notice of proposed rulemaking, additional studies and reports have been published which further support the need for a health standard to protect underground miners from diesel particulate matter. In addition, the biennial *Report on Carcinogens*, prepared by the National Toxicology Program, lists diesel particulate matter as a mixture that is "reasonably anticipated to be a human carcinogen"³ and the International Agency for Research on Cancer (IARC) describes diesel engine exhaust as a "high priority" for a re-evaluation. IARC indicates that a re-evaluation is necessary because of new epidemiologic data that was not available in 1989 when the Group 2A designation was made.⁴

Furthermore, there is now ample epidemiological evidence that DPM is significantly associated with an elevated risk of lymphoma. In any further risk assessment performed by MSHA, should therefore include a quantitative risk of lymphoma in relation to DPM exposure.

Some representatives of the mining industry insist that MSHA's rule is not supported by the scientific evidence. We urge MSHA to ignore these false claims. History shows that industries that are the subject of occupational health rulemakings have routinely asserted that the scientific evidence underlying the regulation is weak. For example, the beryllium industry argued before OSHA in 1978 that the epidemiological demonstrating a significant excess risk of lung cancer in relation to beryllium exposure was flawed and should not be used in Agency's efforts to promulgate a new standard to protect beryllium-workers from developing lung cancer. As a result of this argument and other pressures on the Agency, OSHA never completed the beryllium standard. In a subsequent review of beryllium's ability

² 66 *Federal Register*, January 19, 2001; 5752-5855.

³ 9th *Report on Carcinogens* (May 2000) and 10th *Report on Carcinogen* (December 2002)

⁴ Diesel engine exhaust is currently listed as a Group 2A agent (i.e., "agent is probably carcinogenic to humans.") The next and final designation is Group 1 (i.e., "is carcinogenic to humans.")

to cause cancer, IARC (the expert committee on cancer for the World Health Organization) concluded that beryllium causes lung cancer in exposed workers and classified beryllium as a “known human carcinogen.” Even if there were some concerns about the adequacy of the beryllium and lung cancer data in 1978, a public health approach to protect workers from its exposure based on the data available at the time would have lowered beryllium exposures in the workplace and lowered the lung cancer risk currently being experienced by beryllium exposed workers.

Allegation 3: "MSHA's rule is not feasible."

In the preamble to this NPRM, the data on current DPM exposures demonstrate conclusively that MSHA's rule is feasible, and reaffirm the conclusions of the 2001 final DPM rule. In the NPRM, MSHA reports that of 31 mines sampled for DPM during this time period, "...five mines were already in compliance with the interim concentration limit, and another two mines were already in compliance with the final concentration limit [160_{TC} ug/m³]."⁵ Moreover, MSHA reports that during the period August 2001 through January 2002, the mean concentration of DPM was 345_{TC} ug/m³, substantially below the 400_{TC} ug/m³ interim concentration limit, and that "...these samples results were obtained at a time that few mine operators had implemented controls to reduce DPM concentrations at the subject mines."⁶ MSHA's own sampling indicates that 70 percent of the mines sampled are already meeting the interim concentration limit. This ludicrous feasibility debate should end because these samples were collected before the rule was being enforced--there was no threat of a citation or monetary penalty for mine operators who failed to comply. An ample amount of data clearly demonstrate that this rule is feasible for the underground metal and nonmetal mining industry.

Allegation 4: "Written control plans and written respiratory protection programs are unnecessary."

When requirements for written programs are incorporated into occupational health standards they have always been easy targets for opponents of workplace health and safety standards. Industry representatives argue that they are unnecessary, redundant and costly. In the 2001 DPM Final Rule, however, MSHA appropriately noted that the purpose of the DPM control plan "...is to ensure that the mine has instituted practices that will demonstrably control DPM levels..." The United Steelworkers of America aptly described the value of a written DPM control plan:

Nothing would do more damage to the effectiveness of the standard than deleting the need to prepare and follow a detailed control plan. ...No mine owner would operate without a business plan, a financial plan, a marketing plan, or a plan of operations. We find it troubling that...MSHA would consider attempting to reduce DPM exposures without [requiring operators to have] a plan for doing so. Control plans are highly cost-effective in that they force mine operators to think about how to control DPM

⁵ 68 *Federal Register*, August 14, 2003; 48671.

efficiently, instead of simply slapping on another layer of controls.⁶

There is no evidence provided by MSHA to justify eliminating this protective provision. MSHA provides no evidence demonstrating that a DPM control plan requirement is infeasible or redundant; rather, MSHA is merely conceding to the mining industry's wishes. It is contrary to the Mine Act to decrease protections that are provided in an existing health standard. Given that a significance risk to miners' health will remain after DPM concentrations are reduced to 160 ug/m³, the provision for DPM control plans provides added protection for miners. It is mandatory for OSHA, and I assume for MSHA as well, to further reduce a risk that is still considered significant as long as there are feasible means to do so.

Likewise, a written program or plan is an essential element of an effective respiratory protection program. In those rare circumstances where respiratory protection is needed, specifically only those situations provided for in Sections 57.5060(d)(1)-(d)(4) of the 2001 Final Rule, MSHA must require mine operators to develop and follow a written respiratory protection program.⁷ I concur with the comments submitted by NIOSH and others that requirements for a respiratory protection program should be analogous to those required by OSHA's 29 CFR 1910.134 that was promulgated in 1998. At a minimum, MSHA's program should include provisions for medical examinations by a physician or other licensed health care professional. This is an essential provision, helping to ensure that those miners who will be working temporarily in environments where DPM concentrations are greater than the applicable concentration limit, are medically able to wear a respirator. MSHA's requirements and the written program should also provide for mandatory rest breaks in clean-air stations for individuals who wear a respirator for more than one hour, and medical removal protection to non-respirator required areas at no loss of pay (i.e., full earnings protection) for those miners who are unable to wear respiratory protection.

Placing workers in respirators is the least desirable alternative for protecting workers from DPM. It places a significant burden on the affected workers and demands strict compliance by the mine operator with the provisions of the respiratory protection program. Yet, some mine operators have suggested that respiratory protection should be considered a means of complying with the DPM concentration limits. If qualitative costs (i.e., burden on workers, operator's responsibility for strict compliance with the written program) are combined with the quantitative costs of a comprehensive respiratory protection program, most sensible mine operators will conclude that the many engineering control options that are currently available are feasible afterall.

Finally, it is time for MSHA to vigorously enforce the legally promulgated DPM health standard. Some in the mining industry are using their financial resources to engage in "inside-the-beltway" legal debates, rather than investing today in the available engineering controls to reduce miners' exposure to DPM. MSHA should see through this charade and defend the DPM health standard in the U.S. Court of Appeals.

Sincerely,

⁶ Letter to Marvin Nichols from the United Steelworkers of America, November 25, 2002.

⁷ These special circumstances should be limited to times when engineering controls are being developed, installed or tested; and for short-term maintenance and repair activities.

Peter F. Infante, D.D.S., Dr.P.H., F.A.C.E..
Adjunct Professor of Environmental and
Occupational Health
School of Public Health and Health Services
The George Washington University
Washington, DC 20052

CURRICULUM VITAE

Name: Peter Francis Infante

Business Address: President
Peter F. Infante Consulting, L.L.C.
200 South Oak Street
Falls Church, Virginia 22046
(571) 641-3047
e-mail: pinfante@starpower.net

Home Address: 200 South Oak Street
Falls Church, VA 22046
(703) 534-6811

Date of Birth: February 23, 1941

Marital Status: Married

Place of Birth: Lima, Ohio

Children: Two

Education:

<u>Year:</u>	<u>Degree:</u>	<u>Institution:</u>
1971-73	Dr.P.H.	Department of Epidemiology School of Public Health University of Michigan
1970-71	M.P.H.	School of Public Health University of Michigan
1968 (6 months)		Graduate Studies Pediatrics & Nutrition College of Medicine Ohio State University
1967-68	Certificate of Residency	Pediatric Dentistry Children's Hospital Ohio State University
1966-67	Certificate of Internship	Pediatric Dentistry Children's Hospital Ohio State University
1962-66	D.D.S.	College of Dentistry Ohio State University
1959-62		St. Joseph's College Rensselaer, Indiana

Present Position:

June 1, 2002 to present: President, Peter F. Infante Consulting, L.L.C.
Consulting in occupational and environmental health.

Past Positions:

1983 to May 2002: Director, Office of Standards Review, Health Standards Program, Occupational Safety and Health Administration, U.S. Department of Labor, Washington, D.C.

Work description: Primary Agency responsibility for reviewing existing OSHA health standards and making recommendations for modifications based on risk assessments and epidemiological, toxicological and industrial hygiene data. Office responsible for regulation of toxic substances in the workplace.

1978-83: Director, Office of Carcinogen Identification and Classification,

Health Standards Programs, OSHA, Department of Labor, Washington, D.C.

Work description: Responsibility for identification and classification of carcinogenic substances and establishing priority for their regulation.

1975-78 -- Epidemiologist, Biometry Section, Industry-wide Studies Branch, Division of Surveillance, Hazard Evaluations and Field Studies, National Institute for Occupational Safety and Health, Center for Disease Control, Cincinnati, Ohio

Work description: Conducted epidemiological investigations to determine associations between exposure to toxic substances and cancer, pregnancy outcome and other chronic disabling conditions.

1976-77 -- Acting Chief, Biometry Section, Industry-wide Studies Branch, National Institute for Occupational Safety and Health, Center for Disease Control, Cincinnati, Ohio

Work description: Responsibility for the conduct of all occupational epidemiological studies being carried out by the Biometry Section

1974-75 -- Epidemiologist, Division of Chronic Disease, Ohio Department of Health, Columbus, Ohio

Work description: Responsibility for establishing a central data base for the occurrence of cancer in Ohio children and also for investigating secular trends in cancer mortality. I also worked with members of other State and Federal Institutions investigating possible relations between polyvinyl chloride manufacture, other industrial factors and increased risk of congenital malformations and cancer. I also advised the Division in methodology and statistical analyses for the selection of population groups for health screening and for follow-up evaluation of treatment.

1973 -- (April-December) -- Epidemiological Consultant for World Health Organization, Pan American Health Organization, Washington, D.C.

Work description: Scientific responsibility for determining the dental epidemiological aspects of multi-disciplinary field research to investigate fluoride metabolism for the individual child and its relation to eventual caries experience in children of rural Guatemala. This included evaluation of field procedures and statistical analyses of data available. During this period, I also examined several hundred children to obtain baseline data for oral conditions. Analyses and reports pertaining to this investigation were submitted to Pan American Health Organization, World Health Organization and to the National Institute of Dental Research.

1973 -- Research Associate, Center for Human Growth and Development, University of Michigan

Work description: Analyses of data from the National Preschool Nutritional Survey of 1969 and 1970.

1972-73 -- Research in Child Growth and Dental Development

Work Description: Conducted an epidemiological study of dental development in relation to growth in black and white preschool children of the lower socioeconomic level from southeastern Michigan. This investigation was completed in partial fulfillment for the degree of Doctor of Public Health from the Department of Epidemiology, School of Public Health, University of Michigan.

1969-70 -- Dental Epidemiologist for the National Preschool Nutritional Survey, 1968-70

Work description: Conducted the dental aspects of this survey, which was supported by Maternal and Child Health Services, Department of Health, Education and Welfare. This included the examination of preschool children in approximately 36 states, plus children of the White Mountain Apache Indian Reservation. Some of these findings were reported in "A Study of Nutritional Status of Preschool Children in the United States, 1968-70," Suppl., *Pediat.*, 53:597-646, 1974. Several others have been reported elsewhere.

Consultant or Advisory Positions:

Ohio Department of Health, Columbus, Ohio

- * Consultant to Division of Chronic Diseases, 1974-75

American Public Health Association.

- * Health Hazards Project, 1975

Department of Health, Education and Welfare Subcommittee on Environmental Mutagenesis.

- * NIOSH representative, 1975-78
- * OSHA representative, 1978-85

World Health Organization, International Agency for Research on Cancer, Lyon, France.

- * Member of the Expert Committee on the Evaluation of the Carcinogenic Risk of Chemicals to Humans, 1977-79

International Workshop/Conference on the Toxicology of Metals, 1980

- * Member of Epidemiology Workgroup

Consensus Workshop on Formaldehyde, 1983

- * Member of Epidemiology Panel

Federal Asbestos Taskforce

- * Chairman, Epidemiology Panel, 1982-87

National Academy of Sciences, National Research Council

- * Subcommittee to revise Emergency Exposure Guidance Levels for Benzene and Ethylene Oxide, 1985

National Cancer Institute

- * Advisory Panel for Occupational Mortality Study of Workers Exposed to Methylene Chloride, OSHA representative, 1987-90

National Cancer Institute

- * Advisory Panel for Occupational Mortality Study of Workers Exposed to Acrylonitrile, OSHA representative, 1988-91

World Health Organization, International Program on Chemical Safety

- * Member of Task Group on Environmental Health Criteria, 1989-1990

National Academy of Sciences, National Research Council

- * Committee on Environmental Epidemiology, Federal liaison member, 1990-1992

National Academy of Sciences, National Research Council

- * Committee on Risk Assessment Methodology, Federal liaison member, 1990-1993

Teratogenesis, Carcinogenesis, and Mutagenesis

- * Associate Editor, 1989-90

National Safety Council

* Planning Committee for Conference on Risk, 1990-91

World Health Organization, International Agency for Research on Cancer, Lyon, France.

* Expert Committee on the Evaluation of the Carcinogenic Risk of Chemicals to Humans, February, 1993--participant

World Health Organization, International Agency for Research on Cancer, Lyon, France.

* IARC Meeting of European Investigators on Cancer Risk Among Service Station Attendants and Related Occupations, December, 1993--participant

National Institute of Environmental Health Sciences

* ad hoc Interagency Coordinating Committee on the Validation of Alternative Methods (e.g., evaluation of alternate toxicologic testing methods that can be used for regulatory purposes)

--principal OSHA representative, 1994-2002

Department of Health and Human Services, Office of Women's Health,

* Interagency Working Group on the Environment and Women's Health--OSHA representative, 1994-2002

Awards:

U.S. Public Health Service Traineeship, 1970-73

* Award to study Public Health and Epidemiology at University of Michigan, School of Public Health

U.S. Department of Health, Education, and Welfare, Public Health Service, Center for Disease Control, National Institute for Occupational Safety and Health

* Special Commendation for Research Contributions Toward Understanding the Toxicology of Benzene and Beryllium, 1978

U.S. Department of Labor, Secretary's Exceptional Achievement Award, 1993

U.S. Department of Labor, Special Achievement Award, 1993

Past Clinical Activities:

The Children's Hospital, Columbus, Ohio, July 1966 to June 1968. Children and Youth clinical practice while completing Internship and Residency in Pediatric Dentistry

Martin Memorial Hospital, Mt. Vernon, Ohio, summer of 1968. Outpatient clinical practice while attending graduate school.

Children and Youth Program, Columbus, Ohio. Clinical Pediatric Dental Practice, 1974.

Dental License:

Ohio, 1966 - 81;

District of Columbia, 1981-1995;

Northeast Regional Dental Boards, 1980

Professional Organizations:

American College of Epidemiology (Fellow)
American Conference of Governmental Industrial Hygienists
American Public Health Association (Occupational Health and Safety)

Publications:

Infante, P.F. Epidemiologic studies of the relation between deciduous tooth eruption and child growth. Ann Arbor, University of Michigan, School of Public Health, 1973. VIII + 100 p.
typed dissertation.

Infante, P.F. and Owen, G.M. Relation of the chronology of deciduous tooth emergence to height, weight and head circumference in children. Arch. Oral Biol., 18:1411-1417, November, 1973.

Infante, P.F. Sex differences in the chronology of deciduous tooth emergence in white and black children. J. Dent. Res., 53:418-421, March-April, 1974.

Infante, P.F. and Russell, A.L. An epidemiologic study of dental caries in preschool children in the United States by race and socioeconomic level. J. Dent. Res., 53:393-396, March-April, 1974.

Infante, P.F. Enamel hypoplasia in Apache Indian children. Ecology of Food and Nutrition, 3:155-156, No. 2, 1974.

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Infante, P.F. An epidemiologic study of finger habits in preschool children as related to malocclusion, socioeconomic status, race, sex and size of community. J. Dent. Child., 43:33-38, January-February, 1976.

Infante, P.F. and Gillespie, G.M. Enamel hypoplasia in relation to caries in Guatemalan children. J. Dent. Res., 56:493-498, May-June, 1977.

- Infante, P.F. and Newton, Jr., W.A. Prenatal chlordane exposure and neuroblastoma. *New Engl. J. Med.*, 293:308, August 7, 1975.
- Infante, P.F., Wagoner, J.K. and Waxweiler, R.J. Carcinogenic, mutagenic and teratogenic risks associated with vinyl chloride. *Mutation Res.*, 41:(1) 131-142, November, 1976.
- Infante, P.F., and Wagoner, J.K. Evidence for the carcinogenicity of beryllium. *International Conference on Heavy Metals in the Environment*, Toronto, Canada, October 27-31, 1975. (Proceedings from Conference, pp. 329-338).
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- Infante, P.F. and Epstein, S.S. Blood disease, childhood tumors and exposure to chlorinated hydrocarbon pesticides. *Conference on Women in the Workplace*, Society for Occupational and Environmental Health, Washington, D.C., (p. 51-69) April, 1977.
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Ames, B., Infante, P.F. and Reitz, R. Eds. Ethylene dichloride: A potential health risk? Banbury Report 5, Cold Spring Harbor Lab. 1980, XI + 350 p.

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- Deciduous tooth emergence and growth in white and black children. International Association for Dental Research, 52nd General Session, Atlanta, March 21-24, 1974.
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Blood Disease, childhood tumors and exposure to chlorinated hydrocarbon pesticides. Conference on Women and the Workplace, Washington, D.C., June 17-19, 1976.

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Clinical diagnosis and causes of death for subjects with beryllium disease. International Conference on Health Hazards in Metal-working Industries, Oslo, Norway, Aug. 16-19, 1976.

Chloroprene: Observations of carcinogenesis and mutagenesis. Meeting on the Origins of Human Cancer, Cold Spring Harbor, New York, Sept. 1-14, 1976.

Vinyl chloride and anesthetics. Special case study. Course on Genetic Toxicology, University of Texas Medical Branch, Galveston, Texas, Sept. 20-24, 1976.

Occupational hazards: Do they extend beyond plant boundaries? Air Pollution Control Association Meeting on Toxic Substances in the Air Environment, Cambridge, Mass., Nov. 8 and 9, 1976.

Mutagenic effects of certain industrial chemicals. Stockholm University, Stockholm, Sweden, Nov. 18, 1976.

Carcinogenic, mutagenic and teratogenic risks associated with exposure to vinyl chloride. Graduate Seminars on the Environment, U.S. Environmental Protection Agency, Cincinnati, Ohio, Jan. 21, 1977.

Women and the plastics and rubber industries. Conference on Women in the Workplace, Oakland, Calif., March 24 and 25, 1977.

Exposure to vinyl chloride and pregnancy outcome. Expert Conference on Genetic Damage in Man Caused by Environmental Agents, Oslo, Norway, May 11-13, 1977.

Epidemiologic approaches for surveillance of genetic hazards with particular reference to anesthetic gases. Expert Conference on Genetic Damage in Man Caused by Environmental Agents, Oslo, Norway, May 11-13, 1977.

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The role of occupational factors in oral and pharyngeal cancers. International association for Dental Research 55th General Session, Las Vegas, Nevada, June 23-26, 1977.

Extrapolation from experimental test systems for evaluation of genetic risks in man. Second International Conference on Environmental Mutagens, Edinburgh, Scotland, July 11-15, 1977.

Embryotoxic and teratogenic effects of industrial chemicals with particular reference to anesthetic gases. Second International Course in Industrial Toxicology, Helsinki, Finland, August 8-13, 1977.

Epidemiologic approaches for surveillance of genetic or reproductive hazards associated with the occupational setting. Second International Course in Industrial Toxicology, Helsinki, Finland, August 8-13, 1977.

The use of laboratory bioassay for regulatory control of carcinogens and mutagens. Second International Course in Industrial Toxicology, Helsinki, Finland, August 8-13, 1977.

Genetic Hazards of anesthetic gases, epidemiologic study, prevention and extrapolation from experimental test systems. European Society of Human Genetics, Oslo Symposium: Clinical Genetics, May 14-15, 1977.

Case studies of occupationally related reproductive hazards. Workshop on Occupationally Induced Reproductive Toxicology, October 3-5, 1977, Washington, D.C.

Benzene, Government Overview. Environmental Cancer--Report to the Public, Houston, Texas, October 12-13, 1977.

Special case studies of mutagenic chemicals associated with adverse reproductive function. Second Annual Course in the Principles of Practice of Genetic Toxicology, University of Texas, Galveston, Texas, October 24-28, 1977.

Cancer and respiratory disease risk among individuals in the Beryllium Case Registry. Conference on Occupational Exposures to Fibrous and Particulate Dust and Their Extension into the Environment, Society for Occupational and Environmental Health, December 4-7, 1977, Washington, D.C.

Case studies of agents associated with adverse effects on reproduction: Chloroprene. Workshop on Methodology for Assessing Reproductive Hazards in the Workplace, National Institute for Occupational Safety and Health and Society for Occupational and Environmental Health, April 9-22, 1978, Washington, D.C.

Principles and methods for detecting chemical mutagens -- Epidemiologic approaches. First Industrial Workshop in Chemical Mutagens, Environmental Mutagen Society, May 22-25, Hunt Valley, Maryland, 1978.

Occupational health standards for high risk groups.. Conference on Pollutants and High Risk Groups, University of Massachusetts, Amherst, Massachusetts, June 5-6, 1978.

OSHA's responsibility in cancer prevention: An update on the cancer hearings. New York Committee for Occupational Safety and Health, New York, June 24, 1978.

Occupational factors in embryotoxicity and teratogenicity. Current problems in the toxicology of beryllium. Extrapolation of experimental test results to man. Hygienic standards for occupational exposure to chemical agents: OSHA's new carcinogen policy.

Above papers presented at Third Advanced Course in Industrial Toxicology, Institute of Occupational Health, Helsinki, Finland, August 7-12, 1978.

Special case studies of agents that cause genetic damage. Course on Principles and Practices of Genetic Toxicology, University of Texas Medical Branch, Galveston, Texas, October 27, 1978.

Risk estimates and regulatory aspects of mutagenicity study. Course on Principles and Practices of Genetic Toxicology, University of Texas Medical Branch, Galveston, Texas, October 27, 1978.

Genetic risk assessment, Second Annual Industrial Workshop in Chemical Mutagens: Principles and Methods of Detection. University of Texas Medical Branch, Hunt Valley Inn, Maryland, May 7, 1979.

Toxic substances and risks to future generations. Management of Toxic Substances in the Workplace Symposium, Rutgers Medical School, Piscataway, New Jersey, May 9, 1979.

Chemicals and the unborn. Kanawha Valley Occupational and Environmental Health Conference, West Virginia State College, June 1-2, 1979.

The scientific case and social need for the establishment of a generic cancer policy. American Society of Safety Engineers, San Francisco, June 11-12, 1979.

Future generations: Reproductive health. "Lost in the Workplace: Is there an Occupational Disease Epidemic? Chicago, Sept. 13-14, 1979.

Evidence for the carcinogenicity of selected halogenated hydrocarbons including ethylene dichloride. Cold Spring Harbor Laboratory, New York, November 14-17, 1979.

Observations of the site specific carcinogenicity of vinyl chloride to humans. Conference to reevaluate the toxicity of vinyl chloride, polyvinyl chloride and structural analogues. National Institutes of Health, March 20-21, 1980.

OSHA's Cancer Policy. Ford UAW Health and Safety Meeting, Detroit, November 11, 1980.

Benzene: Epidemiologic observations of leukemia by cell type, related blood abnormalities and adverse effects from low level exposure. Second Annual Symposium on Environmental Epidemiology, University of Pittsburgh, School of Public Health, April 27-29, 1981.

Epidemiologic methods for the identification of cancer risk in the industrial setting.

Carcinogenic risks of polyvinyl chloride.

Benzene and Cancer.

The Carcinogenesis of beryllium: A case study.

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All of the above papers presented at International Course on Occupational Cancer, Helsinki, Finland, August 6-15, 1979.

Epidemiological aspects of environmental mutagenesis and carcinogenesis. City University, Puebla, Mexico, June 9-11, 1980.

Experimental and epidemiologic evidence of the carcinogenicity of chloromethanes and chloroethanes. Conference on The Genotoxic Effects of Airborne Agents, Brookhaven National Laboratory, Feb. 9-11, 1981.

Anesthetic gases and pregnancy.

Environmental causes in reproductive problems: Clues to prevention. Above papers presented at International Course on Occupational Hazards and Reproduction, Helsinki, Finland, August, 1981.

Science in health policy and decision making. University of California at Berkeley, June 5, 1981.

Risk assessment of reproductive hazards. Interagency Regulatory Liaison Group Workshop on Reproductive Toxicity Risk Assessment. NIH, Sept. 21-23, 1981.

A case history of the evidence for carcinogenicity of vinyl chloride. Canadian Cancer Society Workshop on Carcinogens in the Workplace. Toronto, Oct. 26-27, 1981.

Testimony at U.S. Consumer Product Safety Commission Hearing on Proposed Regulation for Urea Formaldehyde Foam Insulation. Washington, D.C. March 20, 1981.

Testimony Before the Hazardous Products Board of Review Concerning the Nature and Characteristics of Urea Formaldehyde Based Thermal Insulation, Foamed in Place, Used to Insulate Buildings. Hull, Quebec, Nov. 12, 1981.

The contribution of occupation to environmental cancer. American Public Health Association 110th Annual Meeting, November 14-18, 1982, Montreal.

Policy implications of occupational reproductive studies. American Public Health Association 110th Annual Meeting, November 14-18, 1982, Montreal.

Case study: Benzene. NIH Graduate School, December 12, 1982, Bethesda, Md.

Future procedures for human monitoring: Non-traditional end points. Environmental Mutagen Society Satellite Meeting, March 1-2, 1983, San Antonio, Texas.

Benzene and leukemia: An evaluation of epidemiologic studies. Course on Environmental Epidemiology, Columbia University, April 13, 1983.

Vinyl chloride. Canadian Cancer Society International Conference on Cancer in the Workplace, May 16-18, 1983, Vancouver, B.C.

Carcinogenic effects of industrial exposures to benzene. Subcommittee on Environmental Mutagenesis, DHHS meeting on Review of the Genetic Toxicology and General Toxicology of Benzene, NIH, May 6, 1983.

Projections of leukemia risk associated with occupational exposure to benzene. Collegium Ramazzini International Conference on Benzene, New York, November 3-4, 1983.

An evaluation of the epidemiologic studies related to beryllium exposures. Course on Environmental Epidemiology, Columbia University, March 28, 1984.

Regulation of benzene. Course on Toxic Substances Policy, NIH Graduate School, December 18, 1984.

Adverse health effects of some toxic air pollutants at chemical plants in the Kanawha Valley. Testimony before the Committee on Energy and Commerce, Subcommittee on Health and the Environment, United States Congress. Institute, W.Va., December 14, 1984.

Risk assessment on benzene. Collegium Ramazzini meeting on Risk Assessment of Benzene, New York, March 12-13, 1985.

Toxic effects of poison gases and other hazardous air pollutants from chemical

plants. Testimony at joint hearing: Subcommittee on Health and the Environment and Subcommittee on Commerce, Transportation and Tourism. United States Congress, Washington, D.C. March 26, 1985.

Assessment of Risk Associated with Occupational Exposure to Benzene. Medical College of Virginia, Richmond, November 20, 1985.

Recent Laboratory Studies in Chemical Carcinogenesis: Benzene. Collegium Ramazzini Meeting on Living in a Chemical World, Bologna, Italy, October, 1985.

Risk Assessment in the Federal Government (OSHA), 7th Annual Meeting of the American College of Toxicology, "Frontiers in Toxicology" Philadelphia, Pa., November 16-19, 1986.

Occupational Cancer. Uniformed Services University of the Health Sciences, Naval Medical Command, Bethesda, Md., December 8, 1986.

Occupational Cancer and Regulation. Department of Epidemiology, Johns Hopkins University, March 16, 1987.

Living in a Chemical World. Plenary Session: Pathology in a Changing World; 25th Anniversary, The Royal College of Pathologists, London, England, Sept., 8-11, 1987.

Dose Response in Occupational Mortality Studies. American Public Health Association Meeting, New Orleans, La., Oct. 18-22, 1987.

Testimony on OSHA Standard Setting. Committee on Labor and Human Resources, United States Senate, April 19, 1988.

Occupational Exposure to Benzene: Some Aspects of the OSHA Final Rule. American Industrial Hygiene Conference, San Francisco, Calif., May 15-21, 1988.

Exposure Assessment and Dose Response in the Evaluation of Occupational Mortality Studies. 6th International Symposium on Epidemiology in Occupational Health, Stockholm, Sweden, Aug. 15-18, 1988.

The Policy/Politics of the OSHA Benzene Standard. Johns Hopkins University, School of Public Health, Baltimore, Md., November 21, 1988.

Benzene Risk Assessment. Uniformed Services University of the Health Sciences, Naval Medical Command, Bethesda, Md. Jan. 9, 1989.

Dose Response in the Evaluation of Occupational Cancer Mortality Studies. American Industrial Hygiene Conference, St. Louis, Mo. May 22-26, 1989.

A Data Source Related to Occupational Exposure. American Industrial Hygiene Conference, St. Louis, Mo., May 22-26, 1989.

Benzene and Cancer: Epidemiology, Risk Assessment and Public Policy. University of Pennsylvania, School of Medicine, June 22, 1989.

Testimony at hearing on the Re-authorization of the Paperwork Reduction Act. Legislation and National Security Subcommittee, Committee on Government Operations, U.S. Congress. July 27, 1989.

OSHA Health Standards. Martin Marietta Safety and Health Management Conference, Cocoa Beach, Fla., Sept., 19, 1989.

The OSHA Regulatory Agenda for Health and Safety Standards. American Public Health Association Meeting, Chicago, Ill., Oct. 22, 1989.

Advantages and Disadvantages in Risk Assessment Methodologies. Johns Hopkins

University, School of Public Health, Baltimore, Md., July 3, 1990.

Health Effects of Gasoline Vapors: Benzene. Risk Assessment Forum Colloquium on Exposure to Gasoline Vapor from Underground Storage Tanks, Environmental Protection Agency, Washington, D.C., September 13, 1990.

Animal Cancer Testing. The Diane Rehm Show on 88.5 FM, The American University, September 28, 1990.

Exposure Assessment and Dose Response in Occupational Epidemiology Studies: The Correct Interpretation?, Division of Occupational and Environmental Medicine, George Washington University, Washington, D.C., September 25, 1990.

The 0.1 ppm ACGIH proposed TLV for benzene. Presented before the ACGIH Committee, Cincinnati, Ohio, March 21, 1991.

Prevention versus chemophobia: Testing for carcinogens with rodents. American Industrial Hygiene Conference and Exposition, Salt Lake City, May 21, 1991.

Risk assessment and regulation, Johns Hopkins University, School of Public Health, Baltimore, Md., June 27, 1991.

Panel on state of the science on epidemiologic studies related to workers exposed to gasoline vapors. At International Symposium on the Health Effects of Gasoline, Miami, Fla., November 5-8, 1991.

Prevention or chemophobia: Use of rodent studies for identifying carcinogens and estimating cancer risk. American Public Health Association Annual Meeting, Atlanta, Ga., November 10-14, 1991.

Use of cell proliferation data in cancer risk assessment: U.S regulatory views: OSHA. Presented at An International Symposium on Cell Proliferation and Chemical Carcinogenesis, National Institutes of Environmental Health Sciences, Research Triangle Park, N. Carolina, January 14-16, 1992,

Panel discussion on implications of using alternative methods of assessing exposures for risk assessments, Committee on Risk Assessment Methodology, Workshop on Single Scenario and Population Distribution Estimates of Exposure: Applications and Implications in Risk Assessments, National Academy of Sciences, Washington, D.C., February 10-11, 1992.

Seminar on scientific basis for occupational regulations, University of Lowell, Lowell Massachusetts, May 8, 1992.

How does exposure information in epidemiologic studies contribute to the process of regulation or risk assessment? Workshop on Retrospective Exposure Assessment in Occupational Epidemiology. National Institute for Occupational Safety and Health, Cincinnati, Ohio, September 22, 1992.

Seminar on the development of OSHA standards for toxic substances in the workplace. Harvard University, Boston, January 22, 1993.

Estimates of cancer risk related to occupational cadmium exposure. American Industrial Hygiene Conference & Exposition, New Orleans, Louisiana, May 15-21, 1993.

OSHA evaluation of carcinogenic risk among workers exposed to formaldehyde. Eighth Annual Toxicology Symposium, Asheville, NC, August 3, 1993.

A historical perspective of some occupationally related diseases of women. Women's Health:Occupation and Cancer Conference sponsored by the National Cancer Institute, Baltimore, Maryland, November 1, 1993.

Issues related to lung cancer and other cancers among industrially exposed workers. Presented before the President's Cancer Panel, Tysons Corner, Virginia, October 5, 1994.

Evaluation of carcinogenicity studies of workers exposed to beryllium. Conference on beryllium related diseases. National Institute of Environmental Health Sciences, Research Triangle Park, N.C., November 8-10, 1994. Medical and ethical issues related to chronic beryllium disease--OSHA's view of genetic screening. National Institute of Environmental Health Sciences, Research Triangle Park, N.C., November 8-10, 1994.

Need for study of occupation and cancer through Cancer Registries. National Program of Cancer Registries Meeting on Occupation, Industry and Cancer Registration, Miami, Fla., June 18, 1995.

Fire Fighters' Occupational Health: Who does care? Presented at 13th Symposium on the Occupational Health and Hazards of the Fire Service, San Francisco, Calif., August 31, 1995.

OSHA's Regulatory Agenda. Harvard School of Public Health, Boston, January 5, 1996.

Benzene exposure and the real risk of leukemia: An American overview. Meeting of the Association of Brazilian Industrial Hygienists, Sao Paulo, Brazil, September 2-5, 1996.

Exposure assessment and dose response for industrial carcinogens. Meeting of the Association of Brazilian Industrial Hygienists, Sao Paulo, Brazil, September 2-5, 1996.

Cancer risk to blue collar workers. Meeting of the Association of Brazilian Industrial Hygienists, Sao Paulo, Brazil, September 2-5, 1996.

Quantitative risk of leukemia/lymphoma from occupational benzene exposure. The Toxicology Forum 22nd Annual Meeting, Washington, D.C., February 24-27, 1997.

From:
Sent: Thursday, October 16, 2003 12:08 PM
To:
Subject: FW: Response to Notice on Diesel Particulate

-----Original Message-----

From: Dr. Peter Infante [mailto:pinfante@starpower.net]
Sent: Thursday, October 16, 2003 12:00 PM
To: comments@msha.gov
Subject: Fw: Response to Notice on Diesel Particulate

----- Original Message -----

From: [Dr. Peter Infante](#)
To: [MSHA](#)
Sent: Tuesday, October 14, 2003 3:53 PM
Subject: Response to Notice on Diesel Particulate

Dear Asst Secretary:

I have attached my comments in response to your Federal Register Notice on Diesel Particulates. I also attach my Curriculum Vitae. Thank you for your consideration.
Peter Infante

P.S. Please note that I sent these comments on Tuesday, October 14, but they were returned without delivery. Thus, I am again submitting them.