#1314

LEAD

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Joan Claybrook, President

November 16, 1993

Suzanne Mager
Department of Labor and Industries
Division of Industrial Safety and Health
P.O. Box 44620
Olympia, WA 98504-4620

Dear Ms. Mager:

After reviewing the proposed state-initiated rules for exposure standards for lead in both general industry and construction for the state of Washington, we are pleased to note some important progress in the control of exposure to lead, although significant gaps remain in the achievement of comprehensive protection of workers.

On the positive side, it is commendable to see the shift from reliance on measuring air lead levels toward comprehensive biological monitoring, and the requirement of employers to take action as blood lead levels become elevated. On the other hand, more stringent protection is needed.

1. Initial and exit blood levels should be required for all potentially lead-exposed workers. This practice can actually protect employers in many instances.

2. Your proposal to measure every twelve months the blood lead levels of workers potentially exposed to lead by virtue of their tasks [p. 10, general industry, p. 13, construction] does not go far enough: the frequency should be stepped up to once in every six months.

3. With respect to the construction industry, [p. 11] showers - with hot water - should be mandatory and not where feasible.

4. Lunchroom/eating areas should undergo frequent wipe sampling.

5. The definition of a competent person in the compliance program [p. 7, construction] needs more precision; i.e., a certified industrial hygienist.

6. The floor you have set at 30 µg/dl does not protect workers to the fullest extent: there is documented evidence of adverse health effects at levels well below 30 µg/dl, e.g., hypertension and elevation in erythrocyte protoporphyrin (EP) levels. For example, Pirkle, et al.[1] in an analysis of NHANES II data, found that white males between the ages of 40 and 59 experienced elevated systolic and diastolic blood pressure at blood lead levels ranging from 7 to 38 µg/dl; and Harlan[2] found that men with blood lead levels between 14 and 30 had an increase of 7 mm Hg in blood pressure. Grandjean and Lintrup[3] correlated blood lead levels and log EP levels in male workers and found a threshold for EP elevation at 25-35 µg/dl.

In summary, your proposed rules, if adopted with the above-mentioned changes, would be an exemplary document in the field of public health.

Very truly yours,

Susan S. Goodwin, MS, MPA

Sidney M. Wolfe, MD

1.Pirkle et al. 1985. "The relationship between blood lead levels and blood pressure and its cardiovascular risk implications." Am J Epidemiol 121:246-258.

2. Harlan, WR. 1988. "The relationship of blood lead levels to blood pressure in the US population." Environ H Perspect 78:9-13.

3. Grandjean P, Lintrup J. 1978. "Erythrocyte-Zn-protoporphyrin as an indicator of lead exposure." Scand J Clin Lab Invest 38:669-675.