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MEMORANDUM FOR MESSRS. ROMANO, GRUMBLES AND GAINES

Re: Variability of Exposure Data

This memorandum reviews the variability of exposure data used to support OSHA's recent regulation of benzene.

OSHA's recent decision to include a STEL for benzene in its amendment of the benzene occupational exposure standard was based in part on its finding that certain industrial activities exposed workers to relatively high short-term levels of benzene. 52 Fed. Reg. 34460, 34515 (Sept. 11, 1987).^{1/} Specific job assignments with variable benzene exposure levels were identified by OSHA's contractor, JRB Associates, as: (1) process sampling; (2) loading railcars and tank trucks; (3) tank gauging; (4) laboratory work; and (5) maintenance activities. 52 Fed. Reg. at 34515, quoting JRB Associates Report at 4-45. OSHA concluded that workers in such operations (although laboratory work was not listed) needed the protection

^{1/} OSHA also claimed that the epidemiology studies and other health effects data indicated a tie-in between high exposures to benzene and cancer incidence.

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of the STEL because they were exposed to high levels of benzene for short periods of time. 52 Fed. Reg. at 34515. Despite OSHA's conclusions, the sections of the JRB report which provide specific benzene exposure data did so in terms of an eight-hour time-weighted average exposure rather than high-level, short-term exposure. See, e.g., JRB Associates Report at 3-18, 3-20, 3-23.^{2/}

This absence of specific short-term exposure data to support the benzene STEL rulemaking was confirmed in my conversation with Dr. Ed Stein of OSHA's Office of Health Standards. Dr. Stein stated that OSHA had only very limited data regarding short-term benzene exposure. He told me that no good tabulated list of data exists regarding short-term benzene exposure. While OSHA tried to obtain short-term exposure data, it relied in large measure on the eight hour, time-weighted average data when issuing the STEL. Dr. Stein told me that the best source of data to support the benzene STEL was the general qualitative description of high-level, short-term exposure found in the JRB report.


Harold M. Shaw

^{2/} Our copy of the JRB report is being provided herewith to Mr. Grumbles.