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Environmental Health Division

*Daniel Wartenberg, PhD
Professor*

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Jeff O'Donnell, Committee Assistant
New York State Assembly
Program and Counsel Staff
Capital/ Room 520
Albany, NY 12248

Fax: 518-455-5182

Dear Mr. O'Donnell:

I write to you at the suggestion of Elizabeth Meer. Unfortunately, I will not be able to attend your upcoming hearing on, "Vaporization of contamination from soil and groundwater into indoor air." I offer the attached statement for the Committee's consideration in their deliberations on this issue and the possible adverse health effects from exposure to trichloroethylene.

Please do not hesitate to contact me if you have any questions about my statement or related issues.

Thanks you for your consideration.

Sincerely

My name is Daniel Wartenberg. I am Professor and Director, Division of Environmental Epidemiology, Department of Occupational and Environmental Medicine, Robert Wood Johnson Medical School, University of Medicine and Dentistry of New Jersey, and Leader, Population Science Program, Cancer Institute of New Jersey. I attach a copy of my short curriculum vitae.

I apologize for not being able to be present in person at the Hearing, but other commitments prevent my travel at this time. I write to offer my opinion about the public health risks from exposure to trichloroethylene (TCE). I have been studying the health effects of TCE for about 8 years and am increasingly concerned about the likely carcinogenicity of TCE and its impact on the health of those exposed to even low levels of this chemical. In general, any exposure to a carcinogen increases an individual's risk of developing cancer. Therefore, on the basis of the available evidence, and in the interest of preventing unnecessary cases of cancer, I urge you to limit exposures to the minimum amounts reasonable achievable. While the evidence is not as clear and consistent as one might wish, prevention and/or reduction of exposure is the prudent action to take at this time. Because the studies conducted did not collect sufficient data on length and magnitude of exposures for rigorous modeling of the likely carcinogen, we should err on the side of overprotection rather than underprotection. In addition, the research on other outcomes is somewhat limited, again suggesting the need for more stringent rather than less stringent exposure limits.

In 1997, as part of their reassessment, I was awarded a competitive grant by the US Environmental Protection Agency to evaluate the epidemiologic evidence for making inferences of cancer hazards and risks for exposure to TCE. With colleagues, I conducted a detailed review of more than 80 relevant scientific publications and summarized the results in a peer reviewed paper that was published in *Environmental Health Perspectives*.¹ We concluded that evidence of excess cancer rates among occupational cohorts with the most rigorous exposure assessment is found for kidney cancer (RR=1.7, 95% CI 1.1-2.7), liver cancer (RR=1.9, 95% CI 1.0-3.4), non-Hodgkin's lymphoma (RR=1.5, 95% CI 0.9-2.3) as well as for cervical cancer, Hodgkin's disease, and multiple myeloma. In 2000, I summarized these data for the 10th Annual Report on Carcinogens issue by the National Institute of Environmental Health Sciences' National Toxicology Program, with similar conclusions.² Since my review, there have been several additional publications on the possible carcinogenicity of TCE. Although I have not reviewed them all in detail, one notable was a report on a new cohort in Denmark in that use measures of biological material to document exposure to TCE.³ In general, the results of that study provided additional support for the findings we presented in 2000, which suggested that TCE exposure causes cancer in humans.⁴

I acknowledge limitations of some of these studies, and imprecision of the assessments of exposures, but believe that the evidence points strongly towards carcinogenicity and that exposure should be minimized to the degree reasonable possible unless and until evidence to the contrary can be developed. In short, based on the evidence, we believe that TCE should be considered a human carcinogen until proven otherwise.

Reference List

1. Wartenberg D, Reyner D, Scott CS. Trichloroethylene and cancer: The epidemiologic evidence. *Environ Health Perspect* 2000;**108** (suppl 2):161-76.
2. Report on Carcinogens, 10th Edition. 2002. Research Triangle Park, NC, US Department of Health and Human Services, Public Health Service, National Toxicology Program.
Ref Type: Report
3. Hansen J, Raaschou-Nielsen O, Christensen JM, Johansen I, McLaughlin JK, Lipworth L *et al.* Cancer incidence among Danish workers exposed to trichloroethylene. *J Occup Environ Med* 2001;**43**:133-9.
4. Wartenberg D, Scott CS. Carcinogenicity of trichloroethylene (Letter). *Environ Health Perspect* 2002;**110**:A13-A14.