July 11, 1969

Mr. Harold M. Englund
Journal of the Air Pollution
Control Association
4400 Fifth Avenue
Pittsburgh, Pennsylvania 15213

Re: Questions and Answers on
Paper #69-145, given at APCA
Meeting, New York City

Dear Mr. Englund:

I am sending you my reply to the first question raised at the New York Meeting of APCA, in connection with my paper, on the instructions of Richard D. Grundy, Vice-Chairman of the session in which the paper was presented.

I have written to Dr. Ford of Buffalo for an explanation of his question, which I do not understand. I have noted this fact in the enclosed memo, and shall make every effort to reply relevantly and to supply you with such reply, at the earliest possible time.

Sincerely yours,

Robert A. Kehoe, M.D.
Professor Emeritus of
Occupational Medicine

RAK:wp

enclosure

P.S. I have little doubt that my revised paper, sent with my letter on June 18, has been substituted for the initial draft of April 10, acknowledged by your letter of April 24, but since there were errors in the initial draft, it is important that the substitution be made.

RAK

QUESTION 1 - In Reply to Dr. Atkins

The statement that smokers "tend to" have 20 to 50 percent more lead in their blood than non-smokers is grossly erroneous. From the aspect of the fate of the lead in tobacco when burnt in smoking, a very large proportion remains in the ash. Of the lead in the smoke, some absorption occurs in the nasopharynx of persons who do not inhale the smoke; some portion, undoubtedly larger, is absorbed in other parts of the respiratory tract, including the lungs, of persons who inhale the smoke at times or regularly. The remainder of that inhaled is discharged in the expired air (and blown out smoke), or cleared from the lungs and upper respiratory tree by several mechanisms which cannot, at this time be assessed accurately for their efficiency. In consequence, no calculation can be made, as to the quantity absorbed with any considerable degree of accuracy.

Investigations of the difference between smokers and non-smokers in the matter of the rate of excretion of lead in the urine and the concentration of lead in the blood have failed to yield convincing evidence. The differences are so slight as to be detectable only by statistical comparisons which have not been conclusive in all instances. All of the results which have been significant, mathematically, have been on the border line, while other seemingly equally precise investigations have yielded negative, i.e., non-significant, results. In any case, this source, at present, cannot be rated as of practical importance.

QUESTION 2. Note.

I do not understand what is meant by Dr. Ford in querying whether we can "go ahead." I have written to him for clarification, and will reply to him, and to the Journal, in substitution for this statement, as soon as I hear from him.