January 15, 2016

Dr. Ruth Lunn, Director
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PO Box 12233, MD K2-14
Research Triangle Park, NC 27709
Via email to lunn@niehs.nih.gov and Overnight mail

RE: Epidemiology study of carbon black workers

Dear Dr. Lunn,

I would like to follow up on earlier letters in which I described an ongoing epidemiology study of USA carbon black workers. I previously communicated with you regarding carbon black and this study in letters of May 16, 2012, and February 27, 2012.

The results of this investigation have recently been published in the Journal of Occupational and Environmental Medicine (JOEM 2015; 57: 984-997). Although in earlier correspondence, I noted that we expected a report in 2013, delays occurred as a result of rigorous and time-consuming efforts taken to identify death certificates of cohort members who died prior to 1979. This task was particularly challenging in that the National Death Index has death certificate data only from 1979 onward. As a result, it was necessary to trace cohort members who died before 1979 through state health records, a tedious and time-consuming task. These efforts led to a notable advantage of this study, that is, the exceptional level of ascertainment of vital status, in that 98.5% of eligible cohort members were identified as alive or deceased.

These additional efforts to increase the level of ascertainment of vital status, coupled with preparation of a report, the peer review process, and the publication of the manuscript took more time than anticipated. I enclose a copy of the final published report, along with a recently published follow up letter to the editor and the authors' response to Dr. Morfeld. (Morfeld P, JOEM 2016; 1: e21-e22 and JOEM 2016 Jan; 58(1):e23, respectively).

This retrospective mortality study is the largest cohort of carbon black workers yet published in the world's literature. It includes over 6,000 workers employed in the carbon black industry dating back to the 1930s. Both an inception cohort, designed to reduce potential survivor bias, and a total cohort were individually evaluated for mortality risks. A notable advantage of the study is the detailed individual cumulative exposure assessments that were analyzed with uniform job titles to enable robust dose response analyses. The availability of workplace

carbon black airborne monitoring data back to 1979 facilitated calculation of reliable exposure estimates.

The results showed no increase in lung cancer or any other malignancy in either the total or inception cohorts. Among the 119 NIOSH categories of cause of death measured, two showed statistically significant excesses. These findings were further explored in an additional analysis, results of which are published in the attached letter to the editor by Dr. Peter Morfeld.

In summary, the authors of the study concluded: "*Regardless of whether exposure was based on lagged, lugged, or total cumulative estimates, no consistent association was seen with lung cancer or non malignant respiratory disease."*

On behalf of the Scientific Advisory Committee of the International Carbon Black Association, I appreciate your patience in awaiting the results of this important contribution related to the health of workers involved in carbon black manufacturing. Please let me know if I can offer further background or clarification to any aspect of the study.

Sincerely,

Robert J. McCunney, MD, MPH