WORK ENVIRONMENT
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April 12, 1996

Dear Larry,

I have read over most of the criteria document. I think it is extraordinarily well done. I only have a couple of comments.

Typos and minor editorial comments:

p 16 - last sentence ... "indicating an overa*ll reduction...*"

P 19 - last sentence "A single epidemiologic *study*"

p 31 end of parenthesis missing in first paragraph

p 109- The word reversible is used twice in the last sentence of middle paragraph. (Delete first one)

Substantive Comments:

p 25 - It seems to me that a negative finding in a study with adequate power (e.g. Tolbert or Eisen 1992) should be mentioned along with the positive. This comes up in the discussion of stomach cancer. This is one of the more common cancers and our power was good. In fact, the sample size of the original study was determined on the basis of stomach cancer, since there had been several prior positive findings. However, our results were not positive. SMRs were elevated slightly, in the 1.0 to 1.2 range, and there was no evidence of any exposure-response trend (See published abstract quoted below).

P 39 - In several places you rely on published abstracts. Yet in the section on esophageal cancer you do not mention our positive results which were published as an extended abstract in the proceedings from the Cincinnati ICOH meeting. (NIOSH published the proceedings). I have excerpted

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from that abstract below.

Eisen EA, Tolbert, PE, Monson RR, Smith TJ., Woskie SR, Hammond SK (1992b): Full cohort analysis of digestive and respiratory cancer risk among autoworkers. Abstract. Proceedings of Ninth International Symposium on Epidemiology in Occupational Health. Cincinnati, OH. DHHS (NIOSH) Pub No. 94-112.

Gastrointestinal Cancers: Elevated relative risks were observed for **esophageal cancer** and each of three types of MF, when type of operation (machining or grinding) was not considered. In these models, however, exposure-response trends were not evident. Stronger evidence for an association was observed when exposure was limited to grinding operations. As seen in the Table below, there was a monotonic pattern of increasing risk as cumulative exposure increased across all but the highest category. The relative risk estimate reached 3.7 before it decreased to 2.3. The highest RRs were statistically significant.

Results of Poisson Regression Analysis
Esophageal Cancer and Grinding in Cohort of Auto Workers
(Plants I and II)

Level (mg/m^3-yrs)	N Deaths due to COD*	Rate Ratio	95% CI
0	5	1.0	
>0 - 2.49	10	1.8	0.6 - 5.4
2.50 - 9.99	15	2.8	1.0 - 7.5
10.0 - 24.9	15	3.7	1.3 - 10.3
>25.0	8	2.3	0.7 - 7.1

There was no evidence of an association between stomach cancer and any type of MF. Based on previous studies we anticipated an association between **stomach cancer** and grinding. Our results, however, suggested only a minimal elevation in risk, which did not increase with exposure. As grinding MF exposure increased, the RR increased to 1.5, and then decreased to 1.2 and remained constant.

p 48 I would move stomach to the list of equivocal cancers and add esophagus.

p 48 - I thought the point about how differences in the composition of fluids across time and place could be expected to result in "inconsistencies" in the literature was terrific.

p 50 In your discussion about the unknown nature of the risk among workers hired after the mid 70s, it might be worth mentioning that GM/UAW has funded an update of our cohort through 1994. We have already identified an additional 5800 deaths in the cohort and are in the process of obtaining cause of death information.

p 117- The Concluding Discussion on nonmalignant respiratory disease is very well done.

Bob & Pat

Best,

Ellen

Ellen A. Eisen, ScD
Professor