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November 18, 1993

To: Dr. Dick Clapp

From: Carol Van Strum, Investigator

Re: Jan Yung December 28, 1981 memo to William R. Gaffey, with
attachments, sent earlier today

This is a privileged and confidential attorney work-product communication with an expert witness in a pending matter. I am writing at the request of Paul Merrell, seeking your advice on documents transmitted earlier today.

Some background on this "missing link" document might be useful, particularly with regard to the musical-chairs shifts in study design for the Nitro studies.

The Zack/Suskind mortality study of 1949 explosion workers with chloracne states (p. 11): "The results of this study will be incorporated with those of a larger study which will include plant workers exposed in the course of 2,4,5-trichlorophenoxyacetic acid production during the period 1948-1969," and (p. 12) "An analysis of the chloracne cases and exposures not associated with this accident but rather with the normal TCP/2,4,5-T production processes will be the subject of a future paper." (2,4,5-T was produced at Nitro from 1948 through 1969.)

The Zack/Suskind study announcing the above future study of TCP production workers with chloracne was published in January, 1980. Ten months later, in October 1980, Monsanto issued a press release proclaiming completion of the second study, identifying it as authored also by Zack and Suskind. (Monsanto medical director George Roush has identified this second study as the one subsequently published as the Zack/Gaffey study.) By the time of the October 1980 press release, however, the study described in the Zack/Suskind study was no longer a study of TCP workers with chloracne, and indeed did not address chloracne at all; instead, it had become a study of mortality in the entire Nitro plant, compared with mortality in a subset of TCP workers identified solely from employment records without any reference to medical condition (i.e., chloracne). The study differed from the study described in the Zack/Suskind study in several significant areas:

1. It did not address chloracne at all;
2. It eliminated from the study altogether all workers who died or ended employment at Nitro from 1948 [first year of 2,4,5-T production at Nitro] to the end of 1954, and from the end of 1977 to the end of 1978 [the cut-off for the Zack/Suskind study], and thus does not include "plant workers exposed in the course of 2,4,5-trichlorophenoxyacetic acid production during the period 1948 to 1969" as described in the Zack/Suskind study.
3. "Exposure" to TCDD was determined solely by plant employment records (i.e., only workers in the actual TCP process), excluding all others (such as maintenance workers) who had potential exposure and leading to blatant misclassifications.
4. "Exposure" was determined only for a subset of dead workers, not for all TCP process workers (even by the limited employment criteria). [Query from an ignorant layperson: how could the study even calculate a mortality ratio for this subset without a denominator?]

Thus, at some point between publication of the Zack/Suskind study and Monsanto's press release, the study design for the second mortality study had changed radically. (Authorship also changed -- between the time of the press release and presentation of the study at the 1981 Dioxin Symposium, Suskind withdrew his name and Gaffey became co-author.)

For purposes of defending Peter's lawsuit, it has been important to inquire what became of the second chloracne study, and why the design of the second study changed dramatically after publication of the Zack/Suskind study. The Jan Yung memo we sent you earlier today suggests some answers. (Jan Yung was the Monsanto clerk who collected and verified all the data for both the Zack/Suskind and Zack/Gaffey studies.) The memo establishes that Ms. Yung did indeed compile the data for the second chloracne study. Before we take Jan Yung's and Judith Zack's depositions it would be useful to have a rough idea what Yung's data show. Specifically, if her data on the TCP chloracne workers are subjected to the same analysis as the accident worker data in the Zack/Suskind study, what would be the result? And also, if this cohort is added to that of the Zack/Suskind study, what would be the result?

I hope all of this makes some sense to you. Please call if you have any questions!

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