CC: S. Pell

PLAINTIFF'S
EXHIBIT
DUP-2914

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TO: M. T. O'BERG

FROM: C. A. BURKE

CASE-CONTROL AND FOLLOW-UP STUDY OF
WORKERS WITH ASBESTOS-RELATED MEDICAL CONDITIONS

W. E. Fayerweather's original protocol called for the collection and coding of work histories for cases and controls. These should be readily available for cases, since establishment of asbestos exposure potential was necessary prior to acceptance of responsibility by Du Pont. However, collection and coding of work histories for controls would involve considerable expenditure of time and effort by plant personnel, which I do not feel to be justified at this time, for the following reasons.

- The major objective of the study is to follow the course of asbestos-related medical conditions, especially those defined as benign asymptomatic. This objective must take precedence, as results from such a study could have numerous implications for the individual, his medical follow-up, and the legal/compensatory processes. Job histories are not necessary to follow progression of disease or development of malignancies; what happens to the individual once he has been diagnosed with an abnormality is of interest. This aspect of the study is prospective, rather than case-control, in design. We have a group of people, some with asbestos-related medical conditions, some without. By definition, all cases were exposed to asbestos, but among those without abnormalities, some will and some will not have been exposed. I would guess that the majority will at some time have been exposed to some level, however low, of asbestos. Comparisons within the group of persons with asbestos-related medical conditions may be useful in determining why disease progresses in some and not in others. We can also compare, as time goes on, the incidence of overt disease, malignancies, and death in those with and without abnormalities, regardless of their past asbestos exposure. Presence or absence of asbestos exposure may have been a contributing factor in the development of disease, but it would not be a prognostic factor once exposure had ceased. Duration

and extent of exposure may be prognosticative, but such data are not available.

- Examination of work histories in a case-control context is useful when a casual relationship is suspected or unknown, but it has been firmly established that exposure to asbestos is necessary for development of asbestos-related medical conditions. What remains undetermined, however, is how the extent and duration of asbestos exposure affect the development of the disease, and what cigarette smoking contributes to this process. We have essentially no data available that will enable us to answer these questions. We may be able to identify jobs with potential asbestos exposure, and a case-control analysis would probably show that pipefitters were at a greater risk of developing asbestos-related medical conditions than were chemical operators, which we already knew without coding 1,000 work histories. We may also find lots of other interesting odds ratios which will probably have little ramifications given the current status and use of personal protective equipment in the Company, and which will contribute little or nothing to our understanding of the questions currently at hand. Regarding the relative contributions of asbestos exposure and cigarette smoking to the development of disease, again I believe that without quantitative measures of asbestos exposure, this question cannot be resolved. If we assume, as I did above, that all controls were exposed at some point to some level of asbestos, we can evaluate the contribution of smoking to the development of asbestos-related medical conditions, given a "fixed level of asbestos exposure. If we want to stretch our assumptions, let's say that all cases had high exposure and all controls had low exposure. Still no need to code work histories, and the guesswork involved is about equivalent. I maintain that it is not possible to obtain valid, or even reasonable, estimates of asbestos exposure from job titles listed on employment histories, especially given the intermittent nature of asbestos exposure in the Company, as opposed to that found in, for example, an asbestos manufacturing facility.

My experiences with plant personnel have been somewhat limited to date, but I do feel that most are willing to cooperate if they see the need for the data being collected. Collection of the medical data for this study will require substantial effort by plant physicians and nurses, which is justified given the importance of the subject and the fact that useful information can result from their efforts. If I felt that useful information could be obtained from the employment histories, I would not hesitate to include such a section in the questionnaire.

However, to request the collection of a considerable amount of information, which will not contribute to the resolution of the most important questions at hand, may serve only to alienate the plants. We have the resources (through the medical records) to help answer questions regarding prognosis. We do not have the data which would help us answer questions regarding duration and extent of exposure. Very little is to be gained form collecting information from our employment histories, as even identifying areas of potential asbestos exposure would involve a good deal of guesswork.

Hopefully, I have convinced you that only the medical data need be collected at this point. In order to avoid duplication of effort should we at some time require the employment histories, those which are readily available for cases (i.e. in their medical records), should be copied and attached to the questionnaire. Work histories for controls could always be collected and coded at a later date if deemed necessary, without duplication of effort, since they would not be obtained from medical records.

CAB:jmb