NATIONAL RESEARCH COUNCIL
ASSEMBLY OF LIFE SCIENCES
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DIVISION OF MEDICAL SCIENCES
Medical Follow-up Agency

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Dr. Sidney Marks
Analysis and Assessment Program
Division of Biomedical and Environmental
Research
Energy Research and Development Administration
Washington, D. C. 20545

Dear Dr. Marks:

I have read the proposal and progress reports pertaining to Dr. Thomas F. Mancuso's "Study of Lifetime Health and Mortality Experience of Employees of ERDA Contractors" that you sent me recently, and I return them herewith.

Evaluation of this material is difficult, and is not made easier by the excessively repetitious, garrulous and diffuse style in which it is written. It is easy to understand why a study of the health of these occupationally exposed workers is necessary. However, I am not convinced that the study requires to be prosecuted as this contractor has done over the years and as he apparently proposes to continue.

The first requirement for a scientific investigator is that he be clearly aware of what he is doing - what are the limitations which his methods impose upon the nature of the conclusions that he will be able to reach. Like most studies of humans, the present one is observational not experimental. That is, the observer has no means, like randomization, to insure that his "study" population will be truly comparable with his "controls". Mortality rates among human populations can easily vary by 50 percent or more depending upon differences in socioeconomic status, screening for health status, and for other reasons that we don't understand very well. Therefore, in a study such as the one under consideration, where no adequate source of comparable controls exists, it is clear that the only radiation effects that could be identified with confidence would be effects that are very large, and that accord with expectation based upon studies of populations that had been exposed to much larger doses.

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The present contractor appears to think that it is by expanding the population under study to every possible employee he will somehow solve some of these problems. He will not. He is merely multiplying his difficulties.

It seems to me significant that, among the exposed Hanford employees, there has not been a single death from leukemia; I can only agree with the conclusion in Progress Report #11, that to this date, evidence of excessive cancer mortality among the exposed Hanford employees is unconvincing.

The difficulty faced by the investigators is that they are attempting to study persons who had very small doses not very much above background. Some of the "exposed" employees (and "non-exposed", too) will have had medical X-ray exposures far exceeding the occupational doses under study. Exposures to environmental carcinogens other than X-ray are unknown, and probably unknowable. Under these circumstances it is naive to imagine that any but gross effects will be detectable. Everything we know about late radiation effects in man tells us that if any effects occur in this population, they will be most apparent as excessive cancer mortality. The investigators should concentrate upon cancer mortality and not spend so much effort in the study of "longevity", which is affected by a host of other problems arising out of the myriad of factors that may affect mortality from cardiovascular disease, from kidney disease, from alcoholism, etc. They should devote less effort to multiplying the number of contractors whose employees are to be studied and concentrate on the groups now being studied. In particular, with the basic study not really well set up as yet (apart from Hanford) diversion of effort to workers employed in plutonium processing would be a mistake. This implies no judgment concerning the desirability of studying such workers - only that these investigators already have more to do than they can accomplish comfortably.

It should be noted that the work has apparently been done very carefully and conscientiously. In part, the very long delays have resulted from the investigators' determination not to rush to conclusions based on erroneous data, and for this they are to be commended. But simultaneous dedication to meticulous care and to indefinite expansion into new plants seems to me to be a recipe for enormous expense, and no product.

I hope this is helpful to you.

Sincerely,

Seymour Jablon

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Enclosures

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