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BM:CLD

August 11, 1954

Dr. Edith H. Quimby
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630 West 168th Street
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Dear Edith:

We are sorry that you and Dr. Rossi found the statement sent to Dr. Lan-Chang Chiang confusing. Perhaps if it is put back into the context from which it was so rudely plucked for Dr. Chiang it will seem more realistic. As you know, it had been prepared for another agency in direct reply to questions on the same general subject and seemed appropriate for this purpose. The third, fourth, fifth and sixth paragraphs appeared to be directly applicable to the Formosan problem to the extent that they might be able to identify the radioisotopes involved. We would have liked to be able to help in that respect, but do not yet have enough information on this subject to stick our necks out farther than we did in the last paragraph of page 4.

Discussion of the use of 0.1 mr/hr at 5 cm as a basis for field monitoring seemed appropriate, since we were informed that through another contact Formosa had been told that this level had been proposed by the AEC but they had not yet been informed of the origin of the proposal. Hence, the origin was discussed in paragraphs 7 and 8, pages 2 and 3, while the limitations in application to the Formosan situation were discussed in paragraphs 9 and 10, pages 3 and 4.

Perhaps the discussion of criteria for field monitoring would have been less confusing if we had recalled in the text that the question of the radioactive contamination of fish as a result of the Pacific tests became of strong public interest in connection with fish from the Japanese fishing vessel, Lucky Dragon, which appeared to have become contaminated partly, if not entirely, by contact with radioactive materials which had fallen onto the vessel. For some time following this incident, fish on Japanese fishing vessels were reported to be contaminated in the same manner. Since it is physically impossible to monitor thousands of fish by laboratory methods, it was essential that we establish a reasonable criterion for monitoring with the use of field

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survey instruments. After discussion of many considerations, quantitative and otherwise, we recommended that tuna be accepted for canning in this country if the gamma radiation a 5 cm from the fish did not exceed 0.1 mr/hr.

As the problem changed to that of internal contamination, the value which had been proposed for external contamination continued to appear as good as available information would support. We have received two fish giving rise to about this level of gamma radiation. The second is now under study. So far we have been unable to get a sufficiently good indication of isotopic composition to improve the above value. (The observed activities in the flesh of these fish are from 1 to 2 d.p.m./gm.)

Assumption (2), mentioned in the third paragraph of your letter, arose from the following considerations. As processed in the United States, tuna are cooked in their skins. Further, experimental study of the behavior of radiostrontium on the surfaces of some local species of fish in one of our laboratories indicates some transfer through the skin at room temperatures. Since Food and Drug personnel tend to think in terms of concentrations which might occur in individual cans, it appeared desirable to assume the highest concentration that could occur in such cans. An upper limit to this concentration is that which would result from the inclusion of the entire amount of material originally on the skin in a depth of tissue equal to the depth of the can, approximately two inches.

We appreciate your calling our attention to the omission of the factor, 10^{-3} , in the sentence immediately following the equations on page 3. A copy of the computation of the radiation level corresponding to conditions assumed on pages 2 and 3 is enclosed.

Sincerely yours,

Charles L. Dunham, M.D.
Deputy Director, Division of
Biology & Medicine

Enclosure

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