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J. C. Bugher, M.D., Director
Division of Biology and Medicine

September 21, 1953

Gordon M. Dunning, Health Physicist
Biophysics Branch, Division of Biology and Medicine

COMMENTS ON RADIOLOGICAL SAFETY ORDER FOR CASTLE.

SYMBOL: BMBP:GMD

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The following are my comments on the radiological safety order for CASTLE, in order of appearance.

Memo dated 17 Sept. 1953 (attached to radiological safety order). I do not agree that personnel on-site maximum permissible levels should be based only on "prudent and reasonable approach to each specific problem as the situation develops". The maximum permissible limit for air and for water may be construed as operations guides, not as sacred limits which, if exceeded, would result in dire consequences both in terms of health and disciplinary action.

I am definitely opposed to basing 3.9 r on a calendar quarter in the sense it is proposed to be used here. Simply because a man has been living in the Pacific instead of the U. S. for more than three months does not justify this interpretation. The start of the three-month period should be based on an initial radiation exposure and not on time of arrival at Eniwetok and Bikini. The time period encompassing the shots is seven weeks. This still leaves six weeks for clean-up before the "exposure quarter year" is completed.

Annex N. Par. 5b(6)i. It might be wise to define more clearly the types and extent of studies envisioned.

App. I to Annex N. Par. 3. "Those individuals exposed to ionizing radiation in excess of 3.9 r will be informed that they should not be exposed to further radiation until sufficient time has elapsed in order to bring their average radiation dose down to 0.3 r per week." This has implications for on-site and off-site maximum permissible limits at the Nevada Proving Ground. Once such a stipulation is on the books it may, by precedent, assume an authoritative status. Is this the direction that we want for establishing maximum permissible limits at the Nevada Proving Ground?

Par. 13.d. may be unduly restrictive.

MILITARY RESEARCH & APPL.

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CLASSIFICATION CANCELLED BY AUTHORITY OF DOE/OC Doe 5650.2, III-12 (Admin)
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By: W. Tinch 6/8/87

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J. C. Bugher, M.D. [redacted] September 21, 1953

Par. 15a(1). One mr per hour is probably more nearly equivalent to 4,000 counts per minute.

"Beta radiation exposure to the hands should not exceed 30.0 reps per week." This is higher than our 1.5 reps per week. The question here is how it is proposed to measure such doses.

Par. 15b. Perhaps it would be clearer if the 7 mr per hour on interior surfaces were stated as being "beta plus gamma".

Par. 15c(4). seems unduly restrictive.

Par. 17c. "For those personnel exposed to ionizing radiation in excess of 3.9 roentgens, a statement will be included to the effect that the individual is not to be subjected to ionizing radiation before a specific date, the date to be computed by the Radiological Safety Officer, Task Group 7.1, to allow sufficient time to elapse in order to bring the average radiation dose down to 0.3 r per week." This regulation may be established by the Military for the Military but should not be applied to civilians. Again we are here establishing a policy that may gain wide adoption. I am not arguing for or against this at this time but I am pointing out the significance of accepting this criterion for Operation Castle.

General Comments: The correct title is "Director, Division of Biology and Medicine".

GMD:mc

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