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Marion W. Boyer, General Manager

Shields Warren, M.D., Director
Division of Biology and Medicine
PROJECT GABRIEL

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At the request of the General Manager early in 1949, Project Gabriel was undertaken to determine the long-range effects which the explosion of a number of atomic bombs might have on animal and vegetable life through radioactive contamination of air, water and soil. Dr. Nicholas M. Smith, Jr., a theoretical physicist at ORNL, was given the assignment at my request. After consultation with a number of physicists and biologists in AEC Laboratories, Dr. Smith presented a report in November, 1949, in which he developed the thesis that the major hazard would lie in the wide-spread dissemination of the 25-year strontium-90 complex. He calculated that at least 1,000 nominal bombs could be detonated without undue hazard from secondary effects.

In the light of additional data from the Greenhouse and Ranger tests, Project Gabriel was given further study by Dr. Smith, and a revised report was submitted in November, 1951. This study indicated that a hundred thousand nominal bombs might be detonated without undue hazard from secondary effects.

An ad hoc committee, consisting of recognized experts in the fields of operations research, meteorology, soil technology, biology and physics, was assembled by the Division of Biology and Medicine on November 23-30, 1951, to consider the Gabriel Report on long-range effects, and to extend its implications as to short-range effects (surface and sub-surface bursts, and under conditions of rain or snow). A short resume of this meeting was furnished to Dr. W. D. Smyth on December 3.

Following this meeting, a more detailed staff study was undertaken by the Division of Biology and Medicine to consider the subject matter of the ad hoc committee. A copy of this study was furnished to Dr. Smyth on December 17. While this study was under way, but before it had adequately taken shape, Dr. Claus and I presented a version of it to the General Advisory Committee on December 12. The GAC recommended that the subject matter of Project Gabriel should be reconsidered, entirely independently of all work to date, by two different operations-analysis groups.

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Marion W. Boyer, General Manager

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We have given thought to this recommendation, and suggest that the study might be undertaken by

The Rand Corporation
1500 4th Street
Santa Monica, California

Local Offices: Cafritz Building
1625 Eye Street NW.
Washington 6, D. C.

The Rand Corporation does operational studies primarily for the Air Force, but would probably undertake a study such as this.

A second study could probably be carried out through arrangements with the Massachusetts Institute of Technology which has assembled ad hoc panels for studies such as the Lexington Project and Project Charles.

Neither of these groups has yet been approached by us to determine their availability for such a study.

Meteorological information which is being compiled for us by the Air Weather Service could be furnished to either or both study groups.

WD Claus:mc

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