

UNITED STATES GOVERNMENT

Memorandum **OFFICIAL USE ONLY**

TO : A. R. Luedcke, General Manager
THRU: E. J. Bloch, AGMO

DATE: JAN 1 1963

FROM : Nathan H. Woodruff, Director *N.H.W.*
Division of Operational Safety

SUBJECT: RADIATION PROTECTION GUIDES FOR NUCLEAR WEAPONS TESTING

OS:DR:GMD

Background

By Staff Paper AEC 1095/7 dated August 17, 1962, the Division of Operational Safety was assigned the responsibility for the "Determination of need for new radiation protection guides for use in programs involving weapons testing and other national defense activities." This memorandum refers to such guides for the Nevada Test Site. If additional AEC testing sites are selected for such activities further evaluations will be made.

Enclosure I summarizes the radiation protection guides for off-site populations established in the past for the Nevada Test Site. It will be noted that the basic guide for the past several years of testing has been 3.9 roentgens, to be used in the following context:

Using somewhat pessimistic, yet credible assumptions, the Test Organization estimates the potential exposure to populations off-site in the event of an unanticipated fallout; if this estimate exceeds accumulated exposure of 3.9 roentgens for 12 consecutive months then the detonation is postponed until more favorable conditions prevail.

Not stated specifically in the latest AEC Staff Paper (604/65) but understood as also applicable, is the additional conditions stated in AEC Staff Paper 141/33, November 13, 1956 of 10 roentgens in a period of 10 years. Both of the values of 3.9 in any one year and 10 roentgens in a period of 10 years " . . . should be construed to be operational guides rather than maximum permissible limits, since exposures somewhat in excess would not be hazardous." (AEC Staff Paper 141/33).

With the advent of non-nuclear tests in Nevada it became necessary to establish additional radiation exposure guides. This was accomplished by a memorandum from Dr. Nathan H. Woodruff to Mr. James E. Reeves on August 1, 1962 (Enclosure II).

OFFICIAL USE ONLY

OFFICIAL USE ONLY

JAN 1 1963

A. R. Luadecke

- 2 -

Conclusions

1. We do not recommend any new radiation protection guides for nuclear weapons testing at this time. The present guides have, in general, been adequate to permit continuance of nuclear weapons testing and at the same time have been accepted by the public, principally because of an extensive public information program. To change the guides would require a re-education program that could raise questions in the public mind as to the validity of the past guides. Lastly, the world situation today is not the best climate in which to raise the issue. Therefore, we recommend the continuation of the present criteria.

2. Additional information within the past year has pointed to the need of further consideration of additional guides specifically for iodine-131. Research studies leading to the elucidation of the problem are being prepared by the Division of Biology and Medicine. Also, the Federal Radiation Council is preparing an additional statement dealing in part with this subject. In due time, further consideration should be given to possible additional guides for iodine-131, but it would be inappropriate to attempt to do so until further research is under way and pertinent information becomes available.

Recommendations

We recommend that the above two conclusions be accepted as fulfilling the requirements assigned to the Division of Operational Safety by Staff Paper AEC 1095/7.

Enclosures:

1. History of Radiological Safety
Criteria for Nevada Test Site
2. Copy of Memo to Reeves from Woodruff
dtd 8/1/62, Subj: Radiological Protection
Criteria at Nevada Test Site

cc: Director, MA
Director, RPS
Director, EM
Director, PI
Director, PNE

Approved:
A.R. Luadecke
1/24/63

OFFICIAL USE ONLY