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*Murray, T. J. ...*



1246th AEC Meeting  
11-14-56  
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6. AEC 141/33 - Radiological Criteria for the Nevada Test Site  
(pp. 23-52)

Dr. Dunning discussed with the Commissioners the establishment of radiological safety criteria for exposures to gamma radiation from fallout to populations around the Nevada Test Site.

Mr. Murray referred to the statement in the staff paper that the operational guide be arbitrarily established at 10 roentgens in a period of 10 years and said this matter raised the question of the extent of the exposure to the people living in the neighborhood of NTS. Mr. Murray added that he believed this matter also raised the question of the desirability of establishing a second or third test organization in order that tests could be conducted in the Pacific without raising such questions as arbitrary determinations on the extent of exposures to gamma radiation from fallout. He suggested that consideration should be given to establishing a second test organization so that tests could be conducted in the Pacific more frequently. Mr. Strauss referred to his previous suggestion that all tests be moved to the Pacific and said that he believed if this were done, the

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Commission would not be faced with many problems such as a determination of radiological safety criteria. He expressed particular concern over the proposed underground shots.

Dr. Dunning then referred to Mr. Murray's comment on the establishment of 10 roentgens and said that during discussion of this matter by the Advisory Committee on Biology and Medicine, the ACBM had indicated that the National Academy of Science had also arrived at its figures of 10 roentgens in a 30-year period in an arbitrary manner. Dr. Dunning observed that there was no precise method of measurement in establishing these criteria. In response to a question by Mr. Murray, Dr. Dunning said that the ACBM had discussed this subject and that there was general agreement among its members that the recommended numbers were reasonable.

Mr. Strauss asked about the possibilities of conducting all tests in the Pacific and avoiding the extensive facilities and instrumentation connected with tests. Mr. Fields said that increased costs and time would be involved in conducting all tests in the Pacific. He then commented on the time required for constructing additional facilities, organizing the operational supporting groups, and transporting the necessary technical


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Mr. Murray proposed that the 10-year level be established at 5 roentgens and that a study be made of the delay in the small weapons program as a result of the consequent need to transfer any shots to the Pacific. He said that he did not believe the matter of cost was so important to this question as the delay in the weapons program. He added that it would be a very serious matter if the study showed that going to the Pacific would delay the small weapons program.

The Commissioners discussed at length with Dr. Dunning the problems involved in establishing a 5 roentgen level. Dr. Dunning said that the 10 roentgen level would permit more flexibility and suggested that this level be accepted with the understanding that the test organization would be encouraged to review operational factors of the proposed test in order to reduce fallout and to remain well below the 10 roentgen level.



[REDACTED]

Mr. Libby inquired about reports on fallout patterns from earlier tests in Nevada and suggested that he review these reports to determine to what extent this information has affected planning for Operation PILGRIM. Dr. Dunning said that studies were being made of fallout data from previous tests and that he would obtain the latest reports.

Mr. Strauss suggested, in view of the uncertainty regarding the 10-year figure to be established and in view of the Commission's approval of AEC 944 which recommended approval in principle only, of the test program, that the recommendation of AEC 141/33 be approved, subject to final Commission consideration of this matter after review by Mr. Libby of the reports on fallout patterns of previous tests. Mr. Strauss also indicated that the staff should study the various factors involved in the transfer of all tests to the Pacific. Mr. Libby requested that the staff paper on the specific shot program contain figures on the estimated roentgens dosage from offsite fallout for the shots conducted at NTS.

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The Commissioners then discussed at length with the staff the advisability of requesting Presidential approval of the test activities for CY 1957 and issuing a press release in view of the uncertainty regarding the Commission's final decision on radiological criteria and the possible transfer of tests to the Pacific.

Mr. Libby said he agreed with Mr. Strauss' proposal that the Commission approve the recommendation of the paper under discussion, subject to review of reports on fallout data. Mr. Strauss said that with respect to the letter to the President (AEC 944), he could delay this letter in order to permit Mr. Libby to review the reports.

Mr. Salisbury then commented on the desirability of including a statement on the radiological criteria in the

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public announcement on the test series. In response to a question by Mr. Strauss, Dr. Dunning said there was nothing in the recommendations of AEC 141/33 which would prevent the Commission from referring to the NAS report as an authority on the matter of radiological criteria.

Mr. Murray referred to Mr. Salisbury's comments on the need to include the established radiological criteria in the public announcement and suggested that the press release be delayed until Mr. Libby reviewed the reports on fallout data. Mr. Murray said that he did not wish to approve the paper with the ten roentgen figure in it until this had been done. The Commissioners then discussed the problem involved in delaying the public announcement in AEC 944.

General Starbird commented on the time involved in obtaining DOD approval of the test activities outlined in AEC 944. Mr. Salisbury observed that the announcement would be reviewed by the OCE after Presidential approval of the test activities, and Mr.

Libby observed that there appeared to be ample time to review the fallout data reports prior to a public announcement.

Mr. Libby then requested that it be determined whether the ACBM has changed its position on the 10-year limit at 10 roentgens. Mr. Strauss requested that the ACBM position be confirmed in writing.

After further discussion, the Commissioners indicated that they favored adoption of AEC 141/33 with the understanding that Mr. Libby would establish the 10-year limit on exposure at a figure not exceeding 10 roentgens.

The Commission:

a. Approved the radiological safety criteria for gamma radiation set forth in paragraph 3 of AEC 141/33, with the understanding that after review of radiation effects data, Commissioner Libby may establish the 10-

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year limit at a lower level than that referred to in subparagraph 3b of AEC 141/33;

b. Noted that the criteria finally established in accordance with a above will be made public in the NTS test series announcement similar to that in Appendix "H" to AEC 944;

c. Noted that operational means for giving effect to the criteria finally established in accordance with a above will be developed by the Test Manager and the Division of Military Application with the technical guidance of the Division of Biology and Medicine; and

d. Noted that when the criteria are finally established, the Joint Committee on Atomic Energy, the GAC, and the MLC will be advised of this action by letter similar to that in Appendix "B" to AEC 141/33.

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