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OFFICE MEMORANDUM

THIS DOCUMENT CONSISTS OF 2 PAGES
NO. [redacted] OF [redacted]
DATE: 6 May 1953
25796

TO : C. L. Tyler, Manager, Santa Fe Operations Office
FROM : N. E. Bradbury
SUBJECT: Future Full-Scale Weapons Tests
SYMBOL : DIR- 826

CLASSIFICATION CANCELLED
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C. E. Wilson 2/1/85
Diaz 4/22/86

1. In the subject document, at the bottom of page 5, appears the sentence:

"It is recognized that UCRL may be interested in a more intensive test program than is required by IASL due to their more basic and fundamental research and testing and the possibilities for more observable advancement in their particular weapon area."

While the exact meaning of this sentence is not clear, the IASL must take some objection to the apparent inference therein. The program of UCRL is not more basic and fundamental than that of Los Alamos, nor are there possibilities for more observable advancement in their particular weapon area - whatever their particular area may be. (There is a widespread impression that their "area" is thermonuclear. However, in every device known to us in which they are seriously interested, the major source of energy release is ordinary fissionable material.)

2. As far as is known to the IASL, the UCRL is interested in the development of a certain type of radiation implosion geometry which might have some application to weapons of rather high yield in reasonably small size. Such weapons would use primarily active material with some boosting through the possible use of [redacted] another. The IASL has pointed out on a number of occasions that such an objective is identical with that of our so-called [redacted] type of implosion geometry which is more amenable to prior calculation and with which we now have had considerable experience.

3. The recent experiments of UCRL at Nevada are not indicative of fundamental research in the weapon field, but might better be thought of as experiments to determine certain nuclear cross sections of only problematical weapon interest. It will always remain a debate as to whether it was preferable to utilize Nevada time and expensive fissionable material for such measurements which alternatively might have been done in a laboratory with almost as much utility for weapon calculations. Actually, [redacted] systems per se were explored and discarded by the IASL several years ago without recourse to full scale testing. Certainly these systems offer questionable possibilities for "more observable advancement" and the results of the test indicate that the prospects for this approach are even less than UCRL qualitatively supposed.

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4. We believe it fair to say that UCRL is not only extremely limited in its theoretical staff at the present time, but it is interested in systems for which a theoretical analysis is extremely difficult. On this basis, it is understandable that they should suggest a more rapid test program - particularly if there exists a relatively relaxed philosophy in the Commission with respect to the justification for test operations and the use of fissionable material, and if the actual conduct of the operations is not a UCRL responsibility.
5. We completely concur and have pointed out informally on a number of occasions that there does exist a completely different philosophy with regard to full scale testing in the two laboratories. We have also pointed out that the UCRL program of "basic and fundamental research in their particular weapon area" in the CASTLE program is very likely to interfere directly with the IASL program of providing maximum national emergency capability in large yield weapons in the shortest possible time. We have no solution to this dilemma and expect no solution to be provided by the Commission without a fundamental change of philosophy which we have no reason to expect or anticipate. With respect to CASTLE, we shall endeavor to maximize the weapon design information which can be obtained from four shots without reference to the relative utility for this purpose of the additional experiments proposed by Livermore.
6. The appearance of this statement within the Atomic Energy Commission, coupled with the recent article in Fortune, we regard as most unfortunate. I should be happy to have you forward these remarks to General Fields, if you concur, in partial clarification of the situation which seems to be widely misunderstood.

NEB/hrg



N. E. Bradbury
Director

- 1A, 2A, 3A - C. L. Tyler
- 4A - Reading File
- 5A - File

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