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LAMD - 470
C. 38 A

ADWD-217

FAMILY COMMITTEE
Minutes of Twenty-Seventh Meeting
November 15, 1950

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DEPARTMENT OF ENERGY DECLASSIFICATION REVIEW
1ST REVIEW-DATE: 8-20-87 DETERMINATION [CIRCLE NUMBER(S)]
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2ND REVIEW-DATE: 3. CONTAINS NO DOE CLASSIFIED INFO
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(6) CLASSIFIED INFO BRACKETED

A. Attendance.

The twenty-seventh meeting of the Family Committee was held Wednesday, November 15, 1950 at 1:15 PM in Room B-117. Those present were:

N. E. Bradbury	M. G. Holloway
J. C. Clark	E. R. Jette
F. de Hoffmann	D. P. MacDougall
D. K. Froman	J. C. Mark
R. W. Goranson	E. Teller, Chairman

B. Minutes of the Twenty-sixth Meeting.

The Committee unanimously adopted the minutes of the twenty-sixth meeting as reported in ADWD-206 with the following corrections:

On page 2, in the sixth line of the first paragraph of Item D, the word "radium" should read "radius".

On page 4, 5.11.2, substitute 3/8" instead of 3.8".

C. [redacted] DOE b(3)

The Committee discussed memorandum CMR-9-261 from Ed Hammel to de Hoffmann, which is attached to these minutes as Appendix A. [redacted] DOE b(3)

D. Scope of Committee Work.

In line with the discussions reported under Item E of the twenty-sixth minutes, the Director presented his views concerning the scope of the work which the Committee should undertake. Bradbury reiterated that basically his original directive envisaged the Committee to be one that would deal with all the thermonuclear phases of the laboratory program.

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He recognized that in line with the current laboratory program Greenhouse had taken up almost the entire time of the Committee. It is hoped, however, that from now on the Committee will be able to turn its attention in an increasing manner to those phases of the laboratory program on thermonuclear work that should be undertaken after Greenhouse and to long range questions of achieving any kind of thermonuclear weapon. It was agreed that the Committee should not restrict its attention solely to super-type weapons but that such items as the alarm clock, boosted weapons, etc., should also be examined.

As to the procedural way in which the Committee is to operate, the Director expressed the hope that the Committee would continue to be essentially a "line function" type structure so that the Director could look to it both for direction as well as action in the thermonuclear field.

E. Longer Range Problems.

Teller reported on the status of some current calculations and ideas and these are summarized below.

[redacted] This has been necessitated by the fact that almost all theoretical manpower available has been needed to make detailed calculations for Greenhouse and because some of the work is, of necessity, shifting towards a more detailed examination of the inverse Compton effect as detailed below.

DOE b(3)

[redacted]

DOE b(3)

DOE b(2)

2. Boosted Weapons.

At the moment essentially no effort is being devoted towards the further exploration of boosted weapons. This has come about almost automatically since the lack of theoretical manpower (between that needed for

Greenhouse and that going into ignition and propagation considerations for the super) did not permit this work to be carried on. Since the boosting principle would be of greatest interest for small weapons, it was agreed that the lack of effort on this problem was reasonable until after such a time as small weapons were explored more completely at Greenhouse.

[redacted] DOE b(3)

3. Alarm Clock.

[redacted] DOE b(3)

It is recognized that the volume involved would be quite large since the final yield is determined

by the total volume. It should be emphasized strongly that these estimates of the initial conditions required are exceedingly uncertain.

DOE b(3)

In view of this the possibility of performing machine calculations is being explored. Such a machine calculation would tell one more definitely whether the alarm clock idea was worthwhile and if so in what direction it should be pursued.

DOE b(3)

4.

DOE b(3)

DOE 6(3)

5. Magnetic Fields.

Several years ago, it was recognized that one could improve the chances of making a workable super by the use of very large magnetic fields. Such magnetic fields would have two beneficial effects, namely:

DOE 6(3)

DOE b(3)

F. Next Meeting.

The next meeting of the Committee is to take place Friday, December 8, 1950.

DOE b(3)

Distribution:

1A	N. E. Bradbury	25A	E. Teller
2A	W. C. Bright	26A	" "
3A	S. W. Burriss	27A	" "
4A	J. C. Clark	28A	" "
5A	D. K. Froman	29A	" "
6A	R. W. Goranson	30A	J. von Neumann
7A	A. C. Graves	31A	J. A. Wheeler
8A	G. K. Hess	32A	Document Room
9A	M. G. Holloway	33A	" "
10A	E. R. Jette	34A	" "
11A	" " "	35A	" "
12A	J. M. B. Kellogg	36A	" "
13A	J. L. Tuck	37A	" "
14A	D. P. MacDougall	38A	" "
15A	" " "	39A	C. Longmire
16A	D. P. MacMillan	40A	R. W. Spence
17A	J. H. Manley	41A	A. C. Graves
18A	J. C. Mark	42A	R. C. Smith
19A	H. C. Paxton	43A	W. E. Ogle
20A	F. Reines	44A	E. Teller
21A	" "	45A	" "
22A	" "	46A	" "
23A	A. R. Sayer	47A	" "
24A	R. F. Taschek	48A	" "

APPENDIX A

OFFICE MEMORANDUM

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To: F. de Hoffmann

From: E. F. Hammel

Subject: TEMPERATURE AND DENSITY OF TD MIXTURE IN SILEX

Symbol: CMR-9-261

[DOE b(3)

According to ADWD-178, this difference in temperature will alter the density of the mixture by about 4%.

DOE b(3)

It is believed that the 10-hour period will be acceptable to J Division.

DOE b(3)

Intensive efforts are now being made to tie this number down.

DOE b(3)

E. F. Hammel

EFH:VB

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