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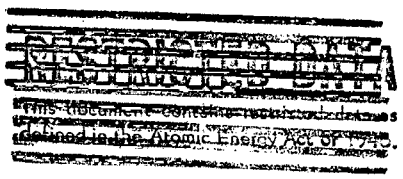

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SUMMARY OF MEETING ON MATERIALS TESTING ACCELERATOR

Meeting held at 1:00 P.M., February 14, 1950 in Building 50, University of California Radiation Laboratory.

Present: E. O. Lawrence, W. B. Reynolds, E. M. McMillan, L. W. Alvarez, E. J. Lofgren, W. H. K. Panofsky, H. Gordon, M. Martin, R. Serber, W. M. Brobeck, J. S. Norton, G. Farly of University of California Radiation Laboratory. J Cope and J. Kent of California Research.

Specifications of the Accelerator were discussed and the following agreed to subject to reservations noted:

Beam energy	27 Mev.
Average beam current at target	50 ma.
Maximum tank diameter	36 ft.
Length of accelerating cavity	60 ft.
Duty factor	20 %
Peak beam current	250 ma.
Minimum pulse duration	10 millisecs.

Oscillator plate power supply rating 25 MW Peak 6 MW Av. determined as follows:

	Peak	Av.
Accelerated beam load	6,750 KW	1,350 KW
R.F. Losses estimated during pulse	7,000	1,400
starting and stopping		600
Parasitic beam load	1,250	250
Total R. F. power	15,000	3,600
Oscillator plate dissipation at 60% plate efficiency	10,000	2,400
Oscillator plate power	25,000 KW	6,000 KW

Injection voltage	300 KV
Injection power supply load current	2A
Pump down time	3 hours
Number of diffusion pumps	24 with provision for increase to 48 if required

Summary of Meeting on Materials Testing Accelerator

Oscillator tube type	Federal D 50
Oscillator tube peak RF output	1000 KW
Number of Oscillators	16 single tube units with provision for change to 16 two tube units if required
Number of Bre-exciters	2
Number of Absorbers for voltage limiting	4

25 Megawatts of plate power is to be assumed as a firm figure unless the estimated power is found to be wrong in future calculations or model tests. If the parasitic beam load is higher than estimated the peak beam will have to be reduced and the average beam correspondingly reduced unless the power supply and oscillators can be run above their ratings.

Provision for increasing the pulse length may be made if it is possible without appreciable increase in cost.

It should be noted that no tests have yet been made on the Federal D50 tube. There is some question whether these tubes are good for as high as 20% duty factory at the 1 megawatt rating.

The subject of a separate lining versus copper clad steel for the tank was discussed. Decision is to be made by February 24. Calculations to determine if a step in the diameter of the tank is required will be completed by February 16.

WMB:FP

2-15-50

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