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MINUTES OF MEETING OF MTA REVIEW COMMITTEE
HELD DECEMBER 20, 1951
AT LIVERMORE, CALIFORNIA

Milton F. Moore

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MINUTES OF MEETING OF MTA REVIEW COMMITTEE
HELD DECEMBER 20, 1951
AT LIVERMORE, CALIFORNIA

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Present: UCRL: Alvarez, Brobeck, Bradner, Cooksey, Latimer, Lawrence,
Lofgren, Norton, Reynolds, Thornton, Van Atta

UCRL: Consultant - Pitzer

CR&D: Cope, Hildebrand, Mayer, Milton, Powell, J. Powell

AEC: Campbell, Derry, Fidler, Fleckenstein, Moore, O'Donnell

Twitchell reported that drift tube number 6 had been suspended in the tank. Tube number 8 will be delivered tomorrow. The remaining drift tubes are in final assembly and cleaning stages. It is hoped that all drift tubes can be installed before the first evacuation with Hg diffusion pumps the middle of January. All drift tube stems have been delivered to Livermore with the remaining gear already assembled at Berkeley and awaiting shipment.

Thirteen oscillators have been tested at high power but are not ready for shipment until a water circuit for the grid suppressor rings has been added. Eighteen oscillator tubes have been tested, with 12 tubes found in useable condition.

Both the pre-exciter have been tested and found in good condition. Pre-exciter and transmission lines will be shipped early in January. The rf crowbar equipment is almost finished. The ion injector is expected to be tested and ready for shipment to Livermore on January 15.

Hildebrand desired to know whether the vacuum testing of the vessel should take place before the rf testing with all drift tubes in place. Mayer suggested making the vacuum test first and while down for minor repairs (approximately 15 days) the remaining drift tubes could be installed.

Leaks have been found in several transmission lines at the loop gasket seal and the lines will be removed from the vessel.

Brobeck stated that since it is possible to evacuate around the transmission line seals and thus prevent leaking, this should be done to prevent delaying the scheduled operation date.

Mayer stated that Myvaseal was no longer available from DPI. Since it is not known when more will be available, it was suggested that Hycar seals be obtained and used even though this seal has a higher vapor pressure.

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All the Hg diffusion pumps have been returned from DPI. The liquid N₂ system is almost completed.

Miller stated that at present the high conductivity in the distilled H₂O system was causing some trouble. The main impurity is Calcium. Since high conductivity in the cooling system may cause trouble in the drift tubes and ion injector, it was felt this impurity should and would be removed by using an ion exchange by-pass column.

Lawrence stated that Baker had cleaned the sphere in the B-1 cavity with a white cotton glove. Upon loading the cavity to 2.15 Mv, the X-ray level was reduced by a factor of 250 over previous results. The sparks now occur about one every hour. It is felt that removal of dust by the cotton glove is mainly responsible for this large reduction in X-ray level and that X-rays no longer present a problem.

Hildebrand reported that model work has started on the long drift tube test. The gap splitters will be designed with smooth surfaces with provision to attach ridged plates to study the effect on electron multipactoring.

Hildebrand mentioned that since the distance between drift tubes is the order of inches on the first few drift tubes in Mark II, it is not known whether the drift tube stems can be designed to prevent the magnets from touching one another. A 1/3 size scale magnetic model will be built to determine the magnetic forces required to decide this problem.

Lofgren reported that a new ion pump was being assembled to be installed on the B-1 cavity. A new effect has been noted in the operation of ion pumps. If air at 1000 l/sec. is admitted, no increase in pressure is noted. If argon under above conditions is admitted, the pressure rises instantly. Selective gas adsorption is thought to account for this.



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