

M-154

MARK IV REDESIGN COMMITTEE

MINUTES OF MEETING NO. 7

November 19, 1959

In attendance: F. Adams, B. Bunker, A. Crabtree, P. Edwards, W. Gallagher, D. Goetz, O. Kraus, G. Loew, R. B. Neal, R. Sund, T. Zinder.

The meeting began with the distribution of minutes of Meeting No. 6.

After study by all members present, the minutes were accepted as written.

Discussion

The over-all drawing of the upstairs equipment layout, plus a detailed drawing of the pumping system for the klystron window and waveguide were discussed. Among the points discussed was the complications of the individual pumping systems vs. manifolded systems; also, the relative pumping speeds using a 2 1/2" manifold, compared with the present 3/4" manifold. The next point discussed was whether it would be feasible to use a single large hi-vacuum manifold, spanning the distance between K_1 and K_2 versus the individual hi-vacuum pumps as was illustrated on the drawing. It was also considered that it might be possible to extend the 12" hi-vacuum manifold from the trench to the upstairs sections, thereby connecting the two hi-vacuum manifolds into a single system. This idea was rejected. It was believed the basic supporting system for the waveguide section should be independent of any other support system. The Zeolyte trap was discussed at short length as to the method of operation, the frequency of baking the trap, reliability and the pressures obtainable with this type of trapping.

A memorandum from Dr. Loewinger to Mr. Crabtree, dated November 13, 1959, was brought to the attention of the members so that the group would be aware of the interests of the Biophysics personnel in the Mark IV redesign. The items were as follows:

1. Maintain gauss-meter probe in second magnet.
2. Maintain adjustable energy slits and a suitable collimator.
3. Centerline of beam above floor to be no greater than five feet.
4. The centerline of the beam to be no closer to the west wall than at present.
5. Accelerator tube extension into the experimental vault to be no longer than is necessary, and if possible, about six inches shorter than at present.
6. The scattering material mounted permanently in the beam to be held to a minimum value.

Decisions

1. To utilize individual pumping systems for the klystron window and waveguide sections of a design similar to one illustrated by Mr. Zinder.
2. That the support for the waveguide sections would be separate from all other systems as would the vacuum system supports.
3. The above articles of interest to the Biophysics group would be followed as much as possible.

The next meeting is scheduled for December 3 at 10:30 A.M.