

M-173

MARK IV REDESIGN COMMITTEE

MINUTES OF MEETING NO. 8

December 3, 1959

In attendance: F. Adams, B. Bunker, A. Crabtree, P. E. Edwards, D. Goerz, O. Kraus, G. Loew, R. B. Neal, R. Sund and P. Zinder.

The meeting began with the distribution of minutes of Meeting No. 7, and the topics for meeting No. 8. After study by all members present the minutes were accepted as written.

Discussion:

The water jacket design was laid out on the table, and various points were discussed. Some of the points discussed were: The water flow should be 10 gal. per minute in Stage 1 and 40 gal. per minute in Stage 2; the method of assembly and the necessity of constructing a test section; could plastic metal be used on any of the stainless steel flanges since these have to be water tight only. Will there be a necessity of cooling the initial cavity. It was computed that the present pitch of 1 1/2" approximately would allow only a flow of 10 gal. per minute, therefore possibly the pitch should be doubled.

The drawing of the accelerator support system was laid out and discussed. The probability of being able to make basic adjustments in increments of 1" and then having fine adjustments for the final inch was discussed and determined to be practical. The plan is to utilize the basic major adjustments and then the final fine adjustment for horizontal and vertical motion.

The next point for discussion was the manifolding system upstairs in respect to the single vs. the double output klystron. Also discussed at this time was the vacuum connections to the waveguide--should they be in the E or the H plane?

## Decisions

1. To move the high voltage power supply to the west wall.
2. To manifold the upstairs portion using one diffusion pump.
  - a. The upstairs manifold to be 4" dia. with a 2 1/2" dia. connecting manifolds.
  - b. The window connection to use a 1" right angle copper knife edge valve.
  - c. The diffusion pump to be a 3" HEC 720.
  - d. No roughing manifold will be provided but will use portable pumps instead.
  - e. To plan on using the new klystrons as single output klystrons for the vacuum manifold system upstairs.
  - f. To make the vacuum connections in the E plane.
3. To move  $K_2$  to a vertical position in respect to  $K_2$  input to the accelerator.
4. To order a 12" manifold now because of the steel strike. This will consist of four 10' sections.
5. To go into production on the rectangular quick disconnect waveguide flange.
6. To begin production of the 1 and 2 1/2" manifold equipment, i.e., the flanges, bellows and valves for both sizes, excluding the 2 1/2" valve.
7. To use 3 HEC 720 pumps downstairs instead of the <sup>2</sup>BN 1440 pumps
8. To change the pitch of the spiral rod in the accelerator water jacket from 1 1/2" to 3".
9. To provide for tuning the accelerator after final assembly.
10. To make the accelerator adjustments in two stages as discussed.

Next meeting scheduled for December 10 at 10:30 A.M.