

MARK IV REDESIGN COMMITTEE
MINUTES OF MEETING No. 12
Feb. 25, 1950

17-177
Special

In attendance: W. Galligher, D. Goetz, G. Lowy, R. B. Neal

Discussion:

The discussion centered around the schedules for Mark IV Redesign, and what the various tests on the accelerator would include.

Decision:

The schedule for testing and Mark IV Conversion would be as follows:

<u>Time</u>	<u>Date</u>	<u>Operation</u>
2 wks	April 18-29	Retest of $\pi/2$ sections
1 wk	May 2 - 6	Install new $2\pi/3$ sections
3 wks	May 9 - 27	Test new $2\pi/3$ sections
5 wks	May 30-July 22	Conversion to new system
8 wks	July 25-Sept 19	Test & shakedown new system

The testing of the $\pi/2$ & $2\pi/3$ sections would consist of the following:

Spectra Tests

Current - Pre-buncher effect

Section I

Section II

Synchronous

De-synchronous

Loading Tests

Shunt Impedance (with recorder)

Current Transmission Tests

With Pre-buncher

with lens

without lens

Beam Break-up Tests

III current gun (with & without pre-buncher)

specifications on III current gun

Amp 1.5

Oxide cathode

12 kv grid

Modulator

1.5 μ sec pulses injector & grid.

Re-radiation experiments - Section II

Reactance loading

Section II

Phasing calibration

Beam position vs. position of injector

Monitoring equipment required for tests.

rf Monitor

Input

Sect. 1 & 2 thermister

Pre-buncher thermister

Output

Sect. 1 & 2 Thermister

rf input 2

rf output 2

rf SAS-60

rf V87C

Sect I

Sect II

Power V 87C

(+2 rf cables)

Current Monitor

Straight ahead

10' Faraday cup

10' straight ahead

Analyze 20'

Faraday

Ion Chamber

Injection pulse calibrated

Grid pulse calibrated

Input current

Magnet with good regulation 10'

Magnet with good regulation 20'

Equipment necessary for the job is as follows:

Klystrons

2 good ones @ 15 megawatts ea.

4 windows plus 4 spares

Calibrated coupler for pre-buncher

Input I & II

Output I & II

V 87C operational

SAS-60 operational

Construct 20 db coupler installed on K_1 input

Collimator remote operation 10' & 20'

Beam Detector 10' (remote operation)

Phase shifter (hi power)

Oxide gun plus spare

Modulator rebuilt - flat injection pulse

Peaking strip

Window protection (vacuum)

X - Y recorder installed

The next meeting is scheduled for February 26, 1960.