

M-191

Special

MARK IV REDESIGN COMMITTEE  
MINUTES OF MEETING NO.14

April 28, 1960

In attendance: A. Crabtree, P. Edwards, G. Loew, R. Neal

Discussion

The MK IV program schedule was discussed in reference to availability of machine shop personnel to assist in this work.

The "MK IV Master Osc. & RF Driver" bids by Granger Associates, Hughes Inc., and Sperry Inc. were discussed by members present.

Decision

Due to extra work in MK IV the start of retest of  $\pi/2$  sections will be delayed until May 5, 1960. (ref. attachment one.)

MK - IV PROGRAM

To May 4, 1960

K - 1 Station klystron (Mk III unit) installed.

Status;

13 Mw at sat. drive & 300 kv beam pulse. Process completed.

Window on vac protection.

Phase shift.

2 micro.sec period:  $10^{\circ}$  excursion.

Mid 1 micro.sec. period:  $4^{\circ}$  excursion.

Spark gap serviced.

Tank filled with marcol oil.

Beam pulse current transformer installed.

May 4. Completion PFN adjustments

K- 2 Station klystron in place.

Status;

Window on vac. protection.

Spark gap serviced.

Beam pulse current transformer installed.

May 4. Process tube.

Completion PFN adjustments.

Accel.

Status;

Vac. gage #1 reads  $5 \times 10^{-6}$  mm.

Accel. alignment checked  $\pm 1/16''$ .

Sect. I & II remote oper. collimators installed.

Accel. operation checked using Ta gun.

May 4. Check defl. curr. regulator.

Design magnet flux detector.

Arrange degaussing system.

Electron Gun

Status:

Ta gun and assembly removed.

Prebuncher focus coil removed.

Gun pulse transformer installed.

Gun section vac. pump-out installed.

Gun pulser rack in place on concrete shielding over trench.

April 30

Gun controls.

Install inj. control at console.

" dual grid control at rack and console.

Connect grid & inj. pulse cables.

Provide combination 50 ohm pulse load and 50/1  
res divider for conn. at PT.

Connect grid & inj. pulse monitoring cables to console.

Connect grid and inj. trigger cables to rack.

Provide safety features:

Wire cage over gun using 8" metal to metal elect. clear.

Grid & Inj. rectifier contractor stop buttons in  
trench at gun.

Inj. rectifier contactor stop button at rack.

May 3 . Completion of gun pulser installation.

Check gun pulser on dummy load.

Gun Vacuum System

April 30 Install vac control & mon.

Install remote vac. meter at gun pulser rack.

Connect present A-2 vac-meter at console to gun.vac.

Run in power from trench vac. control panel  
emergency power.

May 2 . Make up & install vac manifold.

May 3 eve. Gun cath conversion.

May 4 Check operation gun.

May 5 - May 23 : Retest  $\pi/2$  sections.

Measurements to be made with and without pre-buncher.

1. Behavior of accelerator tubes under rf power.
2. Spectra Test and Phasing.
3. Loading tests.
4. Current transmission tests.
5. Reradiation experiments.
6. Reactance loading.
7. Beam break-up tests.

May 24 - May 28 . Install 2  $\pi/3$  sections.

May 30 - June 20. Test 2  $\pi/3$  sections.

June 20 - Aug. 15. MK-IV changeover.

Aug. 15 - Oct. 15. Test and shakedown of new system.