Blumberg
NO. 39

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FEB BEAM COMMISSIONING STUDY. WED. OCT. 3, 1973

Bennett, Blumberg, Glasmann, Guthy, Keane

SCHEDULED : 0001-0800 ACTUAL : 0500-0800

OBJECTIVES: ESTABLISH CONDITIONS FOR 30 GeV/c. CHECK LINEARITY OF CURRENT TRANSFORMER AND PICK-UP ELECTRODE SIGNALS.

1. 5 HOUR LOSS DUE TO PROBLEMS WITH ACME POWER SUPPLIES #440 AND #444.

2. SET UP FULL EXTRACTION OF DETUNED ($\sim 1.5\ 10^{12}$) MACHINE ON RISING PART OF MACHINE CYCLE. $t_{extract} = 657$ msec AT GAUSSCLOCK 59320 (F. TURKOT 3/8/73 CALIBRATION). $t_{flattop} = 665$ ms. SPOT IS $\approx \frac{1}{16}$" HIGH AT U15, CENTERED AT U165, AND $\frac{1}{2}$" OUTSIDE AT U273. NO EFFORT WAS MADE WITH HORIZONTAL ALLIGNMENT BECAUSE DIPOLES UD1,2,3 CANNOT BE VARIED FROM MCR.

3. NOTED $\sim \frac{1}{4}$" JITTER IN HORIZONTAL POSITION AT U15.

4. DID A CAREFUL VERTICAL ALLIGNMENT. REVERSED POLARITY OF PITCHING MAGNET UP1 FROM UP TO DOWN AND UP2 FROM DOWN TO UP.

5. CHECKED RATIO OF INTEGRATED SIGNALS FROM U273 CURRENT TRANSFORMER, U15 CURR. TRANS AND U100 PICK-UP ELECTRODE TO U15 INSULATED PLATES AT CBM = $1.5\ 10^{12}$ p/p AND 4.7×10^{12} p/p. RATIOS ARE IN GOOD AGREEMENT AT THESE TWO BEAM INTENSITIES; SCATTER IN POINTS IS ABOUT 3%.

PROBLEMS:

1. ACMES #440 AND #440 NOT CONTROLLABLE BY DATACON. FREQUENT "OVERTEMP" TRIPS AT 3100A, EVEN ON LOCAL CONTROL.
2. INCESSANT TRIPS OF QUAD POWER SUPPLY #150-1 ON "MAGNET FAULT". LATER DISCOVERED PROBLEM IS INTERMITTANT WATER FLOW FROM N. AREA COOLING TOWER. AIR BUBBLES IN LINE.
3. UQ1 SHUNT SIGNAL HAS $\sim \pm .4$ mV DRIFT AROUND 65 mV.
4. REVERSING SWITCHES FOR CHRISTIE POWER SUPPLIES WOULD BE VERY CONVENIENT.