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AGS Complex Machine Studies

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Protons Incident on the Booster Dump in 1996

Study Period: November 15, 1995 to December 23, 1996

Participants: E. Bleser and P. Ingrassia

Reported by: E. Bleser

Machine: Booster

Beam: Normal Protons

Tools: Thermoluminescent detectors mounted in Booster tunnel

Aim: AGS-OPM 2.5 (1/4/93) specifies that the total number of 1.5 GeV equivalent protons deposited on the Booster dump in a year shall not exceed 2.5×10^{19} . This note reports the results of the monitoring program for 1995.

PROCEDURES

The procedures are detailed in AGS Studies Report No. 301.

RESULTS

Table 1 summarizes the data used in this report. The calibration run in 1993 put 1.88×10^{15} protons into the dump. Using this number we calculate in Table 2 that in the 13 months ending December 23, 1996 we had put 1.6×10^{19} protons into the dump, getting close to the allowed level of 2.5×10^{19} per year.

TABLE 1					
BOOSTER DUMP MONITORING TLD RESULTS					
RESULTS FOR FY 1996					
"Net nC" for TLD-700 Units					
RUN NUMBER	1	2	3	4	CALIBRATION
INSTALLATION DATE	11/15/95	2/9/96	5/30/96	10/10/96	7/22/93
REMOVAL DATE	2/9/96	5/30/96	8/14/96	12/23/96	7/22/93
DATE OF REPORT	9/24/96	9/24/96	11/15/96	2/25/97	7/30/93
DETECTOR					
3A	56	1,065,159	247,178	74	160
3B	63	1,045,993	222,629	72	135
4A	40	532,580	121,356	36	79
4B	37	555,471	99,818	31	70
5A	62	310,319	56,619	55	44
5B	55	NA	62,888	61	40

TABLE 2

SUMMARY of RESULTS

RESULTS FOR FY 1996

RUN NUMBER	1	2	3	4	CALIBRATION
AVERAGE OF MEAS/CALIB	0.8	7235.8	1501.4	0.8	1.0
STD	0.5	598.6	123.3	0.5	0.0
TOTAL PROTONS	1.5E+15	1.4E+19	2.8E+18	1.5E+15	1.9E+15
TOTAL 1.5 GEV EQUIVALENT					
PROTONS ON DUMP				1.6E+19	
OPM LIMIT FOR DUMP				2.50E+19	