

**SLAC Memorandum**

**Date:** November 26, 2001

**To:** Dave Burke

**From:** W. R. Nelson *WLN*

**Subject:** Integrated doses around the NLCTA during 2<sup>nd</sup> and 3rd quarters of 2001

The integrated doses for the Area Monitors placed around the NLCTA during the six-month operational period of April 1 through September 30, 2001 (Spring & Summer 2001) are given in Table 1, where they are compared with the previous six-month period (Fall 2000 & Winter 2001).

Dosimetry reference information

The dosimeter used at each location consisted of a bare 4-element Panasonic TLD (service provided by OHP) placed inside a 5"-diameter polyethylene cylindrical moderator. All dosimeters had a neutron calibration factor of 2.9 mR\*/mrem, based on the conservative field calibration factor measured at the FFTB and the <sup>137</sup>Cs photon calibration factor based on photon energy results derived from the dosimeter dose algorithm [1]. Note that the detection limit of the dosimeter was 5 mrem for both neutrons (< 20 MeV) and photons.

Reference

[1] James Liu, et al., "Use of LiF and Panasonic TLDs inside 5" and 6" polyethylene moderators for area dose monitoring at SLAC", Radiation Physics Note 99-14, Revised, March 21, 2000.

**CC:** Keith Jobe, Marc Ross, Steve Frey, Roger Sit, Sayed Rokni

Table 1. Area Monitoring results (mrem) around the NLCTA

Location	DESCRIPTION	Fall 2000 & Winter 2001			Spring & Summer 2001			Difference
		Photon	Neutron	TOTAL	Photon	Neutron	TOTAL	
F34-A	S side, outside wall by Faraday cup, on floor	3	0	3	4	0	4	1
F34-B	NLCTA Control Room, BLDG 128	0	0	0	0	0	0	0
F34-E	BLDG 237, on deck	0	0	0	0	0	0	0
F34-R	Roof, above beam dump	4	0	4	2	0	2	-2
F34-S	Roof, above Farady cup, on BSOIC	4	0	4	4	0	4	0
F34-T	Maze entrance, beam dump end, east entrance	0	0	0	0	0	0	0
F34-U	Inside ESB, east of Klystrons on NLCTA wall	0	0	0	1	0	1	1
F34-V	West End PPS	0	0	0	0	0	0	0
F34-W	Outside wall, S of beam dump	3	0	3	1	0	1	-2
F34-Z	N side, outside wall by Faraday cup, on BSOIC	0	0	0	2	0	2	2
G34-A	Bldg 225, Inside on wall	0	0	0	0	0	0	0
G35-A	Bldg 104C, Next to Door, on wall, inside	0	0	0	0	2	2	2