



Fermilab
ES&H Section

July 26, 2002

TO: Bruce Baller and Nancy Grossman

FROM: Kamran Vaziri

SUBJECT: Comments on the Neutrino Beam Monitoring Review - July 24, 2002

I think the designs of these monitors are pretty advanced. A lot of issues have been addressed. This was a technical review, however, since I was on the review, I assume radiological comments are relevant.

1. After the review, I did a detailed calculation for a 40Rad/hr on contact square source of 32" sides. At one foot the dose rate is down to ~44%, at 10ft it is about 1%. I will be happy to provide the details of my calculations.
2. In evaluating the total incurred dose per job, reasonable credit should be taken for the use of temporary shielding for the hot jobs. This also indicates that ALARA principles are included in the estimates.
3. The dose incurred due to replacement or repair of muon monitors in caves 1,2,3, and should also be estimated. If any of the total doses is significant, it should be added to the total accumulated dose table that Nancy is compiling. (These estimates are needed for the regulatory purposes also.)
4. Is there any significant beam induced signals directly in the hadron monitor cables?
5. The Table in the presentation page "Activation of Hadron Monitors – 3 ways"; shows that for the 30-day irradiation of aluminum, cooling for one week instead of one day, gets you a factor of 280. This is much larger than I have seen in the standard literature or in the results from AP0 NuMI material irradiations. Please check these factors.