

MEMORANDUM

To: R. Michaels, K. de Jager

From: Pavel Degtiarenko

Subj: E00-114 radiation budget

cc: D. Skopik, A. Hutton, R. May, E. Abkemeier

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Radiation budget form for E00-114 experiment

The updated estimate for the boundary radiation dose from the **E00-114** experiment is given in the attached table. The input data have been provided by Robert Michaels. Please contact me if you see any misprints or inconsistencies in the table content.

The boundary dose accumulation due to this experiment is estimated to be over 13 mrem, above the annual design goal not to exceed 10 mrem yearly dose accumulation at the JLab boundary. Dose rate averaged over the run time is approximately 940% of the design average dose rate, approx. 5 times the alert threshold of 200%.

Historically, our estimates exceed measured dose accumulation by 30-50%. Last Summer we had a chance to compare our estimates with measurements, in the experimental conditions close to the E00-114 setup (see attached copy of email to Dave Mack, sent on 6/17/2004). The results confirm the 40-50% overestimation in the Radiation Budget Form calculations. Still, even after taking that into account, the expected measured boundary dose accumulation of approx. 7 mrem due to this experiment alone, seems to be too close to the yearly limit. The Rad. Con. Group would have to take extra measures to guarantee reliable online boundary dose measurements during this experiment.

The results should be discussed with the Physics Division EH&S officer.