

Brookhaven National Laboratory

MEMORANDUM

Date: 02/13/98

To: *S. Ozaki

From: M. Harrison

Subj.: Limits on Beam Intensity

It would be desirable to have the combination of shielding and access restrictions adequate for the Safety Envelope of 4 times the design beam intensity in place before operations for physics running at RHIC begins in October, 1999. This should remain a goal of the RHIC Project to be achieved to the extent practicable.

However, I am aware that some uncertainties exist which may not be resolvable until fault studies are performed sometime during the first year of running. Furthermore, it will be important to raise beam intensity slowly in order that beam losses (and the optimal way of dealing with such losses) are understood well before any possibility exists that such losses could in any way become a safety or regulatory compliance problem. For planning purposes therefore, I would like you to ensure that appropriate procedures are in place to limit the beam intensity during the first year of running to half of the design intensity, the equivalent of 60 bunches of 5×10^8 Au ions at 100 GeV/u. This intensity is compatible with our goal of achieving 10% of design luminosity by the end of "year 1."

By adopting such a limit at the beginning of FY2000, I do not intend to prejudice achieving the goal stated in the first paragraph. Whenever possible, if reasonable confidence exists that additional earth and/or fence is required for the Safety Envelope limit at a particular location, then every effort should be made to provide it. One goal *during* the FY2000 running period should be to understand beam losses and the effects of such losses well enough to raise the procedural limit to that of the Safety Envelope as soon as possible without compromising radiation safety.

Approved:  2/11/98S. Ozaki
RHIC Project Headcc: T. Ludlam
S. Musolino
K. Reececopy to M. Harrison
T. Ludlam
S. Musolino
K. Reece
D. Lowenstein