

Radiation

Safety Minutes of RSC Subcommittee Meeting of December 16, 2008

Committee

Subject: Proposed Changes to the AGS North Gate and WGE2

Present: D. Beavis, R. Karol, L. Ahrens, P. Bergh, W. MacKay, K. Brown, J.W. Glenn, A. Etkin, P. Sullivan, V. Schoefer, and T. Shrey

The committee reviewed the proposed shielding upgrade for WGE2 and the issues of removing the shielding from the North and South Plug Door tunnel. In addition, the memo for reevaluation of some three-legged labyrinths at RHIC was discussed in preparation for a meeting later in the month to discuss the potential removal of the interlock functions of the RHIC chipmunks.

North Plug Door and WGE2

The committee reviewed the proposed changes¹ for WGE2 and the AGS North Gate area and endorsed most of the recommendations. The committee approved:

The proposed shielding be added to the WGE2 labyrinth. If possible four feet should be used as proposed since two feet may not sufficiently reduce levels outside the labyrinth. **(Ck-Fy2009-U-567)**

Surveys need to be conducted at startup so the outside area can be reconfigured and the alarm and interlock levels on the chipmunk (NMON218) reduced. **(Ck-Fy2009-U-568)**

The committee recommends that the proposed administrative limit 1.25×10^{17} nucleons-GeV is used. The RSC Chair will work with the MCR Group leader to have the limit placed into the appropriate operations procedure. There can be an approval process for approved short term higher limits. The committee endorses the idea of reducing legacy controls/mitigations that are intended for high intensity proton operations, which have potential impact on present operating programs. **(Ck-Fy2009-AGS-569)**

Any intended high intensity testing in the AGS will require review of the risk of beam losses near the North gate to be reviewed. **(Ck-Fy2009-AGS-570)**

The shielding from the North Plug door tunnel can be removed if desired. If the shielding is removed a fault study should be conducted at the North gate to verify the fault dose rates, if the impact of such studies can be limited. **(CK-FY2009-AGS-571)** The fault study can be done after initial operations have been started to the W-dump. The need for such a study is considered marginal but desirable.

South Plug Door

The committee agreed unless studies show otherwise that the same beam fault potential can occur near the South Plug door tunnel as the North Plug door tunnel. It is estimated that it require a substantial portion of a shift for a rigging crew to remove the shielding or replace it. This usually occurs one to two times a year for almost 4 shifts of a rigging crew. It can cause delay when a replacement of a large object in the ring is necessary. The South Plug door tends to be more useful then the North since the old spectrometer magnet for the D6 beam line makes it difficult to get a flat bed in the North West Building. The committee thinks it would be useful to give the issue of removing the shielding from the South Plug door tunnel additional consideration at a future meeting.

Labyrinth Calculations for RHIC

A short discussion of the possible punch-through contribution for some three-legged labyrinths at RHIC was briefly discussed. This will be discussed in more detail at a future meeting. The motivation is to consider removing the RHIC chipmunk interlock functions and use the chipmunks only in alarm mode as active detectors.

References

1. D. Beavis memorandum, "[Proposed Changes to the AGS North Gate and WGE2](#)", Dec. 11, 2008.
2. D. Beavis memorandum, "[Labyrinth Calculations in the RHIC SAD](#)", Dec. 16, 2008

CC:

RSC
Present
P. Ingrassia
H. Huang
F. Pilat
RSC Minutes file
RSC U line file
RSC AGS file