

R. K. Reece

Minutes of Meeting: Radiation Safety Committee

Date: 26 March 1998

Present: W. Glenn, E. Lessard, W. MacKay, K. Reece, A. Stevens; R. Prigl, E. Schwaner.

Subject(s): E944 in the B1 beamline (Au), [also 1 shift E946 run]

The liaison physicist (R/ Prigl) presented a summary of the operating requirements requested for E944 (attached).

Background [E944]:

This experiment will run in the B1 beamline using the primary heavy ion (Au) beam. As noted in the outline, E944 intends to use the Au beam to study the charge resolution of several detectors. The beam intensity required at the detector location is $\sim 1 \times 10^3$ Au ions per pulse. However, since the experiment needs to conduct these studies at several energies, they will accomplish this by using a thick degrader in the B1 Secondary upstream area (just before B1D4) and a second thin degrader immediately after B1P1. To achieve the lower energies, the upstream thick degrader will be of sufficient length to attenuate the beam intensity by $\approx 99\%$. In this case, the initial beam intensity must be $\approx 10^5$ Au ions per pulse. The downstream thin degrader is then used as a vernier control of the final energy.

Summary [E944]:

Given that the following RSC check-off list items are completed, the RSC approved the operation of E944 in the B1 beamline using Au beam.

1. Two NMC units will be used in this experiment (**CK-B1-E944-01**). Although the present location for these units is in the "B" primary cave, the liaison physicist and liaison engineer should investigate whether it is possible, and experimentally practical, to install these in the B1 secondary area immediately upstream of B1Q3, (**CK-B1-E944-02**). 173
 2. The degraders (both thick and thin) must be identified and labeled by the LP and/or LE, (**CK-B1-E944-03**). 174
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3. Installation/removal of either degrader must be done by the LP or LE, (CK-B1-E944-04). 176
4. The B1 beamline must be fully enclosed using beam pipe, sonatube or heavy orange mesh, (CK-B1-E944-05). 177
5. These beam barriers must be posted "Do Not Remove ! Contact LE for Access.", (CK-B1-E944-06). 178
6. BC1 collimator must be set (CK-B1-E944-07) to limit the beam intensity to;
5.1. 1×10^7 Au ions per pulse, *if the NMC units are installed in the "B" primary cave, or,*
5.2. 1×10^5 Au ions per pulse, *if the NMC units are installed in the B1 secondary area.*
7. B1C1 and B1C2 collimators remain under experimenter control.
8. The shielding roof area around the B1 secondary area must be posted and controlled as a High Radiation Area, (CK-B1-E944-08). 180
9. Two interlocking chipmunks will be installed adjacent to the B1 secondary area;
9.1. on shield top adjacent to the U/S thick degrader; interlock = 50 mrem/hr and the alarm limit = 40 mrem/hr., (CK-B1-E944-09). 181
9.2. on shield top adjacent to the D/S thin degrader; interlock = 20 mrem/hr and the alarm limit = 5 mrem/hr., (CK-B1-E944-10). 182
10. Since the sweep includes verification that beam barriers are in place, only EAG/HP are authorized to conduct sweeps of these B1 secondary areas, (CK-B1-E944-11). 183
11. A sweep procedure must be written for these areas, (CK-B1-E944-12). 184

Background E946:

E946 (Westphal) has requested a < one shift run in the B1 secondary area to expose several samples of glass ingots.

Summary E946:

Given that the following RSC check-off list items are completed, the RSC approved the operation of E946 in the B1 beamline using Au beam.

1. Two NMC units will be used to limit the B1 secondary area beam intensity to 1×10^3 Au ions per pulse, **(CK-B1-E946-01)**.
2. BC1 collimator must be set to limit the beam intensity to 1×10^5 Au ions per pulse, **(CK-B1-E946-02)**.
3. The LP must be present for the duration (one shift) of the E946 run.
4. The LE should install a "remote handler" at the B1 secondary target location so that it can be loaded with several samples, installed and the sample locations changed from a location outside of the beam enclosure, **(CK-B1-E946-03)**.
5. The sweep procedure for these B1 secondary areas must be written and only permit the sweep to be done by two AGS personnel EAG/HP, **(CK-B1-E946-04)**.
6. A Controlled Access Procedure must be written that requires the liaison physicist (R. Prigl) and EAG/HP, **(CK-B1-E946-05)**. The RSC approved the use of a controlled access procedure for E946 only given;
 - 6.1. the LP or EAG/HP verify the area has already been swept and reset.
 - 6.2. the LP or EAG/HP act as a gate watch, allowing only the second team member to enter the area, (and complete the necessary changes/adjustments)..
 - 6.3. the team member inside is permitted then to simply find and reset the internal check stations).
7. Both degraders (from the E944 run) have been removed, **(CK-B1-E946-06)**.

cc: RSC (w/o attachments).
RSC file (w/attachments).