

Radiation

Safety Minutes of RSC Subcommittee Meeting of July 31, 2008

Committee

Subject: Design of Soil cap over the Relocated Linac HEBT Beam Stops

Present: D. Beavis, R. Karol, A. Javidfar, D. Raparia, A. Pendzick, K. Yip, and C. Pearson

The subcommittee reviewed and approved the design of the soil cap and to relocate one of HEBT beam stops.

The extent of the soil cap was based on the Calculations of G. Herczeg and K. Yip using MCNPX (see Reference 1). The cap is designed for an 4×10^{19} 200 MeV protons per year and to satisfy the BNL standard for known beam loss locations. The dimensions are similar to those in the previous design, which was to be placed over the existing location (see reference 2). The new design has one HEBT beam stop moved upstream of the bend in the HEBT. This enables the soil cap to avoid issues related to the AGS structure and the soilcrete used for the AGS shielding. Only small amount of proton beam necessary for energy measurement will be transported to the existing beam stop location.

Ali -Javidfar presented drawings of the cap design. He noted that the design encompasses the boundary calculated in reference 1 and takes into account the 10 degree vertical line for water excursions from the vertical. The depth of the geomembrane will be about 14 inches below grade. He also noted that the liner is sloped to the contour of the surface and this will effective sheet water off the liner and away from the linac tunnel. Construction drawings were examined and show that the linac tunnel roof is sloped which will prevent water from traveling along the tunnel roof.

Approval was given to relocate the beam stop and build the soil cap as designed.

The beam stops are not critical devices. Any remaining interlocks for personnel protection should be removed. **(CK-FY2009-linac-533)**

Equipment protection of the beam stops can remain in the personnel protection system if deemed appropriate by the ASSC. **(CK-fy2009-linac-534)**

Cap must be inspected as built to design, and drawings filed. **(CK-fy2009-linac-535)**

Cap must be placed on the soil cap list for inspection. **(CK-fy2009_linac_536)**

References

- 1) [Gabriel Herczeg and Kin Yip, "HEBT Soil Cap Boundary", July 24, 2008.](#)
- 2) [RSC Minutes of August 15, 2007.](#)

CC: RSC minutes file
RSC Linac file
RSC
Attendees