Abstract Submitted
for the DPP08 Meeting of
The American Physical Society

Energy Spectra of RITS-6 Electron Beam Derived from Depth Dose Measurements[1] TIMOTHY WEBB, BRYAN OLIVER, Sandia National Laboratories, NICHELLE BRUNER, Voss Scientific — Until recently the main methods of determining the output voltage of the diode of the RITS-6 accelerator (nominal 7-12 MV) has been through parapotential flow theory of the magnetically insulated transmission line (MITL), a radiographers equation based on radiation transport calculations for a particular diode configuration, or particle-in-cell simulations of various regions of the accelerator. Time integrated measurements of the depth-dose profile using radiochromic films have been performed on RITS for large area diodes. Comparisons to theoretical predictions for monoenergetic beams and empirical relations for the average electron energy are presented as well as a potential method for unfolding the electron energy distribution.

[1]Sandia is a multiprogram laboratory operated by Sandia Corporation, a Lockheed Martin Company, for the United States Department of Energy's National Nuclear Security Administration under contract DE-AC04-94AL85000.

Timothy Webb
Sandia National Laboratories

Date submitted: 22 Jul 2008 Electronic form version 1.4