The following information is provided as a service to our users and customers:

The QA BeamChecker is designed with 3.5 cm of inherent water-equivalent build-up for all photon energies and 1.5 cm for all electron energies. This is essentially at or beyond $d_{\text{max}}$ for all photon energies, and just slightly past $d_{\text{max}}$ for 6 MeV electron energies. Figure 1 is a typical ionization curve for a low (4 MV) and high (20 MV) energy of a clinical linear accelerator. Figure 2 is a typical ionization curve for several electron beams.

Using these build-up thicknesses for photons and electrons ensure that measurements are made: (1) at a depth with sufficient signal to record reliable values, and (2) in a region where the relative ionization is not changing rapidly. This results in the most stable and repeatable measurements.

**TYPICAL PHOTON DEPTH OF IONIZATION**

![Default Buildup](Fig 1: Photon beam depth dose scans at 4 and 20 MV.)

**TYPICAL ELECTRON DEPTH OF IONIZATION**

![Default Buildup](Fig 2: Electron beam depth dose scans at 6, 9, 12, 15, 18, and 22 MeV, respectively.)