Calculation of the Radiation Dose for the LHC Arcs, R. SCHMIDT, CERN; T. SPICKERMANN, HARVARD; K. WITTENBURG, DESY - Collisions of protons with residual gas molecules or the beam screen installed in the vacuum chamber are the main sources for the radiation dose in the LHC arcs. The dose due to proton-gas collisions depends on gas pressure, energy and intensity of the circulating beam. The dose is about equally distributed along the arc and has been calculated in previous papers. Collisions of particles with the beam screen will take place where the beam size is largest - close to focusing quadrupole magnets. In this paper the radiation dose due to particles hitting the beam screen in a quadrupole were calculated with the shower codes GEANT3.21 and FLUKA96, to a) find the optimum position for radiation monitors and b) to estimate the radiation dose for electronic equipment installed in the tunnel. It is concluded that the upper limit of the radiation dose for equipment installed under the dipole magnet in the centre of a half cell is about 3 Gy/y. The average dose will be at least ten times lower.