Kick Stability Analysis of the LHC Inflectors, M.J. BARNES, G.D. WAIT, TRIUMF; L. DUCIMETIERE, U. JANSSON, G.H. SCHRÖDER, E.B. VOSSENBERG, CERN SL Division - Two sets of four LHC inflector magnets must produce a kick of 1.2 Tm each with a duration of 6.5 ms, a rise time of 750 ns, and a flat top ripple of ±0.5%. The electrical circuit of the complete system, including all known parasitics, has been simulated with PSpice. Many parasitics were determined from Opera2D simulations which included eddy-currents. In addition 3D analyses have been carried out for the kicker magnet using the electromagnetic analysis code Opera3D. PSpice and Excel have been utilized to analyse the circuit performance and store Figures of Merit (FOM) for the field. These FOMs assist in identifying tolerance requirements for each of approximately 200 components: this data will be required when measurements are performed on the system. The discharge stability of the PFN capacitors has been measured at different pulse voltages. Furthermore, a study of the stability of the termination resistance as function of the energy deposition by the power pulses has been set up. The results of these measurements have been introduced into the simulations. This paper presents the results of the sensitivity analysis.