

Radiological Calculations on the LBNE Neutrino Beamline

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The Long Baseline Neutrino Experiment (LBNE) will deliver a high intensity neutrino beam from Fermilab to a detector 1300 km away in South Dakota. The neutrino beam will be produced from the decays of pions and kaons generated from a 120 GeV proton beam incident on a 95 cm long graphite target. To operate this facility over a twenty year period at a proposed 2.3 MW beam power requires extensive radiological calculations during the design process. Radioactivation and shielding calculations on the LBNE target hall and decay pipe facilities will be presented. The input to these calculations are based on results from a simulation using the MARS15 code.

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