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The nEXO Outer Detector and Muon Veto LISA KAUFMAN, SLAC - Natl Accelerator Lab, NEXO COLLABORATION COLLABORATION — The nEXO experiment is a next-generation neutrinoless double-beta decay search with the isotope ^{136}Xe and a half-life sensitivity goal of 10^{28} years. The nEXO experiment plans to take full advantage of the self-shielding effects of the liquid xenon and exploit as large a fiducial mass as possible; therefore minimizing external contributions to the background radiation entering the nEXO time projection chamber (TPC) is required. In order to accomplish this task, an outer detector, in which the nEXO TPC and cryostat are fully submerged, consisting of a tank filled with ultra-pure deionized water and instrumented with 8-inch PMTs will provide the outer shielding and act as a muon veto for nEXO. The initial design along with the passive and active shielding capability for external backgrounds will be presented.

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