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Slow control system at the RED-100 experiment

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Coherent elastic neutrino-nucleus scattering (CEvNS) was theoretically predicted in 1974 within the framework of the Standard Model of particle physics. It was experimentally observed for the first time only in 2017 by the COHERENT collaboration. The RED-100 two-phase emission detector was developed to study CEvNS on Xe and Ar nuclei. Detector operation at a nuclear power plant in 2021-2022 demonstrated the need for significantly increased automation of the experimental setup. At this talk discusses the current status of the experiment's slow control system, specifically the management and optimization of the working gas circulation and purification processes, as well as the liquid nitrogen flows used for detector cooling.

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