DEVELOPMENT OF A GAS MONITORING SYSTEM FOR THE SWISS RADIOACTIVE WASTE MANAGEMENT AGENCY

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We have developed a novel Gas Monitoring System for a Swiss radioactive waste management facility (Zwilag Zwischenlager Würenlingen AG, Villigen, Switzerland) for a long term project to investigate the gas generation processes in low and intermediate level waste. Five (later ten) hermetic gas container were constructed, which are able to safely keep and partly (H2O, O2, CO2 and CH4) on-line measure the main produced gas components. The remote controlled and fully automated on-line measured data are stored in a database to help later data analyses. The aim of the project is to gain better knowledge and understanding of the gas producing processes and their rate in radioactive waste drums. This information will have a key importance for long term storage strategy developments and environmental protection. There were some preliminary projects at our laboratory in these studies but with the help of the novel enhanced instrumentation more precise study of gas generation will be possible.