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ISOLDE radioactive air handling

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The present PSB-ISOLDE target area is designed to take the maximum possible booster beam of 3.2×10^{13} protons at 1 GeV per 1.2 seconds (average beam current of 4.3 uA and power 4.3 kW). However, at that the time of the design an average current of about 2 uA had been assumed for normal ISOLDE operation, the radiation levels and radioactivity levels had been calculated for 1013 protons per second, 2×10^{20} protons per year onto the 2 target stations and 4000 hours of operation per year.

In 2007, operation of ISOLDE had to be restricted to 1uA of proton beam due to an unexplained increase in the measured activated air release to the atmosphere. This presentation will outline the measures taken to restore ISOLDE back to its normal average operation beam current of 2uA.

A potential increase of the average beam intensity of 2uA will need additional studies. Some ideas will be given on the required technical modifications, in particular with view to the HIE-ISOLDE project.

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Session Classification: Session 3 - High intensity beams and radiation issues