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The SPES target ion source automated storage system

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At the SPES (Selective Production of Exotic Species) facility, intense Radioactive Ion Beams (RIBs) are produced by the interaction of a 40 MeV proton beam with a multi-foil uranium carbide target employing the Isotope Separation On-Line (ISOL) technique. The Target Ion Source (TIS) unit constitutes the core of the isotope production process. TIS units are replaced on a periodic basis during operation to maintain high performance. An automated storage system has been designed to accept highly radioactive TIS units and house them during a cooling period prior to decommissioning. The system is conceived to meet strict functional and safety requirements. Its peculiar design allows for improved reliability and availability during critical operations, as well as minimization of staff exposure to ionizing radiation during maintenance tasks. This contribution describes the design and control architecture of the Temporary Storage System (TSS). The equipment is part of a structured framework of remote manipulation, consisting of various machines interlocked with the Access Control System (ACS) and the Machine Protection System (MPS).

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Footnotes

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Yes

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