

## Isolde and n\_TOF Consolidation

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The ISOLDE Facility resumed operation in July 2014 providing low energy radioactive ion beams (RIB) to a physics community of over 500 collaborators. While progress continues on the upgrade of the REX-ISOLDE post-accelerator within the HIE-ISOLDE project, assuring the production of RIB for an approved and demanding physics program will require extensive maintenance of the existing facility. The consolidation requests driven by operation include; the replacement of the ISOLDE target stations, more commonly known as Frontends, renovation of the Resonant Laser Ionization (RILIS) equipment and operation of the REXEBIS and REXTRAP - the low energy systems of the REX-ISOLDE post-accelerator.

However, the radiation protection issues associated with the present performance of ISOLDE and the potential consequences associated with a possible increase in p-beam power should be considered. Consequently, consolidation of the overall shielding of the ISOLDE target area is presented along with the need to replace the ISOLDE beam dumps, both crucial to the exploitation of ISOLDE after the commissioning of Linac 4.

The n\_TOF Facility also successfully started its physics program in July 2014 making more efficient use of the neutron flux following the commissioning of EAR2, the second experimental area above the n\_TOF target. However, installed in 2008 and with a projected lifetime of approximately 10 years, the present n\_TOF neutron spallation target is already showing initial signs of surface corrosion. The monolithic Pb block along with its cooling system cannot be repaired due to both its design and expected dose rate after removal and will therefore have to be replaced during the LS2 period to ensure reliable physics after LS2. Further consolidation requirements include the dismantling of the first n\_TOF target cooling station and the replacement of the power converter and controls of the sweeping magnet in EAR1.

Finally, common to both facilities is the radioactive environment of each target area and the need to intervene within a given time window to benefit from a maximum of radioactive cooling. This implies that all preparation and construction of replacement equipment be completed before the start of the LS2 period.

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