

## **Description of the documentation presented for the LIEBE target review: Offline commissioning review and options for next steps.**

This document aims to guide the review participants through the LIEBE documentation that will be referenced during the review.

- ALARA committee YETS 2016:

Presentation including the necessary modifications in the ISOLDE target area, GPS side, for the operation of the LIEBE target. Also, estimations of the collective doses for the preparation work and installation, operation and transport of the target.

- ALARA committee YETS 2018:

Justification, optimization and feedback of the LIEBE tests performed in 2018 in the ISOLDE target area. Installation tests with the final assembly plus connection of additional cables through the Boris tube.

- EMIS proceedings, The LIEBE high power target: offline commissioning results and prospects for the production of  $^{100}\text{Sn}$  ISOL beams at HIE-ISOLDE (under review):

Article resuming the LIEBE project context with the design and the offline commissioning tests performed until now. In a second part, there is explained the option of introducing a Lanthanum based target material for the formation of isotopes in the vicinity of  $^{100}\text{Sn}$ .

- Fidualization and alignment documents: LIEBE\_Electromagneticpump\_24102017, Liebe\_Pump\_and\_target\_alignment\_08112017 and Liebe\_target\_cylinder\_07112017:

Compilation of geometrical measurements for the alignment of the electromagnetic (EM) pump against the LIEBE target.

- Vibration analysis November 2017:

Report on the analysis performed with accelerometers placed in different parts of the EM pump, target and front-end assembly assessing the vibration frequencies and levels transmitted.

- LIEBE offline tests report August 2018:

Report of the tasks performed and analysis of the retrieved data during the final operational tests of the LIEBE target in the offline separator.

- Students coffee June 2018:

Presentation on the offline commissioning tests performed before the final tests in August 2018. Several elements will be recalled in the LIEBE: offline commissioning presentation