

Summary of the hoist project for the n-TOF Experiment

In 2000 the French company COMETE that is specialized in manufacturing of non standard hoists and cranes was contacted to provide a design study regarding an electrical 5t hoist for the handling of the n-TOF target by re-using as much as possible of the existing installation. The result of the design study (costs 5'000€) is available and can be provided upon request.

Please note that the existing installation is a 6.5t (the lifting capacity was downgraded to 5t) electrical chain hoist (HHLPA-0871, manufacturer DONATI, commissioned in 1987) that was formerly used in the LEP tunnel for the transport and handling of LEP magnets. Lots of effort was spent by the AB and TS department to adapt the hoist to the new requirements.

The company COMETE was asked in 2001 to provide a price offer for the 5t hoist based on their design study. The price offer was in the order of 110'000€

The n-TOF management at the time decided that such an investment for installing the n-TOF target is not necessary and prepared the existing 5t hoist in the best possible way (camera etc.) to do the safe handling of the target. Furthermore it was pointed out that the replacement of the hoist would be reconsidered once the target had to be changed (known radiation level etc.).

In 2006 the n-TOF management requested to reevaluate the studies done in 2000/2001. The company COMETE was contacted once more and the entire project re-discussed. The major difference to 2001 was the price increase of more than 50% leading to a total price of nearly 200'000€

So far due to time constraints the company COMETE was the only company that was contacted since we could place an offer with them directly via our maintenance contractor and consequently avoiding CERN's time consuming purchasing procedures.

Six months should be considered from the moment of placing the order with COMETE and the commissioning of the new 5t hoist.

Nevertheless, TS-IC rather proposes to reconsider the hoist project by taking in consideration the new requirements (weight of new n-TOF target etc.) and to launch a new price enquiry by contacting several companies specialized in this field. This would add an additional delay of minimum four months but would probably reduce the price.

In the meantime, considering the successful lifting test of the existing n-TOF target and the lower than expected radiation level the TS department does not object anymore to transport the target with the existing hoist from its present position to the intermediate storage shaft. TS-IC proposes to organize a coordination meeting as soon as possible in order to reevaluate the procedure and to clarify the roles and responsibilities of all involved parties.

The TS approval is also based on the concern pointed out by P. Bonnal in his email dating from 08.06.2007:

Having the target (that is a radioactive waste) temporarily stored at the bottom of this shaft is not satisfactory at all. It must be removed, inspected, packed and stored in a more appropriate location. The one proposed by Paolo Cennini, i.e. a storage shaft next to the target shaft, is a much better location. **Delaying this decision presents some risks: the ageing of the n_ToF target in its present location will make its removal more difficult than it is right now, even if new or refurbished handling devices are used.** Therefore, **I recommend to go ahead and to proceed on the short term.**