

## LIU project team meeting

### Notes from the meeting held on 30 June 2016

Present: A. Funken, S. Mataguez, M. Meddahi, B. Mikulec, E. Shaposhnikova, R. Scrivens, G. Sterbini, M. Vretenar

Excused: J. Coupard, H. Damerau, B. Goddard, K. Hanke, G. Rumolo

#### 1. Arising matters (M. Meddahi)

- Meeting with TE/VSC on 23/06, minutes are available [here](#).
- Rebaselining of the most critical WUs will be performed throughout the summer, under the responsibility of the LIU- machine coordinators:
  - o By mid-August 2016:
    - Update of WUs 2016 to 2021 to reflect the new 2016 and future spending profile (this needs to be done for WUs > ~500 kCHF and at the machine coordinator's own judgment for those below 500 kCHF) by mid-August 2016
    - 2017 – 2021 new spending profile
  - o By end of August 2016: New baseline released for all machines (with the relevant WUs updated)

In parallel, S. Prodon has kindly offered assistance for the EVM WU re-writing effort. Sylvie and Malika have discussed the way WUs are to be possibly written in order to translate the most accurate spending profile with TE/EPC (Serge Pittet, Fulvio Boattini), TE/ABT (Tony Fowler, Jan Borburgh, Laurent Ducimetiere), BE/RF (Eric Montesinos), and TE/MS (Antony Newborough, Dominique Bodart). BE/BI (Rhodri Jones) said that they will first perform the re-profiling and will come back to Sylvie for her expertise in translating this new profile into WUs, as needed.

To note:

**It was agreed that the overall LIU reporting will be stopped as of 1<sup>st</sup> July 2016.**

It was confirmed that the updated LIU 2016 payment budget estimates (exercise done by end of May 2016 by WP holders) have not led yet to an update of the CET 2016 payment budget. This will be done at a later stage, when the whole baseline exercise will be completed. For the moment the overall envelope of the '2016 unused payment budget' has been subtracted at the level of the project management.

#### 2. Inventory of non-radioactive waste (Sonja Kleiner)

The slides are available [here](#). Sonja Kleiner- HSE/SEE explains the waste topic in the context of the safety file to be written for the LIU project.

A CERN report on the 'étude de déchet du CERN', EDMS 762882 was first written in 2006. In this first step in waste management inventory, the estimation of the waste quantity was lacking. It was only back in 2010, that a waste inventory report was re-launched, documenting all the waste with its category, description, types, and volumes. All wastes are regulated by a European directive, the French code of Environment and the Swiss environmental law. The specific worksites requiring a formal 'demande de permis de construire' do also have to follow the EU, F or CH directives. In page 7 of Sonja's presentation, you may find the relevant form, to be included in the Safety file, in case the building is located on the Swiss side (Anne clarified that for the LIU the relevant buildings are on the French side, under another regulation).

#### Requirements for Launch safety agreement:

- Overall requirement: please check paragraph 5.13.8 Waste of the LSA template, which must be completed. Contractors also have legal responsibility for their waste produced during their activity at CERN. CERN is not keeping the traceability of their wastes;
- For waste issue on worksite, there is a very clear regulation for the building needed on the Swiss side;
- Safety file (project phase): the list of environmental protection is provided in the template, and must be filled accordingly (during design/engineering and commissioning phases);
- HSE proposal for the non-radioactive waste inventory:
  - o **By mid September** – HSE will make available a **template** for the non-radioactive waste inventory, considering the waste categories that are already declared through the annual waste inventory – shall be documented in the Safety File of the project;
  - o Shall be defined at the project phase, focussing on **operation**, and inform about the annual waste production;
  - o For worksites that would require a formal construction permit, CH/F documents established in this framework shall be included in the Safety File of the project.

#### In summary:

- Good knowledge of the annual amounts of non-radioactive waste collected. However, associated producers not traced/registered;
- HSE is still on the way to understand how waste traceability is performed within the Organization – identified already room for improvements;
- Assessing the amounts of waste produced by an activity is part of a environmentally responsible behaviour, enables to identify specific sorting needs, to anticipate elimination/valorisation pathways and at the end, contributes to limit the impact on the environment.

The LIU action on the inventory of the conventional waste is postponed until the HSE template is available. It is clarified that for the LIU project, the **LIU machine coordinators** are asked to make sure that all equipment groups have included the LIU equipment into their conventional waste inventory. The inventory work remains under the responsibility of the groups, LIU is only responsible for checking that LIU equipment have not been forgotten in the equipment group inventory.

For the obsolete cables, their removal is announced by the equipment groups through the DEC. It has to be checked that EN/EL is the group responsible to announce the overall waste envelope during de-cabling campaigns. – **Anne** to follow-up.

All operating accelerators, including Linac4, will eventually have to fulfil this strategy and fill the corresponding template being produced by HSE.

### **3. Update on EYETS - YETS - LS2 planning and PLI news (S. Mataguez)**

CMS is ready to perform their pixel detector upgrade during EYETS2016-17. 20 weeks are requested instead of the former approved 19 weeks. This extra week was strongly supported by LIU (critical activity path in PSB) and was endorsed at the LMC on 30 June and accepted by our DG. Malika asked Marzia/Simon if the injectors schedule could be updated rapidly. Malika discuss with Daniel Ricci, to ask him what could be done regarding the remaining critical cables pulling which could not be integrated within the previous schedule. Some of them (highly needed) could now be added to the baseline. Daniel said that he will be looking at this important point, with his team, and indeed the idea is to add some activities, and have in any case, for any other pending requests, the activities prepared, to be done if time allows it.

Installation drawings to be produced before installation is performed: being followed-up by  
Yvon / Julie

#### **4. Linac4 commissioning progress, including source (M. Vretenar)**

- The beam was accelerated to 102 MeV. All LLRF cards are in operation. RF team is working now on the 1<sup>st</sup> PIMS LLRF. Beam should be back today, and extra 2 days have been allocated for beam commissioning, before EN/CV starts its activities next Wednesday.
- The modification on the LEBT layout (requested by J. Lettry for automatic tuning of the source production) was approved by Maurizio. The risk of this operation is mainly linked to venting the RFQ. The extra activity shall be transparent for the overall planning including the HST.

#### **5- Round table on progress on the various activities**

##### **PSB – B. Mikulec**

MDs ongoing to produce a BCMS beam with 1.5 eVs and 150 ns bunch length as requested by the LIU beam parameters working group. Very nice results up to now - beam being fine-tuned. A second beam request concerns the LHC25ns beam with the final aim of reaching 3 eVs longitudinal emittance; to this request there are 2 new approaches, one followed up by Danilo Quartullo and another one by Simon Albright from Elena's section. In parallel, Alan Findlay is exploiting the increased blow-up capabilities thanks to the recent firmware updates.

- HST:
  - o Positive news from H0/H- monitor electronics, although higher noise than expected; a full evaluation can only be done in the final environment with beam; FESA class to be finalised.
  - o Non-conformities discovered with the connection port to the H0/H- monitor; urgently looking for solutions, as there are still vacuum tests to be done with the assembly before installation.
  - o Small vacuum leak on the flange of the stripping foil tank; hopefully a quick and easy workaround can be found.
  - o 2 days delay of 100 MeV commissioning, but to be confirmed if this also means a 2-day delay for the start of the HST installation activities (depending on RP measurements after beam stop).
- Next LIU-PSB meeting will focus on all ongoing EN-STI activities (dumps, scrapers, BTM exit window).

##### **PS – Guido Sterbini**

The last LIU-PS meeting took place last Tuesday. There are three main points to report:

- EN-EL informed that the list of the cable to install during the next EYETS is completed and has been circulated. The list of the cable installation for the LS2 is still to be completed.
- Serge Deleval reported about the technical feasibility and cost to separate the TT2 cooling plan from PSB one. The proposal is to reuse the South-hall cooling tower to regroup in one place the three primary circuits for TT2, copper circuits and aluminium circuits. In doing so the one could profit from the existing infrastructure (cooling power) and hardware (main cooling pumps already available). The new configuration will be cost-neutral for the LIU-PS (the budget for the piping is taken from the available budget allocated for the TT2 cooling system). On the other hand the CONS budget increased from 400 to 500 kCHF. LIU-PS endorsed the proposal to combine the three primary circuits. An agreement between LIU and CONSOLIDATION management is needed to

define a common strategy (**Malika** to follow-up). Serge Deleval will discuss the technical details for the new piping at the ICL meeting in two weeks in order to verify its integrability (increased diameter of the pipes).

- The budget review was announced. All WP holders were requested to align their spending profiles to the EVM. A first iteration will be done during the next LIU-PS meeting.

### **SPS – E.Shaposhnikova**

There will be a SPS beam dynamics working group this afternoon. Some source of impedance seems to be still missing in the model, to be identified. Collaborators are very busy with the preparation activities for HB2016 (next week), with 3 papers related to LIU. The first results of simulations for 72 bunches during the ramp are also now available.

### **IONS: Linac3 + LEIR – R. Scrivens**

- Intensity above the LIU requirements for LEIR has been produced (9e10 charges accelerated and extracted from LIER. 10% better than the LIU specs). The MD programme continues, and Richard recommended that a strategic view of the ion chain is done before the SPS MDs start.
- As requested last week - NOMINAL has been provided to the PS (as is) for starting set.
- Pick Ups: MME workshop is ready to launch production if the pick up plans ready for end July (feasible), but they are not ready to guarantee production is possible for the end of the year. The material could be an issue (bulk SS and bellows) so they will be defined and ordered as soon as possible. MME have asked to delay a job on the TED by 1 month in order to provide plans for the vacuum chambers. Chiara Pasquino has accepted.
- LBS – EN-HE say they can install the LBS.BVT10 at any YETS/shutdown time after Linac4 is connected. Therefore it should not be considered a necessary part of Linac4 early connection.

### **Safety – A. Funken**

- Asbestos in the beam lines elements: Anne reminded O. Prouteau that the LIU project is awaiting for the HSE leaflet, also to be addressed to the TE department (groups mainly concerned TE-VSC and TE-MSC). No news. Anne discussed with Malika that the more efficient way to ensure that the groups take the necessary actions before the works is to follow-up this within the LIU-LPI meeting (to remind of the problematic and strategy) and within the machine superintendent coordination meeting. **Action: Julie/Simon**
- The preparation of the safety files on the BE Safety Unit side will be in standby until mi-August (leave of Lisa and vacation of Anne).

### **6- AOB**

The next LIU meeting will take place on **14<sup>th</sup> July 2016**. There will be NO meeting on 7<sup>th</sup> July.

Minutes by M. Meddahi