

LIU project team meeting

Notes from the meeting held on 14 September 2017

Present: J. Coupard, A. Funken, B. Goddard, K. Hanke, A. Lombardi, M. Meddahi, R. Scrivens

Excused: G. Rumolo

• Arising matters (M. Meddahi)

- LIU article for the CERN courier has been edited and will be published in the October issue; the content is a compromise between the message LIU wants to convey and the editor's opinion
- First Chamonix preparation meeting; the tentative program for the LIU session was approved; for the next LIU PT meeting, time lines and suggestions for the speakers names will be presented; attendees list is also under discussion (Malika will draw up a first list)
- F. Bordry informed LIU that the suggested swap of ion runs (swapping the 2021 ion run with the 2023 p-p reference run, still keeping the 2022 ion run as planned) is not preferred by the experiments; the schedule for the ion operation remains unchanged as it is now in the base line
- Fellows: LIU does not agree on fellows beyond what has already been approved; for the next committee LIU approves one fellow for BE-RF (Andy's), and one for EN-STI to replace Paula (LIU-SPS, Marco Calviani); STI can go ahead with a 6 months temp on their material code (action Klaus to inform them); they have also a TTE which has already been approved. No fellow request can be anticipated from 2018 to 2017-2. All Fellow requests for 2018 and onwards are registered and are still pending approval.

• Update on LIU-PLI activities (J. Coupard)

- Storage and space management:
 - Work with Jonathan to add information (missing several data)
 - Work with Aurelio to add information about the partial dismantling of Linac2 à not sure to respect the deadline. Work in the frame of the ECR (like Beam Dump)
 - Detailed information in work for the Beam Dump
- Installation readiness:
 - In progress for LIU-PSB
 - In progress for LIU-PS
 - To be prepared for LIU-IONS
 - To be prepared for LIU-SPS
 - Some late readiness (i.e. STI, bumper, BI?) – updates to be presented at the next LIU-PT meeting by Julie

- ICL:
 - Integration in progress for SPS, some potential issue identified on the floor in SPS LSS3 and under discussion with Eric
- General:
 - SPS Fire Safety Project Review on 29/09
 - Coordination meeting for the YETS resumed
 - Would like to move LIU-PLI meeting on the Meyrin site; need to find a room
- **News from Linac4 and RR (A. Lombardi)**
 - Reliability run ongoing; learning process on the AFT; reliability has been lower than in the first phase; yesterday source from the test stand was moved to the tunnel; it is hoped that this will result in higher intensity. The recovery time of the source is hard to estimate.
- **Round table on progress on the various activities**

PSB + PS – K. Hanke

- PSB:
 - The 200th meeting has been held last Tuesday
 - Replacement of the wire scanner is planned for ITS3; progressing according to plan.
 - Lots of actions for CV who were not present
 - WUs for the new pick-ups in the transfer lines have been generated
 - Integration of the BTP line is still a pending issue
- PS:
 - Discussion has been held with W. Hofle and E. Metral on how to progress with the TFB for LHC type beams; in RF Alfred Blas is responsible but he is taking a lot of leave and is therefore only intermittently available. On the ABP side G. Sterbini had been driving the activity in the past, but has now left the PS. Therefore A. Huschauer is supposed to take over the activity. It became clear that this can only advance in a collaboration between ABP and RF. As for the manpower issue in RF, W. Hofle claims that a replacement for A. Blas cannot be recruited now and that no other manpower is available. It was agreed that this should be brought up in the new Beam Dynamics WG and then in LIU-PS.
 - A meeting has been organized by A. Huschauer on the injection bumpers. There are good arguments to decrease the length, but there are time and budget constraints. Work is advanced too much for a complete re-design, but an optimization will be necessary. K. Hanke will discuss with J. Coupard later today the realistic installation date, which is needed as input for the ongoing discussions. Need new planning.

SPS – B. Goddard

- 200 MHz main amplifier demo still not fully tested, Thales have discovered a flaw in the differential use of the amplifiers, which could be the source of the failures during burn-in. The driver amplifiers deployed in the SPS with the high-level over-drive protection seem to be working, the improvements in the low-level protection are being developed. BAF3 very good progress, all cabling done, HVAC by end October. Super-combiner works at low power, needs high power tests. Transmission line probably not ready for YETS installation. HOM damper have found a design and will try and install them in the tunnel in the YETS, which means venting of one cavity with reconditioning. Working on the LSS3 sequence, progressing well.
- The new quadrupole power converters for TI2 TCDI optics will be equipped with FCG3 but this means the FEI interlocking is too slow, until a more general upgrade is made in LS3 (needed as the correctors will be upgraded to FGC3 in LS3). A temporary solution will be found between EPC and MPE.
- In YETS the impedance reduction and aC coating will focus on tidying up the 5-side, which will be difficult to access in LS2.
- For LSS5 beam dump we are finishing off the documentation with the finalisation of the specifications and ECRs, all looks to be under control. STI have reviewed shielding performance with actual design, and some increased levels seen w.r.t. initial design, looking at how to improve (masks already planned). Also the descriptive part of the safety file has been circulated, some comments from BE DSO to consider. Have decided that the dump will be instrumented with a fixed BTV outside the shielding, impedance being checked.
- Overall budget 9.3 MCHF, paid 3.9 MCHF (42%), committed 10.1 MCHF (109%).

LIU-ions PS injectors – R. Scrivens

- Coordination meeting yesterday on preparation of the YETS
- Discussion on BPM; there is a meeting this afternoon and a beam performance meeting every two weeks

Safety – A. Funken

- Safety file LIU-PSB POPS-B:
 - Access and interlocked system to the reference magnet area & access control of the building – Presentation of the needs to the BE-ICS internal safety forum done (4th of September), TE/EPC is preparing a document detailing the needs, then technical solution and cost estimates will be established by BE/ICS.
 - Flooding risk: meeting being organized with EN/CV and HSE to ensure that the control measures foreseen are enough (based on the maximum quantity of water leak in the converter hall and magnet reference room & adjacent CV room).
- Safety file LIU-PS:
 - PS dump and TT2 consolidation: descriptive parts to finalize and send to DSOs (postponed to October due the unavailability of the SPC), then to be presented to a PS-CSAP.
- Safety file LIU-SPS:

- LIU-SPS dump upgrade: descriptive part sent to DSOs end of July. Comments are being integrated together with the contribution for the smoke extraction system in ECA4.
- LIU-SPS RF system upgrade: descriptive part sent to group experts and GLs end of July. G. Cipolla is collecting the missing contributions. Once integrating the document will be sent to the DSOs.
- LIU-SPS Ring and transfer line: to be updated before to be sent the DSOs (foreseen by end of September).
- LIU-SPS aC coating and flange impedance reduction: descriptive part to be sent for approval to Malika. LIU-PT on 31/08 - Safety aspects for the minutes LIU-PT on 31/08 - Safety aspects for the minutes LIU-PT on 31/08 - Safety aspects for the minutes
- LIU and BE/ICS activities for LIU: Meeting on 28 September in the LIU-PT meeting slot.

- **AOB**
 - The next LIU-PT meeting is scheduled on Thursday 21st September 2017 in Room 865-1-D17. On 28th September the LIU-PT slot will be used for the LIU meeting with BE/ICS.

Minutes by K. Hanke