

Minutes PSB Upgrade WG Meeting 08th October 2015

Participants: J. Borburgh, J. Coupard, V. Forte, G.M. Georgiev, K. Hanke, J. Hansen, D. Hay, S. Moccia, A. Newborough, S. Pittet, G. Rumolo, J. Tan, W. Weterings.

Agenda (<https://indico.cern.ch/event/448720/>):

- [1. Approval of Minutes](#)
- [2. Communications](#)
- [3. Follow-up of Open Actions](#)
- [4. Pumping in Sections 4L1 and 11L1 for the Installation of the New Wire Scanners](#)
- [5. Exchange Procedure for the Stripping Foil and Status of the Test Stand](#)
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1. Approval of Minutes

- The minutes of the last LIU-PSB WG meeting #159, available [here](#), have been approved.

2. Communications

- **Council Week:**
 - The overall LIU budget (180 M) has been confirmed. This corresponds to the base line and cannot be exceeded.
- **Spending:**
 - According to CET LIU-PSB has spent so far 53% of the annual budget.
- **Injection Line:**
 - At the injection working group it was confirmed that the baseline of the BI line remains unchanged.
 - O. Berrig's recommendations were appreciated. C. Bracco (ABT-BTP) will coordinate the matter with LIU-PSB, with input from A. Lombardi.
- **Chamonix:**
 - A first draft agenda for the LIU session is under discussion.
- **Finemet:**
 - Conclusions of the Finemet review will be presented by M. Paoluzzi to the IEFC tomorrow.
- **LS2 days:**
 - Upcoming next week.
- **Integration:**
 - Integration of racks and support structures in the surface buildings is progressing well.

3. Follow-up of Open Actions

- D. Hay on "Prepare and submit an ECR to describe the proposed new rack layout in BRF2/BAT" → D. Hay is working on it.
- D. Aguglia "Approve document with the functional specifications of the power converters for BSW magnets for both the LIU-PSB and the Half-Sector Test in Linac4 addressing the open issues from v0.2. " → D. Aguglia was not present to comment on this.
- J. Hansen "Simulate the pumping needed in sections 4L1 and 11L1 for the installation of the new wire-scanners" → see presentation [below](#). **The action can be closed.**

4. Pumping in Sections 4L1 and 11L1 for the Installation of the New Wire Scanners

F. Salveter presented the study done by TE/VSC ([slides](#)). Outgassing tests of all single components have been done, knowing that the overall assembly features in general longer pump-down times than just the sum of the time constants of the single parts. Pressure simulations were presented, based on actual pressure values from the PVSS vacuum controls. Introducing the new FWS without additional pumping would increase the pump-down time by a factor 10. Introducing an additional pumping port improves the situation significantly. It is therefore clear that **additional pumping is indispensable**. Two options are available: either one smaller pump per FWS, or connect all FWS vacuum wise and **install one big pump for 4 FWS. The latter solution is preferred by VSC for technical simplicity and cost reasons**. It would also involve less cables (so far no cabling for this has been foreseen). **The LIU-PSB working group expressed a preference for the second solution, but awaits confirmation from J. Tan whether this scenario is feasible for BI.**

Assigned to	Due date	Description
J.Tan	2015-11-01	Evaluate the possibility to install a single pump instead of two smaller ones for the vacuum 4 FWS.

5. Exchange Procedure for the Stripping Foil and Status of the Test Stand

W. Weterings presented the status of the studies for the foil exchange([slides](#)). This is an outcome of the ISIS visit done last year. **It must under all circumstances be prevented that someone inhales rests of a broken foil.** The foil can be viewed via a BTV (viewport). **S. Moccia noted that switching off the ventilation does not guarantee zero air flow** (as e.g. the PS ring is at a different pressure level). Details can only be found out via measurements.

The second presentation concerned the stripping foil test stand in Linac4. W. Weterings presented the status of the stripping foil test stand ([slides](#)). This was followed by a discussion about vacuum compatibility. **In particular cables present in the vacuum might require a pump down time of up to 48h, which is acceptable for the test stand but not for the final installation. This issue is so far not solved. More iterations with other cable types and set-ups are needed.**

Another issue seems to be the precision of the foil positioning. More movement tests are on-going, and a second set-up is in preparation to address this issue.

The working group appreciates that this is work in progress, and the unsolved issues need to be addressed and possible solutions for the final installation in the PSB reported back to the WG meeting (action, need another report in some time from now).

6. AOB

- There was a discussion on the requirements for the injection assembly test, in particular on the question whether it will be under vacuum. If this is the case, then this would have implications on budget, cabling, etc. A discussion will be held off-line with ABT, VSC, Magnets and BI.
- The next meeting is tentatively scheduled for the 22nd October 2015.