Beam Commissioning Working Group

Minutes for 2 November 2018

Present: V. Kain, **G. Rumolo**, S. Albright, H. Bartosik, G. Bellodi, J. F. Comblin, D. Cotte, G. P. Di Giovanni, M. Gourber-Pace, K. Hanke, A. Lasheen, B. Mikulec, G. Papotti, F. Tecker, F. Velotti

Meeting objectives

LIU equipment integration plans for the PSB.

Approval of Minutes and Matters Arising - V. Kain

The minutes of the 12th October are accepted with one comment from G. P. di Giovanni:

EOS has the ability to recover data that is accidentally deleted up to 3 months after removal e.g. with *rm -rf **, and that tape storage for longer term back up is intended. The details of the e-mail exchange will be added to the minutes of the 12th October.

V. Kain revisits the objectives for 2018:

- Not yet covered: On line beam parameter + performance analysis

- To be covered in detail: Prioritised list of tools to be prepared or upgraded

- Otherwise most/all 2018 goals compelete

M. Gourber-Pace asks if the non-prioritised list of tools is complete. V. Kain says that for the SPS and LEIR a partial list is complete, but no prioritisation or discussion of resources has happened yet.

LIU-PSB Integration Plans - J. F. Comblin

Presentation

- Operationally the KSWs will be controlled in mm not A, with an applcation to be provided by OP. V. Kain asks if the settings manangement working group (SMWG) is involved, B. Mikulec says yes.

- An MD has demonstrated extraction at 160 MeV, confirming that it will be possible to protect the matching monitor grid.

- A new application will be required for the diamond BLMs, it will be checked if the SPS application is suitable to copy for the PSB.

- The new Transverse Feedback (TFB) is being commissioned, but will not be completed before the end of 2018, both the new and old TFBs will be available at the start of Run3, but the intention is to use the new one.

- It is suggested that since a new wirescanner application will be needed for the PSB and PS it might be worth discussing combining the SPS and PS application (both need bunch-by-bunch capability).

Discussion

- V. Kain asks if the RF synoptic tool is something people like to use and if it is purely an expert tool or also used operationally. J. F. Comblin says it is valued as it makes it easier to visualise the effect of different changes and see what options there are, and that it is used operationally but not regularly and is more at the expert end of the spectrum.

- M. Gourber-Pace asks if the new application for the old TFB is functioning, G. P. di Giovanni says yes, but it is not being used as it will require some recabling. M. Gourber-Pace highlights that the old application will not work afer LS2, so the new application for the old TFB should be tested before LS2 to make sure it will work after.

- J. F. Comblin asks if beam quality tracking is still required in the wirescanner application. V. Kain says it is definitely needed, but how it will be implemented is not yet decided and it is possible the current approach can be improved. J. F. Comblin says having the specification as early as possible would be useful.

- J. F. Comblin asks if a PSB equivalent to the MPS editor application could be used in the PSB:

  - V. Kain says this comes under the SMWG area of interest, and that including the RF group in the discussion would be beneficial to make sure the information goes to all relevant systems. D. Cotte says that in the PS the application automatically sends the information everywhere that is required, and it is used for all B-field modifications.

  - H. Bartosik asks if the MPS editor is used to create new cycles in the PS. D. Cotte says no as the standard practice is to copy an existing cycle and than make any necessary modifications.

  - V. Kain says a particular benefit of the application is that it includes all necessary tests to check the cycle is within the limits of different subsystems such as the power supplies. This sort of functionality should also be discussed as part of the SMWG. A drag-and-drop way of generating settings.

  - M. Gourber-Pace asks if the application could be copied directly to the PSB. D. Cotte says no as the two machines use different FGC classes. V. Kain says this sort of difference can be hidden from the user whilst preserving the functionality of the application, and proposes trying to provide a similar application for all machines to ease generation as part of the SMWG. B. Mikulec says that the priorities of the SMWG should be considered as this would require a lot of work. V. Kain agrees, but also thinks the needs of the injectors should be factored into the prioritisation.

- V. Kain asks if the RF settings such as blow-up and longitudinal painting should be included in the SMWG. S. Albright says that it would need careful consideration about whether it would be beneficial.

- V. Kain points out that in terms of integration the testing of things like equipment may not be easy and needs considering:

  - V. Kain gives longitudinal painting as an example where the chain of requirements is very complicated and it may be difficult to ensure every sub-system is functioning as required.

– B. Mikulec says that for injection some tests have been performed already with positive results, but that further tests such as synchronisation are still required.

– V. Kain proposes that for systems for which it is not yet known how they will be tested there should still be something in the planning. B. Mikulec says that this is intended.

– V. Kain asks how the scheduling for Individual System Tests and then full tests for complex systems such as the Finemet$^{\text{TM}}$cavities will be organised. G. P. di Giovanni says this is something that is still under consideration, and that the PSB has the additional complexity of each ring potentially requiring slightly different tests and settings.

The next meeting will be on the 9$^{\text{th}}$ of November to discuss the status of reference measurements in LEIR.