LHC RF Meeting

1st July 2009

Participants: Andy Butterworth, Daniel Valuch, Edmond Ciapala, Elena Chapochnikova, Eric Montesinos, Frederic Dubouchet, Frode Weierud, Joachim Tuckmantel, John Molendijk, Luca Arnaudon, Philippe Baudrenghien, Pierre Maesen, Trevor Linnecar, Wolfgang Weingarten

1. ADT

- **Abort gap cleaning:** firmware has been implemented and tested on a test board. It now needs to be implemented in the DSPU board. The parameter list and the interface with the software need to be revised. Abort gap cleaning will be needed from day 1 at injection. Simulations are ongoing, no definitive function has been found yet. The abort gap is defined to be before bucket 1. With a single bunch we could put beam in buckets far from the abort gap. The bunch mask will be sent from LSA as for the beam control acquisition.
- **Electrode polarity checks** will be done next week. The signal chain has been checked apart from the path between amplifier and electrode. This will be checked tetrode by tetrode and electrode by electrode.
- **Pickups:** Q10 vertical plane has abnormally high losses above 2.5 GHz. This is the radial loop pickup but in the vertical plane, so is not used. By measurements it was not possible to see where the anomaly is. A mail has been sent to BI (R. Jones). The worry is that a possible high power output might lead to damage with high beam intensity.

2. LLRF

- **FGC frame loss problem:** In the BC2 crates the VCXO and VTU boards were causing the problems. John has defined a fix: make the received sequence length shorter by 4 clocks. Greg is now back and has implemented this in these boards, and it has been tested in SR4, and no frame losses are seen. The similar problem in the ADT crates has not yet been solved (John/Maarten).

3. Software

- **The Beam Control FESA software** has been revised and reorganized. All front ends have been migrated to FESA 2.10. The LabVIEW interfaces have been rewritten (Luca), namely the Beam control, synchro and fibre optic distribution panels. The interfaces are now quite complex, containing lots of information, and we will need to provide some training for the piquet service. Initial information has now been received from Maarten to enable the development of the software for the beam position measurement.
- **Front end problem:** There is a problem with our main Linux front end crashing, possibly due to a hardware problem. CO (Magnus Bjork) wants to replace it this week.
- **OASIS:** A certain number of the issues have been resolved, at least in theory, after discussions with Stephane Deghaye:
  - Mastership: The APW console in SR4 has been elevated to a privilege equal to that of the CCC. The current mastership of a channel can be found via a menu item in the OASIS viewer.
  - Number of points: 800kPoints are now available in the class deployed in APW, and Stephane claims it is working reliably
  - Front-end instability: Nothing has been done yet, but Stephane will investigate
- **Role based access control**: The passage of RBAC to "strict mode" is scheduled for 14th July. At this time, a token will be required and we must make sure our LabVIEW applications are modified to support this. Also, SR4 should be declared as a control room which will enable authentication by location as in the CCC (Frode). The bug which resulted in LabVIEW hanging after a front-end restart has been fixed. The applications now correctly reconnect when the front-end comes back up.

4. Operational dry run tests

- Dry run tests of the Beam Control are scheduled for Thursday and Friday of this week. The aim is to run through the operational cycle driven by the LSA sequencer software application,

including the "prepare for injection" sequence in which the Beam Control and Synchro systems are put into the correct state for injection.

5. SM18

- The spare cavity is in vertical cryostat V6 with He now available, but no He is currently available for the module.

A. Butterworth, 13th July 2009