

LHC RF Meeting

25th March 2009

Participants: Oliver Brunner, Wolfgang Weingarten, Joachim Tuckmantel, Andy Butterworth, Edmond Ciapala, Trevor Linnecar, Elena Shaposhnikova, Thomas Bohl, Maria Elena Angoletta, Vittorio Rossi, Eric Montesinos, John Molendijk, Frederic Dubouchet, Frode Weierud, Philippe Baudrenghien, Wolfgang Hofle, Urs Wehrle

1. LHC status and planning

- ✚ The last magnets were tested last week in SM18, and will be installed week 16 or possibly week 17. The roof will not be closed before end of week 17.
- ✚ All klystron focus connectors have been replaced except for 1 which will be done shortly. A date for powering of the klystrons will be decided according to the date for powering the cavities. The earliest possible is end June for sector 4-5. This gives about 1 month for power tests during May. About 10 weeks will be available for commissioning of the cavities.

2. ADT

- ✚ Power tests complete, LL tests still needed (Wolfgang). HOM loads need to be changed in UX45 (currently with FSU). Check polarity errors need to be checked, and bias adjustment. Capacitance measurements to check no short circuit.

3. Faraday Cage air conditioning

- ✚ The Faraday cage air conditioning upgrade has been completed. It now has fallback to air cooling in case of water unavailability. Temperature measurements have been made and found to be well within specification, and the total power consumption has been measured electrically. [Report by John.](#)

4. Low Level

- ✚ In UX45, automatic reconfiguration of FPGAs has been installed and tested. 1 feedback module does not boot.
- ✚ **Power supplies:** We have an offer for the 3.3V switching supplies, at 400CHF per unit, but none have died in operation. We have to make a decision whether to replace some or all of these supplies. Was the broken feedback module a result of the power supply overshoot? Greg and Vittorio had some card prototypes where capacitors died due to the spikes.
- ✚ **Spares:** The situation is good generally. A few modules need spares fabricated. Daniel's repaired modules worked very well, but we have the components for a spares series.

5. SM18

- ✚ The 6kW cryo plant has been switched back into operation.
- ✚ Now everything (HW, SW) is the same as in UX45.
- ✚ The test stand is ready for US-LARP Low-Level tests. D. Van Winkle is here, they will close the feedback loops today.
- ✚ A 1-Turn feedback module has been installed in SM18.
- ✚ The conditioning program vacuum reading is a factor 4 wrong with respect to the gauge.
- ✚ The Lambda 1/4 resonator is cold, W. Weingarten is doing measurements.
- ✚ The Soleil cavities are out, and will go back to ACCEL next week.
- ✚ There will be no vertical tests this year.

6. Access

- ✚ Discussions are ongoing on access to underground areas with powered magnets, and we are still waiting for feedback from Ghislain and the safety commission. Nothing has been decided yet.

7. Risk review

- ✚ The report from the review is now public. The vacuum group are still looking at the possibility of installing fast sector valves.

- + Olivier has asked M. Jimenez for a statement on the risk of pollution of the vacuum in LSS4 following the Sector 3-4 incident.
- + We should have a vacuum status screen in RA27 local control room. Vacuum measurements should go into long term logging database.

8. Crab cavities

- + **Cavities:** Not possible to install close to ACN cavities (no space), and anyway we have to assume the ACN will be installed. So they can only be installed at the location of the spare ADT space, and we will only know in 4 years time if the additional ADT is needed. However, the injection damping is fine, and the ADT upgrade could possibly be for a more wideband system which it might be possible to fit elsewhere. Also in future there may be new optics with different pickup positions.
- + **Power equipment:** space available in the UL, but it needs a very long waveguide, and an integration study is needed.
- + **Cryo:** There is no way to connect to the ACS Distribution line. The only way is to install a jumper on the QRL. B. Villemin and G. Riddone say looks feasible, but very expensive (500kCHF), and needs study.

9. Commissioning report

- + This is the last week for comments and changes.

A. Butterworth, 25th March 2009