

# LHC RF Meeting

18<sup>th</sup> November 2005

**Participants:** Luca Arnaudon, Olivier Brunner, Andy Butterworth, Edmond Ciapala, Wolfgang Höfle, Pierre Maesen, Eric Montesinos, Joachim Tückmantel, Elena Shaposhnikova, Daniel Valuch.

## 1. ACS Couplers (Eric)

✚ **SA2:** Conditioning of MC 124 and 125 has reached 325 kW pulsed 500us. Another 2 weeks is estimated to complete the conditioning.

✚ **Couplers 126 and 127:** These have now been assembled and are leak tight. We have to wait on access to B867 to do bake-out, presently closed due to the recent accident.

✚ **Couplers 128 and 128:** Parts are being prepared in the workshop and we hope to do the pre-assembly before the end of the year.

*Finishing the above series of couplers will give us the total needed for all 5 ACS modules. We should have four couplers by the end of the year allowing completion of the last of the four modules for installation.*

## 2. ACS Modules and SM18 (Pierre)

✚ **Modules 4:** Module 4 has been cooled down. Thermal cycling and frequency measurement will be started.

✚ **He safety domes:** The domes for module 2 will next be completed, leak tested and fitted. This leaves two modules to be done.

✚ **Tuner bellows:** A prototype of the new design has been received. It will be mounted in a tuner drive frame and tested under vacuum, with cycling through the operating range.

✚ **Transfer of drawings CDD to EDMS:** To be agreed with CDD support early next week.

## 3. ACS Power (Olivier)

✚ **Klystrons:** K14 has been installed in SM18 and is ready for power tests next week.

## 4. ADT (Wolfgang)

✚ **Kicker tanks:** Three kicker tanks have been cleaned on the Prevessin site (not the Meyrin site as recorded last week) and are ready for bake-out by the vacuum group.

✚ **Oven tests of electrode material:** Oven tests on samples of the high purity OFE copper will start next week. The transition temperature of the copper is 150 °. This may not be valid for the actual electrodes which will have been hardened after forming (heating). During bakeout of the first completed kicker the temperature of the electrodes will be carefully monitored.

✚ **Anode supplies:** The remaining 4 supplies will be delivered by the 1<sup>st</sup> December.

! We therefore urgently need to have the lifting support approved by SC before this date.

✚ **Drive amplifier firmware:** Thales is working on the firmware upgrade to the six amplifiers recently returned.

✚ **Support design:** An iron I beam fits closely under the tanks will heat while the tanks are being baked in the tunnel. These will need to be treated or else changed for one of non-corrosive material. The chromium plating proposed may not be acceptable due to its low rate of decay of induced radiation.

## 5. APW (Eric + Info Thomas)

✚ **Construction:** The mechanical parts for the APW will be finished in one week.

✚ **Testing of first of series:** The series prototype could be brought down to  $10\text{E-}5$  Torr, which allows some initial RF power tests to be done already, while we are waiting for the vacuum group to start the bake-out.

✚ **Response and ferrite layout:** The step response has been optimised and the best ferrite layout for the rest of the series is now decided. The first PU will be retrofitted later. A vacuum of  $10\text{E-}5$  Torr has been obtained in the Lab in the 864 workshop which allows RF power and heating measurements to go on until the vacuum group are ready to do bake-out. Power applied is up to 800 W at 800 MHz.

## 6. Diagnostics (Andy)

✚ **Acquisition boards:** The invitation to tender has been sent out.

## 7. UX45 installation (Olivier)

✚ **Platform and shielding wall:** We understand that the modifications will be completed TS-CE for the end of next week. The present blocking of any activity in the area between the walls is preventing installation of the last part of the QRL in sector 4-5. There is a serious risk of delaying the pressure tests which are planned very soon. The addition of diagonal reinforcing bars on the top of the platform will require changes to the waveguide support system.

✚ **Cabling:** Cabling in the area between the walls is blocked, but work is going on in the other zones, e.g. bunkers. HV cables are being pulled in the klystron zone.

✚ **Klystron zone:** Positions of the klystrons and racks are being marked on the UX45 floor.

✚ **Faraday cages:** The patch panels on the roof are being prepared (new feedthroughs). The false floorings will be fitted next.

✚ **Bunkers:** Roof covering and installation reinforced plates for ventilation units will be finished this week.

**Next Meeting:** Friday 25<sup>th</sup> November at 08:45 in the JBA Room 864-2-B14.

E. Ciapala, 24<sup>th</sup> November 2005.