LHC RF Meeting 2nd December 2005

Participants: Luca Arnaudon, Philippe Baudrenghien, Thomas Bohl, Olivier Brunner, Andy Butterworth, Edmond Ciapala, Wolfgang Höfle, Pierre Maesen, Eric Montesinos, Trevor Linnecar, Volker Rödel, Joachim Tückmantel, Daniel Valuch, Frode Weierud.

1. ACS Couplers Eric)

Couplers 124 and 125: SA2 conditioning has been successfully completed.

Couplers 126 and 127: Bake-out could not be done due to lack of electricity in B867. The changeover of couplers on the test cavity will be done in week 50, allowing pumping over the Christmas break. There will be no SA2 conditioning during the Christmas period.

2. ACS Modules (Pierre)

4 Module 4: Thermal cycling has been completed. The module will now be cooled completely over the weekend and the cavity frequencies measured next week.

SM18 Planning: The latest <u>SM 18 planning (Dec. 2005)</u> has been finalized. Module 5 will be ready for test in April 2006 (completion June 2006). Before this, at the start of the year, modules 2, 1 then 3 will be tested in the bunker following their He dome and tuning modifications.

Tuner bellows: Welding of the prototype new bellows needs to be followed up in the central workshop. When done the new bellows will be fitted to the spare tuner drive for cycling tests under vacuum.

Tuner Springs (Olivier): 40 assemblies will be completed by next week.

3. ACS Power (Olivier)

Klystrons: The damage to the aluminium HV box, found on three klystrons, has been discussed with Thales. The top cover is affected. Solutions based on increasing the height of the box are being looked at.

SM18 klystron Klystrons K14 has been DC tested in SM18. RF tests will now follow.

4. ADT (Eric/Wolfgang)

Anode supplies: The remaining four supplies (to have been delivered by the 1st December) are now in B867, with no special transport difficulties. Moving them to their locations in the test stand will be done under the responsibility of the transport group. Testing in B867 will take a total of two months, hence they will not be connected in SR2 by the planned date of 15th December. This should not be a problem for ST-EL, but we should nevertheless inform J. Gomez (TS-EL). (Action: Eric)

4 Power testing of Anode supplies: Since the converters are not tested at full power by the manufacturer before delivery a full power test of one converter in B867 is an important priority. For this we need two completed power amplifiers, where we are waiting for improved water cooled resistors. This urgency will be taken up with the supplier. At the same time we may have to look for another supplier.

SR4 floor reinforcement: Some remaining reinforcing bars have still to be put in place before approval from D. Parchet.

Kicker tanks: Tests have been delayed in B867; the JINR team have only one more week of their present stay.

Supports: It may be possible to manufacture and fit a stainless steel crossbar, to avoid oxidization of the normal steel one after repeated bakeout.

5. APW (Thomas/Eric)

B864 lab tests and production: Transfer functions and response have been measured at temperatures reached after extended full power operation. The pick-up will now be given to AT-VA for vacuum tests. On opening to remove the Pt100s installed for the power tests some discolouration of the ferrites was noted; however no observable deterioration in performance had occurred. While some tests will be done with second generation ferrites on the Lab prototype, we are now more or less satisfied with the mechanical design for series production. The production will be late due to central workshop delays (2 weeks) and will therefore only be finished early next year.

6. Controls electronics (Luca)

ACS: All crates and chassis will be completed in about one month, as well as pre-assembled racks and I/O sub assemblies.

ADT: Parts are being sent out for production.

Rack internal cabling: Short cables, with connectors, for inter-crate cabling are being produced outside.

7. UX45 installation (Olivier)

CE Work: is now completed. Modifications to the platform and shielding walls have been completed by TS-CE and work can resume next week in the areas where it had been blocked.

Installation work: The platform modifications will now force us to make changes the waveguide support system. The general services installation is progressing well.

Other work: A walkway between the HV bunkers will be constructed

Cabling: Cabling is progressing well. 15 of the HV cables from klystrons to HV bunkers will be installed next week. An integration problem has been found with the routing of 3/8 inch flexwell cables for ADT through the waveguide holes and this will be followed up next week. Connector mounting on coaxial cables is in the TS-EL planning (S. Pelletier)

8. LLRF (Philippe)

Faraday cages: Access around the top patch panels is good. Some of the sub-D connectors used in the special filter boxes for control cables were found to be too delicate and will be replaced with ones from another manufacturer, by the Faraday cage contractor. The on-site presence of J-C Perrier has been indispensable in the Faraday cage work and in the coax cable pulling.

Electronics modules: Version 3 of the RF feedback module is with the design office. The VTU VME trigger unit version 1 has been tested to 1 GHz. Remote control has also been tested. The 380 MHz PLL is under development.

Next Meeting: Friday 9th December at 08:45 in the JBA Room 864-2-B14.

E. Ciapala, 8th December 2005.