LHC RF Meeting
3rd December 2004

Present: Luca Arnaudon, Olivier Brunner, Andy Butterworth, Edmond Ciapala, Pierre Maesen, Joachim Tückmantel, Daniel Valuch, FrodeWeierud.

1. ACS Modules and SM18 (Pierre/Luca)

- **Module 5:** Cycling has continued, we should manage the required 5 cycles before Cryo shuts down early next week.
- **Module 3:** Will be taken to the clean-room for exchange of couplers next week.
- **352 MHz:** The Soleil module is in the bunker; all systems - power and controls - are functioning well. A decision about adding electronics to allow thermal cycling of LHC modules will be taken after the tests on module 5.

2. ACS Power (Olivier)

Klystron 12 testing is finished. Klystron 13 will be tested next week.

3. Cables and Flexwell order

- **Flexwell Order:** The order should be ready to go out in 1 week. Jean-Claude has estimated the lengths for coax cables. At the moment the cable tray allocations and the cable lengths do not appear in the standard list. This needs to be done urgently in order that the equipment responsibles can easily check routing and lengths. Note that power, signal and RF cables are each taken on separate trays.
  (Action Jean-Claude + all concerned)
- **Faraday cage:** Patch panels should be checked; we presently have 68 Burndy connectors on one patch panel.

4. UX45 Integration and Installation (Olivier)

- **RF installation:** An LHC RF installation web page is now available. (It can also be accessed from the general LHC RF page). As well as general information it contains latest news, basic milestones, a list of items to be checked or followed up and also the best current estimate of the planning.
- **He safety and vent lines:** There will be a meeting on 6th December - with cryo and installation - to find a solution for the integration of these
- **RF zone – radiation and shielding:** In the present layout there are no shielding blocks to protect the areas of the RA tunnel next to the RF zone from radiation during ACS conditioning and tests. The limit of the RF zone for the access system has not been defined. The issue has been brought up recently in connection with the electron stoppers to be installed near the ACS cavities. In LEP the limit was towards the far end of the RA, with a grill, door and concrete blocks. The radiation levels from the LHC cavities will probably be less than LEP, as there are far fewer cavities. A radiation study is needed and some measurements can be done in the SM18 bunker with the next module. (For module 1 with a stopper on the module 2-20 mS/hour was measured on the bunker wall) Follow up is needed with access and radio-protection. **(Action: Olivier/Ed)**
- **ACN layout:** Errors in the layout database list have been discovered by S. Chemli concerning the sequence of left and right hand ACN cavities. Corrected lists are available via the LHC RF page. There are also minor changes to be made in the Equipment Codes drawing LHCLJ4GA0007.
- **CDD Drawings:** Many RF drawings in CDD are in an unfinished state. We need to collect any missing information and get these completed.

5. Power converter ripple (Olivier)

Following discussions with R. Genand (AB-PO) some improvement can be obtained in the power converter (5 % ripple can be reduced to 2 %, mainly on 100 Hz and 600 Hz components). Moving ahead needs the encouragement of the AB-PO group leader.

6. AoB

- **Meeting write-ups (Ed):** Feedback and comments on the minutes of these meetings is always appreciated, particularly on errors or omissions.
- **Function generator for ADT (Andy):** Re-load of the function generator for every run through of the ADT gain function with each injected batch is not required. The function can be made permanently resident. Splitting the function into parts which can be run on different timing events - as in the PS PPM system - is also possible. We have been asked to provide a functional specification so that a start can be made on the software. **(Action: Andy/Wolfgang/Philippe)**.
- **LEP Waveguides in ISR (Olivier):** Around 80 % of the waveguide material has been removed from ISR. For IHEP we are now ready to send the material. For Linac 4 the work will be finished by the end of the year. There is no news from GSI, there is still a request from INFN pending and the request from INEA has not been approved.
- **EMC and electronics construction (Luca):** Following the EMC workshop we will use the now CERN standard alodine 1200 treated aluminium for chassis construction. There may be an interest, for some applications, in using only certain components e.g. for side-plates and fixing angle pieces. A less-expensive alodine 1500 range also exists (colourless) but it is not standard at CERN.

Next Meeting: Friday 10th December at 08:45 in the JBA Room 864-2-B14.

E. Ciapala, 7th December 2004.