

## LHC RF Meeting 20<sup>th</sup> February 2004

**Present:** Andy Butterworth, Edmond Ciapala, Wolfgang Hofle, Roberto Losito,  
Eric Montesinos, Volker Rödel, Joachim Tuckmantel.

### 1) ADT (Wolfgang)

- **Feedthroughs:** tests have been discussed between H. Preis and M. Jimenez and will be documented on the ADT web page.
- **Ceramic supports:** The rhenium coating has been approved by the Vacuum group.
- **Vacuum layout:** M. Jimenez would like to put pumping ports in between the damper modules, to simplify the mechanical arrangement, implying repositioning of the damper modules. Details will be discussed in a vacuum meeting on Monday 23<sup>rd</sup> February.
- **Driver amplifier:** The manufacturer has started burn-in tests on the prototype P002. Formal acceptance tests are scheduled for March 9, 2004. F. Weierud is working on a thorough overhaul on the controls description document. All Documents will later be registered in EDMS, probably under a unique EAD number.
- **Anode Supplies F536:** For a small additional charge it will possible to increase the ratings of some components and have additional protection against over-loading the power converter. This will have to be approved by Trevor and Project Management.
- **B867 Test Area:** Wolfgang and Eric have agreed on the layout and prepared a specification. Planning has started; work will start after SPS start-up, the goal is to finish the test area by June 2004. LHC Damper equipment will arrive towards the end of 2004 for installation in this area. Also agreed upon is the future integration of the maintenance of SPS and LHC dampers into the SR section.

- 2) **Dust Traps:** Joachim will present the dust-traps at the LTC on 3 March 2004, and a decision is expected thereafter. It is preferred to make the design of the dust traps such that they can be installed on the free space available on the damper support.

### 3) SM18 and Modules (Roberto)

- **Module 3 test:** Tests continued on module 3. Three cavities have been conditioned to well above nominal field. Cavity D still quenches from time to time. Polarization will be applied to compare behaviour with and without. Long term running will be done on one cavity, to check for any effects.
- **Module 2:** Will be cycled after the above tests, while the couplers for module 1 are being prepared.
- **Module supports and positioning:** tests on the tunnel mounting supports will be done in SM 18 this coming week. Manoeuvring of the module into its position in the tunnel will be simulated.
- **Operation:** (Luca)
  - **HV trips** have been identified as being due to water flow meters. Whether this is due to faulty flow meters or to air in the system will be checked (the filtering in the electronics is of the order of 100 ms) The same flow meters are used in Hall 112 without problems. (Action: Luca)
  - **The PLC sequencing** now works well.

### 4) Power Couplers (Eric)

- **Coupler production:** Refurbishment of the floor in the B252 laminar flow system has now been completed. The next two couplers will be assembled in the coming week, to be followed by bakeout the week after, then conditioning in SA2.
- **Planning:** The overall planning for coupler production, assembly and test has been updated.

**5) IR4 Layout and Installation (Volker)**

- **Water cooling for ADT:** The drawings have been completed by B. Pirollet TS/CV.
- **Flexwell cables:** will be ordered by TS/EL. Note that cables will be pulled in July 2005.
- **Equipment identification:** The naming convention needs further clarification.  
**(Action: Volker, J-C Perrier et al.)**
- **Vacuum Integration:** A meeting will be held with M. Jimenez on the February 23<sup>rd</sup> to discuss positioning of BPMW pick-ups and dust traps, positioning of ADT, transitions etc., as well as other outstanding items.

- 6) RUX45 Acces:** The [minutes of the meeting on RUX45 access](#), held on 13<sup>th</sup> January with AB/OP, AB/BDI and AT/VAC, have now been received from C. Despas.  
[A reply to questions arising concerning RF](#) was returned on 18<sup>th</sup> February.

**7) LLRF (Ed on input from Philippe)**

- **Variable gain of the RF feedback function** of the coupler position (coupling factor) had been discussed with Joachim and the hardware includes this facility. The gain used in the tuner algorithm (DSP in the Tuner Control card being developed by Ragnar Olsen and John Molendijk) should also depend on the coupling. The coupler position must therefore be available to the DSP. This has been discussed with Luca (serial link?) and must be finalized.  
**(Action Ed, Luca, John, Ragnar)**
- **Market Survey for the UX45 Faraday Cages:** is being prepared. We now have a list of five European companies: two Swiss, two French and one Dutch.
- **Manpower:** Steven Livesley (LR section) is not available to work on the LHC anymore.

**Next Meeting:**

**The next meeting will be devoted to the Low Level RF system for LHC; its design, planning and the tests to be done in SM18,**

**Friday 27th February 2004 at 08:45 in J. B. Adams Room (864-2-B14)**

E. Ciapala, 23<sup>rd</sup> February 2004.