# LHC RF Meeting 6<sup>th</sup> August 2004

**Present:** Luca Arnaudon, Olivier Brunner, Andy Butterworth, Edmond Ciapala, Wolfgang Höfle, Pierre Maesen, Daniel Valuch.

### 1) ACS Couplers

• **Conditioning:** Conditioning of couplers 111 and 112 in SA2 is progressing well; 100 kW continuous has been reached.

### 2) ACS modules

• **Module 1:** Has been successfully baked, second ceramic region included (to 110 degrees). The module was successfully leak tested after bakeout. This is a very encouraging result. Assembly of ancillary components will be done in week 35. The module is planned to go in the bunker the following week.

• **Module 3:** Remains in the bunker. Cool down, test of instrumentation (LHe level) and interlocks, installation of power measurement for conditioning etc. are all ongoing. The start of conditioning and bunker radiation tests are planned for next week, ready for LLRF tests with the cavity in week 34.

## 3) SM18 RF tests – Klystrons & LLRF set-up

• **Amplitude ripple:** Work on this has continued. The discrepancy between expected amplitude noise, (2 kW pp based on measured power converter ripple) and the  $\sim$ 10 kW pp measured would appear to be mainly due to ripple on the klystron modulator (6 kW pp on RF estimated from measured modulator voltage ripple). Means to reduce or eliminate this are being discussed.

4) ADT Status (Wolfgang)

• Kickers: The two short test chambers have not yet arrived from Dubna.

• Anode power converters: Estimates for 12-pulse operation, as well as transformer and switchgear options will be discussed on 11<sup>th</sup> August. Study of electrical installation options and costs is done by Karsten Kahle (ST-EL.)

• **Manufacturers' guarantees:** Since much of our equipment, including the above supplies, may not be used till well after delivery and well into or even after the normal guarantee period, the ensuring of manufacturing quality and proper repair support is a problem. Extended guarantees and agreement to late release of final payments are difficult to obtain. For some components (e.g. klystrons) a given time of operation, e.g. 10,000 hours, has been specified.

#### 5) B867 test area for ADT (Wolfgang)

• Electrical installation: This is presently being re-done, with the help of Karsten Kahle. The whole area is also being cleaned up. (Eric)

• Scope: There is a strong interest (see above) in installing two amplifiers in order to run the anode converters at full power in real operating conditions - assuming this can be done for minimum additional cost and manpower. It would best be planned right from the outset.

## 6) DiC & Cabling lists (Luca et al.)

• ACS: The new re-organized cable list, with its supplementary information fields and sorting facilities, has been completed by Luca and Jean-Claude. This has been a very well done and useful effort which can now easily be followed for other systems. An <u>EXAMPLE</u> shows the format and facilities. All ACS cables have now been entered. Destinations of some LLRF and PU diagnostics cables in SR4 still need to be defined. This work of defining equipment layout in SR4 now needs to be completed with the specialists concerned.

(Action: Luca, Ed, Philippe, Thomas, Andy)

• ACS RF diagnostics cables: The layout of RF cables for diagnostics in UX45 and the assignment of the coax cables from UX45 to SR4 for ACS LLRF was finalized on 30<sup>th</sup> July. (Philippe, Andy, Luca, Ed.) A short summary will be prepared. (Action: Andy)

• **ADT:** Naming for ADT has been decided and is now completed (see the proposed <u>ADT</u> <u>NAME LIST</u> from Wolfgang and Frode) The formats follow that used for ACS. Cable lists using the same format as for the ACS will then be compiled.

• ADT RF diagnostics cables: The layout for ADT diagnostics is presently being finalized by Wolfgang and Andy

• ADT equipment in SR4: As for ACS the definition of ADT equipment layout in SR4 also needs to be completed (Action: Frode, Wolfgang, Eric, Andy)

• **Cabling of equipment inside racks:** This can be defined next, using a very similar standard form of cable list. This will be useful to identify the large numbers of connectors and types needed and simplify their ordering.

#### 7) Integration in UX45

• No news

#### 8) Planning and commissioning: (Olivier)

• The planning is based on a 25 month 'incompressible planning', starting from the completion of sector 7-8, to be announced.

Next Meeting: Friday 13<sup>th</sup> August at 08:45 in the JBA Room 864-2-B14

E. Ciapala, 9<sup>th</sup> August 2004