LHC RF Meeting
4th June 2004

Present: Luca Arnaudon, Philippe Baudrenghien, Andy Butterworth, Olivier Brunner, Edmond Ciapala, Wolfgang Höfle, Pierre Maesen, Trevor Linnecar, Roberto Losito, Volker Rödel, Joachim Tückmantel, Daniel Valuch.

1) ACS couplers (Ed on info from Eric)

- **Couplers 107 and 108:** Have now been conditioned to well over 300 kW. The output coupler can see considerably more power for some reflected phases. The conditioning progressed well after the interruption for the klystron upgrade. The new klystron, the HV modifications and the new control and interlock systems have all proved to be extremely reliable. Power estimations from klystron measurements and from cavity measurements now agree, there being roughly 30 kW lost in the waveguide system at full klystron power. Eric will present the recent experience at a future meeting.
- **Couplers 109 and 110:** These have now been assembled and successfully baked and will be mounted on the SA2 cavity. Conditioning is expected to take around 3-4 weeks.

2) SM18 (Roberto)

- **Cycling:** Module 2 cycling is ongoing. It was interrupted during the week by cut of supply from the SM18 cryoplant and has not restarted. The stop was partly related to increasing demand in SM18; this is a concern for future operation, particularly if we envisage doing cycling and conditioning simultaneously. All being well, module two will be finally cooled and tested by the end of week 25. Measurements done so far indicate all cavities are within 30 kHz of each other.
- **Planning:** The planning of module tests and LL RF tests was briefly discussed, it was agreed to treat it in detail at the regular Friday afternoon SM18 work planning meeting.

3) ADT (Wolfgang) *[with corrections to write-up 9th June]*

- **Drive Amplifiers:** The next three amplifiers are ready for delivery. While there has been no direct feedback on our proposals for modification of the controls interface, a revision of the control card is in progress.
- **Drive Amplifier Test Procedure:** A reduced test procedure has been proposed by the manufacturer for the production series. Also, entry of test results into EDMS directly by the manufacturer is too heavy. The test procedure could simply be based on an Excel template, filled in by the manufacturer; easily verified for completeness by us. The results would be finally put into EDMS by us.
- **Dubna:** Evaluation at CERN has confirmed problems with the use of the proposed 316L type stainless steel for the kicker tanks. The standardization of this type is due to its suitability for thin walled pressure vessels and ducts, e.g. for cryo. Acceptance of high quality type 304L, better suited for construction of the kickers (welding of flanges) and already available to Dubna from Russian manufacturers, is being discussed with the MME specialists.
- **Anode Supplies:** The consequences of pulsing and induced network disturbances are being followed up.
- **B867 Test Stand:** The area has been prepared. It is intended to give responsibility for the cooling water installation, both in B867 and in the machine, entirely to TS-CV and B. Pirollet will come to assess the requirements next week. Note that for the ACS power system the RF group will be responsible for the system, up to its connection to the main supply.

4) UX45 Layout (Volker)

- **CV Costs:** No news yet on the cost estimated by TS-CV in the ECR LHC-LJA4-EC-001 for the new UX45 layout.
- **Platforms:** The design will be completed by the last week in June.
- **Shielding wall:** Design now being done by the contracted engineering company.

- **Cryo vent and safety release lines:** (Roberto) These need to be included in the UX45 integration. Details of the quench valve outlet modifications and connections first have to be agreed with cryo (L. Serio) and drawings made. (with the help of Sylvain, as soon as the present work on cable trays is completed in 2 weeks) **(Actions: Roberto, Ed, L. Serio with Sylvain)**

5) SR4 Control Area Layout (Volker)

- An initial proposal was presented to start the discussion. The use of control room type consoles and the need to determine the precise number of racks needed were brought up. It was decided to hold a further meeting with all directly concerned as soon as possible. (e.g. following Monday) **(Action: Volker)**

6) Software and Commissioning (Andy)

- Software for RF commissioning (and machine operation) will be presented in a future Commissioning Committee meeting. Our software framework has now been chosen (IEPLC and FESA). Requirements, resources and planning will be agreed with CO group before this CC meeting. **(Action Andy et al.)**

Next Meeting: Friday 11th June 2004 at 08:45 in the JB Adams Room 864-2-B14.

Topics:

- Coupler Conditioning - experience in SA2
- SM18 medium term planning
- More on SR4 layout

E. Ciapala, 8th June 2004.