

LHC RF Meeting

24th September 2004

Present: Luca Arnaudon, Olivier Brunner, Andy Butterworth, Edmond Ciapala, Wolfgang Höfle, Trevor Linnecar, Pierre Maesen, Eric Montesinos, Joachim Tückmantel, Daniel Valuch, Frode Weierud.

1. ACS Couplers (Eric)

- **Couplers 113 and 114:** These have been assembled and fitted to the test cavity; bake out will be done next week.

2. ACS Modules (Pierre)

- **Module 1:** Antenna calibrations have been checked, The Qext values for the antennas are around the expected 10E11, the same value is measured for all positions of the couplers. Conditioning of Cavity A has started; 100 kW cw was quickly reached. (Eric).
- **SM18 Planning:** The planning has been redone. (See [current latest version](#).) It would only be possible to complete all 5 modules by the end of 2005 if the second bunker is equipped for thermal cycling and other tests. Module 3 (with one damaged coupler) will have its couplers removed for tests and the next available group of four couplers will be then fitted.
- **Second bunker operation:** Some time will need to be set aside for commissioning of the klystron and controls for this bunker. Once operational, switching from one bunker to the other when power tests are needed in the second bunker, would take approximately ½ day. The HV can be switched over easily but the critical operation is the setting up of the water system, where valves will have to be set to give correct flows and pressures. This may become easier with practice.
- **Module supports:** The ex-LEP magnet jacks which will be used to support the modules in the machine will need to be fixed on supports of 90 mm height to bring the centre of the module to the required 1100 mm beam axis. (This has been studied by C. Ruivet)

3. ACS Power (Olivier)

- **Klystrons, loads & circulators:** Klystron 10 has been tested. The three last loads and circulators have now been delivered and will be tested early next week. Quality control on the loads has not been very good; some bolts have been over-tightened and their heads damaged.
- **Klystron HV box:** A new design to accommodate a divider for the modulator is being built in the central workshops. There is a danger of corona discharge in the confined volume and distances between certain components may have to be increased.

4. ADT Progress (Wolfgang)

- **Kickers:** Following successful tests by M. Jimenez (AT-VA) we have contacted Dubna and given the go-ahead for the start of production. A question concerning the preparation of the alignment plate has been raised, as to whether it can be made to the required +/- 0.25 mm precision. Finally this will have to be made as close as possible and adjusted after production. Experience will be gained with the first series production kicker.
- **Anode Supplies:** Harmonic disturbances have been re-estimated by TS-EL at values slightly higher than previously but this should not affect the overall argument for the 6-pulse solution. The potential supplier will be visited in week 41, with the responsible from FI.
- **B867 Test area:** Water and electricity will be installed by end of November. Eric will present the planning next week.

5. AoB

- **Material inventory for INB:** We are required to estimate the quantities of different materials which will be contained in the underground equipment. For RUX45 this will be done by C. Ruivet and for UX45 by J-C Perrier.

- **Naming:** The official layout names have been re-discussed with R. Billen and R. Lauckner and a [final proposal](#) to be put into the database has been made (present contents [here](#)). Pick-ups have their initial letter corresponding to their constructor group (A for RF, B for BDI) hence ADT PUs are BPAWH and BPAWV (BPAWT for the assembly). ADT kicker assemblies are ADTGL and ADTGR. ACS modules are back to ACSGA. The proposed names and descriptions should be checked and any errors reported to Volker or Ed. **(Action: All)**

- **Layout and Equipment Naming Drawing:** (LHCLJ4GA0007) There is a discrepancy between the list of names and the drawings in the order of ADT kickers on the Left side of the IR. This needs be corrected. **(Action: Wolfgang/Volker)**

- **Water cooling equipment from LEP:** Material stored in B967 needed for ADT in UX45 will be taken out. (None needed for 867 test area).

- **Vacuum work and installation.** We are increasingly reliant on TS-VA group support, especially in the SC module and power coupler activities. We have to ensure that this will be guaranteed to be available when it is needed, otherwise we cannot complete our work as scheduled. Furthermore there are a number of issues to be followed up concerning the LHC machine and tunnel equipment: Amongst these are:

- UX45 vacuum layout
- Status of electron stoppers
- Electron cloud test system at IR4?

These issues should be taken up for discussion with M. Jimenez
(See [previous vacuum meeting](#) 4th Feb 2004)

(Action: Ed)

Next Meeting: Friday 1st October at 08:45 in the JBA Room 864-2-B14