

LHC RF Meeting

2nd July 2004

Present: Luca Arnaudon, Andy Butterworth, Edmond Ciapala, Wolfgang Höfle, Volker Rödel.

1) Installation Planning (from Olivier)

- A [new general installation planning proposal](#) has been made by S. Weisz, based on a revised schedule for QRL installation. For Point 4 the QRL is to be completed by end May 2005, not much different from the previous planning. Based on this and on some direct discussions with S. Weisz, Olivier has produced a resulting summary planning for the RF system. The hardware commissioning dates and schedule already defined remain valid.

The major installation constraint is QRL completion. AT-CR presently insist that CE work on tunnel walls, shielding wall and platforms may not start till full installation of the QRL around IR4.

➡ **Work that can (and therefore must) be done before QRL completion** is the following:

- Installation of ADT and ACS racks in UX45
- Installation of main cooling pipe connections in UX45
- Construction of HV bunkers in UX45
- SR4 control room construction and infrastructure
- Completion of cabling lists.
- Installation of cable trays, possibly partial cabling (e.g. UX to SR4?)

➡ **After QRL installation comes CE work:**

- Construction of tunnel walls
- Construction of shielding wall
- Construction of UX45 platforms

Then:

- Installation of cooling and ventilation, for end November 2005
- Installation of power equipment, klystrons, waveguides in UX45, for mid June 06
- UX45 Faraday cages, for end October 2005
- Cabling, from Sept 05 to March 06

➡ **Tunnel Installation (RUX45):** The ACS modules must be installed by end of 2005, to allow pressure testing with the QRL in February 2006. Clearly having all other equipment installed by then, ADT kickers, all PUs, dust traps, stoppers etc. together with all vacuum chambers and vacuum equipment would be an important overall saving in effort. This would need very close collaboration with the vacuum group!

➡ **Installation & pre-test of electronics crates** would follow straight after (or partially overlap) cabling, continuing till the start of RF power commissioning.

➡ **RF power commissioning**, in September 2006,

➡ **Cavities and damper RF commissioning** following the existing commissioning planning, till mid-2007.

2) ACS Modules and Couplers

- **Couplers:** Couplers 109 and 110 for module 1 are now conditioned in SA2 to 270 kW and should be finished by early next week. Mounting will be done in week 29.

- **Module 3:** has been installed in the bunker. Adjustments were done to the supports and the waveguides. New instrumentation for module parameters has been installed and tested successfully. The module will be cooled down next week and carefully surveyed for correct operation of the control system and the interface to the cryogenics. Some RF measurements will then be done. A plan for subsequent tests and LLRF work should now be made; the module will remain in the bunker till the end of August. **(Action Philippe, Trevor, Ed. Pierre)**

3) SM18 second bunker: Since thermal cycling is progressing well and we may in any case be limited by cryo power, the decision to equip the second bunker will not be taken for now.

4) Equipment Functional Names (Ed)

- A slight modification in syntax is proposed to the functional naming convention decided last meeting. Rather than having the beam number precede the equipment number, it should come after. i.e. we now have ACS 1.B2 instead of ACS B2.1. This also follows the syntax of the layout name. A [final proposal](#), showing both installation layout names and functional names has now been completed accordingly.

5) DiC – Definitions of Equipment (Luca)

- The definition of what constitutes ‘equipment’ and ‘elements’ needs to be clearly established for compilation of the Cabling Requests (DiC) to prevent inconsistencies across the different RF sub-systems. The following ‘rules’ are also proposed: (see [examples](#))

- The positioning of the cable should be relative to the equipment (not the element)
- ‘Vertical’ coordinates should be in units from ground
- ‘Horizontal’ positioning should be the name of the connector. (as indicated on label next to it)

- A difficulty arises with the UX45 HV bunkers. If classed as themselves as ‘equipment’ then the equipment inside has to be classed as ‘elements’. The cabling coordinates in the lists would then be relative to elements, not equipment. A solution is to take the equipment as ‘equipment’ but to include the bunker name in the equipment name. This point is illustrated in the examples.

Next Meeting: Friday 16th July at 08:45 in the JBA Room 864-2B-15

E. Ciapala, 8th July 2004