LHC RF Meeting 20th May 2009

Participants: Wolfgang Hofle, Pierre Maesen, Urs Wehrle, Joachim Tuckmantel, Wolfgang Weingarten, Andy Butterworth, Edmond Ciapala, Trevor Linnecar, Frode Weierud, Thomas Bohl, Eric Montesinos, Daniel Valuch, Frederic Dubouchet, Luca Arnaudon, Oliver Brunner,

1. New Injector RF meeting

The LHC-RF meeting will alternate every 2 weeks with the Injectors RF meeting chaired by Erk.

2. LHC operation Web page

- A new LHC-RF Operation web page has been made by Olivier: <u>https://espace.cern.ch/lhcrfoperationpage</u>
- **4** The site is collaborative, all users can add and edit documents and information.
- We will try to put all procedures for starting up etc. The piquet responsible should be also responsible for keeping this page up to date.
- **4** It should also incude a basic planning of LHC startup with the sector cooldown schedule.

3. Access during powering tests:

- **4** An ECR is in preparation.
- Personnel must be protected from the arcs: we need to link the green doors giving access from UX45 to the platform to the access system to restrict access to UX45, including the platform on the cryo side.
- ↓ Olivier will meet Laurette on Friday to discuss this.

4. LHC status and planning

- 4 Interlock tests have been done, HV and Power converter tests are ongoing.
- Communication with the Power Converters is OK now, after some problems linked to RBAC (Role Based Access Control).
- All klystrons are at 58kV (nominal), and increasing the current. Will continue until next week, do calibrations and then start switching on RF.
- Last week cleaning was done in RUX45, and maintenance done on Main Couplers and blowers, the filters were changed. No dust was found inside the waveguide.
- An RF Dry Run is scheduled for week 27. UX45 will be cold but not closed. The waveguides will probably be connected so it will not be possible to put on HV. One aim of the dry run will be to test the beam control sequencing from LSA.

5. Arc detector radiation damage

- The main coupler arc detector fibres were found to be discoloured by radiation, with the result that the detectors don't see the arcs any more. There are 2 possibilities to rectify this:
 - 1. shield the fibres with iron, or
 - 2. investigate the possibility of acoustic arc detectors.
- 4 A second (undamaged) arc detector a few metres away gives a backup.
- Arc detector tests can be done at any moment with the incorporated test system, so we can test regularly to follow the evolution of the degradation.

6. Driver amplifiers

- We will buy 5 drivers this year, install a small number in LHC to check reliability and then gradually replace all of them.
- 4 Spare transistors have been bought for the whole series of existing amplifiers.
- **4** Some amplifiers are dead due to bad solder joints, signs of an ageing process.

7. ADT

HOM loads are being replaced. Some critical screws have been ordered, and the installation will be finished when they arrive. ↓ One week will be required with access for passive measurements.

8. APW

- ↓ Very little progress so far on the OASIS improvements requested from CO:
 - o limitation of 800kPoints
 - crate unstable, crashes often and needs several reboots to get it going
 - revision of user priorities and display of channel mastership needed
- Slow acquisition: Andy is resurrecting the FESA classes made by Valery 2 years ago. Problems with compilation, driver libraries etc., it still needs some time to get it going.

9. SM18

- **4** Module LHC5 is now fully conditioned.
- Helium may be possibly available for 2 days next week. The next available helium in SM18 will be after UX45 is cold (15 June).
- The SM18 front-end software will be migrated to FESA 2.10 as a test before migrating UX45. We will agree a date when there is no more helium. It will take 1 or 2 days to debug. A test of the ALLLine surveillance and sequencing (auto switch-on) class will be done if possible while we still have helium.
- There has been a cryogenic needs review for SM18. No official finding has been announced yet but there is a clear need for replacing the cryo line.

10. AOB

- **4** The RF commissioning report is now out. Thanks to Trevor for editing it.
- It has been agreed that vacuum sector valves will remain closed during hardware commissioning.
- Running over Christmas: No decision has been taken yet, but the consensus seems to be that it is better to stop over the 2 weeks.
- A. Butterworth, 2nd June 2009