**RAT in Point 8 Réunion Avancement Travaux**

HARDWARE COMMISSIONING COORDINATION - WEEK 5

1\textsuperscript{st} February 08:30 2889-R-009

**Present:**

AB/BT: J.Uythoven  
AB/CO: R.Lauckner, R.Schmidt, R.Harrisson  
AB/OP: R.Giachino, J.Ridewood  
AB/PO: H.Thiesen  
AT/ACR: F.Millet, R.Rabehl, A.Suraci  
AT/MCS: F.Savary  
AT/MEL: D.Bozzini, S.Russenschuck  
AT/MTM: A.Siemko  
TS/EL: J.C.Guillaume  
TS/IC: E.Barbero, J.L.Grenard

**Sector 78 (M.Coccoli, A.Vergara)**

**Cool-Down (F.Millet)**

- The cool-down is progressing well. The cooling power was at its nominal value yesterday with no incidences. During the night it was reduced to 40\% and during this morning the nominal conditions will be recovered. The inlet and outlet temperatures are 120 and 180\textdegree{}K respectively. Almost all the magnets are below 200\textdegree{}K and the average temperature of the sector is around 160\textdegree{}K.

**ODH tests next week**

- On Monday 5\textsuperscript{th} and Tuesday 6\textsuperscript{th} some tests on the ODH systems will validate them in a way to allow a safe access to Sec78. The work in point 7 should finish by Monday afternoon. This means that the full access to Sec78 will be allowed from Wednesday 7 morning (anyhow F.Millet recommended to discuss every activity at the RAT meetings before starting them).

- On Monday 5\textsuperscript{th} and Tuesday 6\textsuperscript{th} the LHCCOOL access restriction will still be valid (being required to D.Hay); during these 2 days the access will be granted to the EIQA team, only (carrying one portable ODH device per team).

**Preparation for Powering**

- The UPS PIC boxes installation and the preparatory work planned for Mon 5\textsuperscript{th} and Tue 6\textsuperscript{th} will be interrupted by the insulation tests and
ODH tests. The access to the Point 7 areas will be discussed again on Tuesday 6th at the RAT meeting.

Other activities planned for Week 6
- A.Suraci informed that the activities he will carry on from Wed 7th to Fri 9th will be:
  - Download of the new version of the PLC/PVSS/Gateway (plus tests);
  - Installation of a control box EH/TT 971_AB in RE82;
  - Installation of a Gateway in SHR8;
  - Changing 4 connectors on 2 cables in the UA83/machine side.

Sector 81 (M.Coccoli, A.Vergara)

Warm Magnets (M.Coccoli)
- The power converters setup is ongoing: today the work on the transfer line PC will be completed; tomorrow the compensators PC will be fully setup and the campaign will be completed.
- This afternoon a communication test with the Control Room will be performed. This will be done in coordination between the AB/OP team and M.Coccoli in order to ensure the safety during the test. In any case, during the tests, at least one person will have to be in the tunnel to make sure that nobody is in the neighbourhood of the involved magnet.

Open Issues

AC non-conformity
- 29.01.07 Installation of UPS PIC boxes (E.Barbero)
- 13.11.06 Non-conformity of the crates of cryo instrumentation (inrush current) (A.Suraci: ready next year)
- 13.11.06 Non-conformity of the AC cabling of the crates under the magnets. This concerns ACR, MEL & VAC.

DC cabling
- 19.01.07 Warm Magnet cable positioning to be changed to avoid “antenna” effects (M.Condemine, J.C.Guillaume)
- 22.11.06 Pre-connection of 120A cables in LSSR7 (TS/EL) - PC Non conformities (H.Thiesen)

Instrumentation Cabling
- 12.01.07 Cryo-instrumentation cables: 2 LSS8L connectors (A.Suraci-J-C.Guillaume)
10.01.07 Continuity error with cable 1813004A and a wrong housing of 1702440 which should be replaced (D.Bozzini)

Cryogenics
16.01.07 Vac-Cryo Interlock tests - window of 1 day needed (P.Cruikshank-F.Millet)
22.11.06 Instrumentation and remote control not fully stable (P.Gayet - F.Millet)

Safety
General remark: written communication in advance to announce operations!!!
23.11.06 Water leak on the tunnel concrete wall to be fixed (C33L8).

Preparation of powering test
30.11.06 El_QA performed on C16L8. ICC test showed reversed sequence of V-taps on circuit RCBV16.L8B1 (D.Bozzini)

AOB
08.01.07 Re-installation of 3 BLMs interfering with pumping groups (B.Dehning)
13.11.06 BPM connection in Q2 (R.Jones) - waiting for Inner Triplet to be repaired

Closed Issues

Mobile camera installed, tested, fully operational (K.Kershaw) 16.01.07
DFBXG Temperature sensors repaired (R.Rabehl) 16.01.07
Warm magnet transport stuck in the arc 78. 15.01.07
Connection of the NC Magnets in LSS8R (J-C.Guillaume) 15.01.07
DFBX Pumping of Current Leads insulation vacuum (S.Feher, P.Chambouvet) 15.01.07
QPS - 2 cables need repair (R.Denz-D.Tommasini) 12.01.07
DFBXG non-conformity on the current lead heater cables 1821322 and 1821323 (P.Chambouvet-J-C.Guillaume) 12.01.07
Cryo-instrumentation cables: 2 LSS8L + 1 LSS7R to be pulled (A.Suraci-J-C.Guillaume) 15.01.07
Bad positioning of the 13 kA power cable cossets corrected (J-C.Guillaume-P.Denis) 11.01.07
Cryo-instrumentation cables at DFBX inversion sorted out (A.Suraci) 10.01.07
Calibration of the Arc Detectors on the 13 kA EE System (K.Dahlerup-Petersen) 19.12.06
Short-to-ground in QBBI.A21R7 (Lyra side) (D.Bozzini, F.Seyvet) 19.12.06
BPM connection in Q3, Q4, Q5, Q6, Q7 (R.Jones) 15.12.06
DFBAO Functional test on the leads heaters 15.12.06
DFBXG 100V test on current leads (S.Feher) 15.12.06
Repositioning of 1 DC cable on DFBAO and of 2 DV cables on DFBAN (all 13kA) (J.C.Guillaume) 14.12.06

Wooden structure for UA access restriction (that will allow transport) 12.12.06

Non conformity in DFBMH, DFBAN and DFBXG current lead heaters (P.Chambouvet-J.C.Guillaume) 12.12.06

Galvanic insulation installation on all DFBs (AT/MEL) 08.12.06

Re-positioning collars used to fix the WRL to the CLs (all DFBs) (A.Perin-D.Bozzini-F.Millet) 08.12.06

6 kA and 13 kA cables positioning at DFBAO, DFBMA, DFBMC (Flohe) 08.12.06

Functional test on the leads heaters: DFBMA, DFBMC 08.12.06

ElQA-TP4B safety procedure (1900 volts tests!). 07.12.06

Cool down safety procedure & access conditions 07.12.06

Instrumentation cable HV tests in LSS8L (A.Suraci: 4 cables to be tested) 06.12.06

Non-conformity on instrumentation cables (temperature sensors on current leads) (A.Suraci: 3 cables are in repair-Wed.29th) 06.12.06

Quench protection continuity tests and cables assignment LLS7R (DFBMH, DFBAN) and LSS8L (DFBMC, DFBMA and DFBX) 06.12.06

DFBAN cable positioning (J.C.Guillaume) 06.12.06

Access & Safety Cable Installation (full sector) (J.C.Guillaume) 06.12.06

ElQA-TP4-A for all DFBs sector78 04.12.06

Water circulating in UA83 for the Powering Procedure Test: filters checked, installation of flexible cables by CV. 04.12.06

LHCb ODH System ready 04.12.06

Definition of owner of activity and pumping needs for current leads insulation vacuum (DFBX) (S.Feher, R.J.Rabehl) 04.12.06

DFB instrumentation cables to be connected (A.Suraci) 04.12.06

Functional test on the leads heaters DFBMA 04.12.06

Functional test on the leads heaters DFBMC 04.12.06

Non-conformity of the DC cabling of the orbit corrector power converters 04.12.06

Pretest of 60A converters in sector 78, location C16L8. 30.11.06

ElQA-TP4-A on DFBAN, DFBMH, DFBAO LC module 29.11.06

Pumping of insulation vacuum for all DFBs between 7 and 8 (except DFBX) 29.11.06

Functional test on the leads heaters DFBMH 29.11.06

Functional test on the leads heaters DFBAN 28.11.06

Pumping of current lead insulation vacuum DFBAN 25.11.06
120A and 600A positioning on DFBAN and DFBMH (INEO) 25.11.06
Missing labels on DFBAO instrumentation cables 24.11.06
Adjustment of cable length on DFBAO 24.11.06
Prototype of galvanic insulation to be tested at Point 6 23.11.06
Definition of Safety procedure for Powering Procedure Test (aka Dry Runs) 23.11.06
Leaks on DFBAO gas recovery line in repair/installation of helicoflex 22.11.06
21 leak detectors to be placed all along the arc 78 22.11.06
Connections (made by TS/MME) of 120 A cables to be verified (TS/EL) 22.11.06
600 A cable positioning on DFBAO 22.11.06
Pumping of current lead insulation vacuum DFBMH 21.11.06
Pressurized air supply to valve on WRL 21.11.06
Support on DFBAO WRL 21.11.06
Bellows in Q6-Q7 LSS8L which had been damaged, is now repaired 20.11.06
Valve on the WRL is operational 20.11.06
Leak in arc Q11-8L 20.11.06
Cryogenic valve manipulation on DFBX 20.11.06
Removal of some BLMs in conflict with the pumping groups 17.11.06
120 A Cables connection in DFBAO, DFBMC, DFBMA and DFBX LSS8L 17.11.06
DS7R and DS8L leak test finished 17.11.06
Leak in R7 repaired 17.11.06
Q6-Q7 bake-out completed 17.11.06
Current lead vacuum: man power and pumping groups availability 15.11.06
Hydraulic connection of the current leads 15.11.06
DFBX AT/MEL Transformers installation 14.11.06
WRL connection DFBMH LSS7R 14.11.06
ELQA-TP3 test of the sector 78 14.11.06
Polarity tests of the 600A and 120A cables for DFBAN and DFBMH (LSS7R) 14.11.06
QUI available 10.11.06
Pressure tests of QUI and DFBs safety valves finished 10.11.06
QRL valves available for all sector 09.11.06
QRL valve opening/cabling verification 13.11.06
Interconnections DFBAO, DFBMA and DFBMC. 13.11.06
WRL connection at DFBMC, DFBMA and DFBX 13.11.06
Milestones: Test Schedule

Week 45  Interconnections
End week 46 [18.11.06]  Leak Test
End week 47 [24.11.06]  Pressure Test
Week 47-48  EE sensor tests in RR77
Week 48 & 49  Purge and filling
Week 49  Dry Run
Week 49  Short Circuit tests of 60 A
Week 49 [07.12.06]  Diesel Tests
Week 49  ELQA-TP4B (Phase I)
Week 50  Flushing
Week 50 [15.12.06]  ELQA-TP4B (Phase II)
Week 02 [15.01.07]  ELQA-TP4B (Phase III)
Week 03  Cool Down Sector 78
Week 05  Preparation for Powering Tests
Week 08  Decision on DFBs clamps disconnection from Sector 78 (to use them in Sect45 and Sect81)

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Next RAT meeting
Monday, February 5st 8:30 @ P8 2889-R-009

Mirco Coccoli