RAT in Point 8 Réunion Avancement Travaux

HARDWARE COMMISSIONING COORDINATION - WEEK 3

16th January 08:30 2889-R-009

Present: AB/PO: H.Thiesen.
AT/ACR: R.Rabehl, F.Millet.
AT/MCS: A.Poncet.
AT/MEL: D.Bozzini, P.Chambouvet, S.Feher.
AT/VAC: P.Cruikshank.
LHC/DI: L.Evans.
TS/EL: J.C.Guillaume.
TS/HDO: R.Saban, M.Coccoli, B.Perea, M.Pojer, M.Solfaroli.

Preparation of the Cool-Down in Sector 78, 81 and 45.

Sector 78

Cool-Down (F.Millet):

- As shown in the figure below (courtesy of F.Millet), the cool-down of the QRL sector 78 (C to D) started yesterday evening at around 20:15. The flowrate was of 200 g/s at 17 bar with a setpoint in the regulation precooler of 275 K. The propagation of the front end throughout the QRL can be observed (pink-$T_{\text{in QRL}}$ / violet-$T_{\text{out QRL}}$).

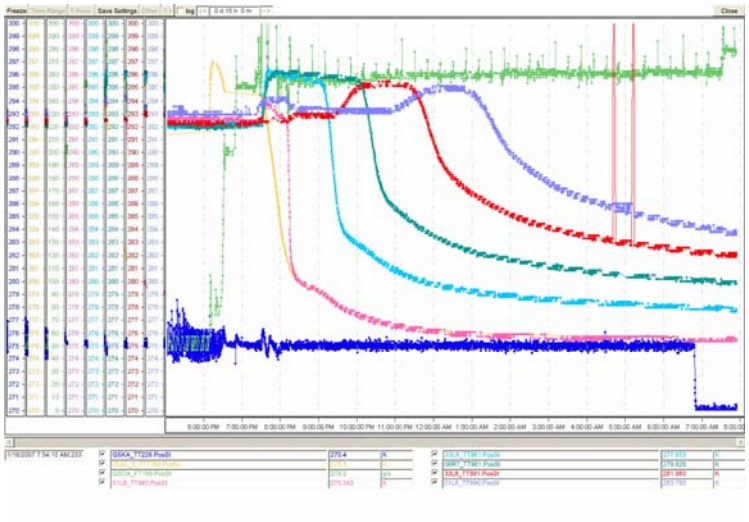

Figure 1: Sector 78 QRL Cool-down. 15th Jan 2007.

- The cool-down of Q9R7 started this morning at 7:30am with a flowrate of 20 g/s at 17 bar and a setpoint regulation in the precooler of 270 K (see figure below, courtesy of F.Millet).

Figure 2: Sector 78 Q9R7 Cool-down. 16th Jan 2007.

- The target for today is to start cooling down all the cold masses.
- The data is stored in Timber and is fully accessible. However the most representative curves will be shown in the HCC webpage (http://hcc.web.cern.ch/hcc/) in a few days.

ELQA (D. Bozzini)

- D.Bozzini showed the results of the monitoring of the leakage current along the night. As shown in the plots below the leakage current is inside the interval from 3750nA to 4250nA meaning that the situation is good.

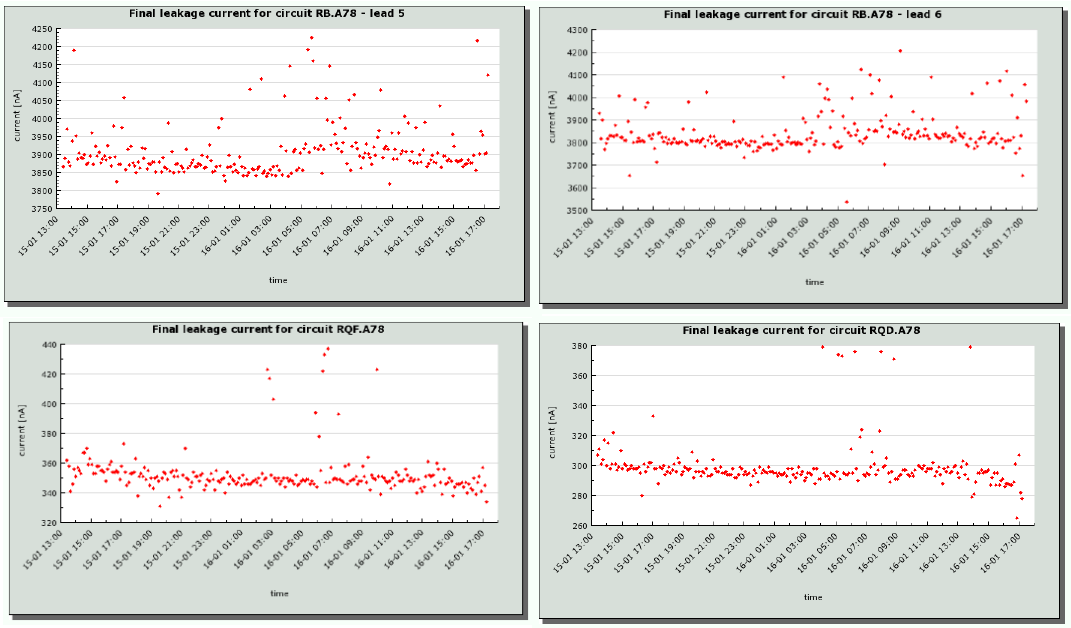

Figure 3: ELQA during Cool-down. Evolution of the leakage current of the main circuits with time during 15th and 16th Jan 2007.

Vacuum Interlock (F.Millet, P.Cruikshank):

- P.Cruikshank reported that all critical interlock cryogenic-vacuum tests required by F.Millet have been successfully executed and they need a window of one more day to perform all the others whenever is possible.

DFBX (R.Rabehl):

- R.Rabehl informed yesterday that 4 temperature sensors on the DFBX were broken. He reported today that they have been repaired by N.Vauthier and there are no problems on the DFBX anymore.

AOB:

- H.Thiesen informed that the circuits required for the software control tests were prepared, except for the QF circuit. A solution will be found out for that.
- The mobile camera was installed and tested by K.Kershaw and is now in fully operational in P7. One monorail clamp was recovered and given back to J-M.Chevalley.
- H.Thiesen informed about the need to call for a CV campaign to clean the Power Converter filters in UA83.

Sector 81- Sector 45

Cabling (J-C.Guillaume):

- The Current Lead non-conformity in DFBX LSS8R has been repaired.
- Presentation of cables by INEO and Flohe has started in Sector 45.
- Mechanical works concerning the vacuum valves cabling in the vicinity of the MKIs in LSS8R will start today and should last for one week. This work will take place both in UA87 and in the RA (transport side).

Open Issues

AC non-conformity

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

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	EI_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 *cosses* 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

120A cables positioning at DFBAO, DFBMA and DFBMC	13.11.06
Q6-Q11L8 leak test envelope	13.11.06
Interconnections of DFBAN and DFBMH	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

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Next RAT meeting

Wednesday, January 17th 8:30 @ P8 2889-R-009

Blanca Perea

Matteo Solfaroli