

Preparation of Cool-Down in Sector 78 RAT Réunion Avancement Travaux

HARDWARE COMMISSIONING COORDINATION - WEEK 50

11 December 2006 8:30 2889-R-009

Present: B.Bellesia, P.Chambouvet, M.Coccoli, V.Chareyre, J-C.Guillaume, F.Millet, B.Perea Solano, M.Pojer, R.Rabehl, R.Schmidt, A.Suraci, A.Vergara.

Preparation of the Cool-Down in Sector 78

ELQA:

- V.Chareyre informed about the short circuit that was localized last Friday during the ELQA TP4-B tests in the main dipole circuit. Further diagnosis should be done today.

Vacuum/Cryo:

- F.Millet informed that 1 full conditioning cycle has been done during the weekend. The time needed for that is about 32 hours (and not 24h as initially foreseen). They would be ready to start the flushing tomorrow, though they are waiting for management decision on whether ELQA problem discovered last Friday is priority to cool-down now.
- F.Millet informed that one valve which was leaking on the DFBAO was replaced on friday.
- The DFBX had also one tube replaced and a plug that had remained from previous leak tests was found. F.Millet and R.Rabehl stress that other plugs may have remained in the machine.

60 A Orbit Correctors:

- Today tests should be preformed in C18L8 and C13L8.
- ELQA-DOC will be delayed until the problem encountered during the ELQA-TP4-B is clarified.

DC/AC cabling:

- J-C.Guillaume informed that the current lead heater cables non-conformities should be fully solved for 8L and 7R. He will confirm this to P.Chambouvet during the day so that they can intervene right after to perform their functional tests. The non-conformity in one cable in the DFBX should also be corrected.
- R.Denz informed that they would check once more for the missing cable. With respect to the powering of QPS racks, S.Brown announced that half of the racks were already powered and all of them should be OK by this afternoon.
- S.Brown will start the cabling for the radiation monitoring detectors in LSS7R this afternoon. The cabling should not last for more than two

days. Possible co-activities with other teams will be followed in the RAT meetings.

- B.Bellesia reminded that one connector should be replaced in 22L8 before Thursday.
- The Access&Safety cable will be connected today by INEO.
- The 13kA cables of the DFBAN have two problems: they are not water leak-tight and need to be re-positioned with respect to the current lead. Four days are needed to purge the cables, repair the leak and reposition them. J-C.Guillaume and Baptiste are in contact with TS-CV.
- R.Denz would like to start connecting the DFBAN and the DFBMH corrector circuits, dipoles and quadrupoles in the arc as soon as possible.
- A.Suraci is testing the crates in UA and RR and they should have a meeting with S.Pelletier this afternoon to find a solution for the 2 cables that do not withstand 1.9kV. They are also working in the software.

Open Issues

AC non-conformity

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

- 30.11.06 Non conformity temperature sensor cables need repair LSS7R (D.Bozzini, A.Suraci)
- 25.11.06 Functional test on the leads heaters: DFBAO, DFBXG (P.Chambouvet)
- 22.11.06 Pre-connection of 120A cables in LSS7 (TS/EL) - PC Non conformities (H.Thiesen)

Vacuum

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Cryogenics

- 22.11.06 Cryo-valves remote control in CCC by AB/CO (F.Millet)
- 22.11.06 Control of quench valve (F.Millet)

DFB Commissioning

- 29.11.06 Pumping of Current Leads insulation vacuum for DFBX (S.Feher)

Safety

General remark: written communication in advance to announce operations!!!

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

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

13.11.06 BPM connection in Q2, Q3, Q4, Q5, Q6, Q7-wk50 (J-C.Guillaume & R.Jones)

Closed Issues

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
EIQA-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
EIQA-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

EIQA-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 51	Cool Down Sector 78



Next RAT meeting

Tuesday, December 12th 8:30 @ P8 2889-R-009

Blanca Perea